

# PUMA ENERGY LLP

## RESEARCH REPORT

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## **Background**

Puma Energy LLP is an independent developer, installer and specialist in behavioural change scheme targeting students living in halls of residence in the UK. Puma LLP offer is unique in providing the whole package of electricity remote control solution, online software dashboards and effectively communicating with their stakeholders.

Recent research had been confirmed that university students often express a high level of concern for environmental problems (Petersen et al, 2007). Nevertheless, students are in particular possess lack of clear information on how much they spend on the electricity bill due to lack of this information available.

**Challenges** that research approached to tackle:

- the way of changing the students' behaviour towards electricity.
- how electricity consumption is perceived and how students engage with the information?
- what was the best way to engage with the information?
- what would incentivise the behavioural change?

Challenges predetermined objectives of the research.

## **Research Objectives:**

- to explore the nature of electricity consumption among students living in halls of residence;
- to explore the understanding of pricing attitude of accommodation with included bills;
- to explore the attitude to the proposed scheme;
- to understand the incentives to motivate decrease electricity consumption.

## **Approach**

Our research approach has been derived from the theory on value creation developed by Tony Woodall (2003). The notion of the theory is understanding the value equation of the benefits and sacrifices, particularly in students' segment.

## **Methodology**

Research project was based on qualitative research technique (focus groups) in order to collect suitable data, as the questions behind reasons why students want to save energy are exploratory in nature, focus groups was an appropriate choice. Focus groups were used in order to offer respondents a semi-controlled environment, where the interviewer guides the discussion but the answers are in depth and detailed from the participants. The focus groups were held with current students at Nottingham Universities who lived in University and also private halls of residence. There was a mixture of British, International, male and female students between 19-24 years old. There were a total of 6 focus groups, lasting approximately 20-40 minutes, they took place at neutral environments such as halls of residence and at university libraries. All conversations have been handled according to the required ethics requirements with consent forms and non-disclosure of participants' personal information. It has given a certain positive attitude and honest expression of the views on the scheme. We have also created a visual imagery in a form of poster with proposed scheme images which have to be explored and expressed the attitudes towards the scheme. Once the focus groups were completed they were transcribed and their contents coded. The coding of the data involved deciding what content was valuable to the research project and then arranging them into themes. From the themes the focus group content was then analysed and inserted into the findings. Recommendations have been made on the findings.

## Energy Perceptions

As is universally accepted by those dealing with energy usage in student halls, the inclusive pricing structure in halls meant that most exploited the unrestricted nature of energy whilst in halls by using excessive amounts of energy. The context of halls certainly resulted in differences in energy behaviour between their parental homes and student halls with some stating that within the home setting, their behaviour was much better with careful attention paid to reducing energy consumption and consequently bills. Here are a selection of quotes which support this:

*'My parents have told me from a very young age to turn things off. But I must admit because I am at the university and not paying for electricity I do tend to forget pretty much everything to switch off'.*

*'I know that paying the rent is not enough for the amount of electricity I use but because the rent says it includes electricity I am not that focused on it, I am not that concerned on how much electricity I use'.*

*'At home it's more controlled because of my mum, she doesn't want the bill going so high but when I am at university because I am not paying for it, It's all inclusive, I am not all that controlled with it'.*

*'I would never leave my lights switched on in my house'.*

Mothers were sometimes mentioned as being strong forces within the home setting regarding energy consumption.

*'And even back home because my mum tells me switch off the light it is like deep to roots to do all these sorts of things even if I go back home is different'.*

*'Yes it differs how it is at the university and living back with my mum'.*

*'Oh, my mum kills me: Switch it off, switch it off'.*

*'If I go back to China I will not turn on all the lights, my mum will say no. maybe one or two'.*

Only half of the respondents mentioned environmental concerns as being a driver of behaviour with most citing cost as the main driver of behaviour change.

*'Environment is such a hard topic to think of because it kind of will affect all people on the planet eventually but you kind of think: well, it doesn't affect me so it doesn't kind of relate right now. It will happen later. No one will think of the bigger picture when I switch the lights on in my bathroom and everyone is like: "oh my god in 50 years Polar bear is gonna cry!"*

*'I think there are people who might think about the environmental impact. But for me without any physical rewards it wouldn't work for overall electricity consumption'.*

*'Not for saving money which is also very nice, but kind of protect the environment'*

*'Though it's all inclusive because I am a bit of a tree hugger, even at home my mum doesn't really care I am the one going around turning off lights'.*

*'Makes you to happier yourself that you are saving the environment and some money'.*

Remarkably, some students mentioned that they were much more careful with their water usage than with energy usage in halls even though both utilities are not targeted and both are included within the price they pay.

*'It's actually only about the light, not the water though, I wouldn't leave the water turned on. I always turn it off. But with the light it is different'.*

*'I try not to shower for like half an hour'.*

*'Who is wasting the water and you get very angry'.*

## **Pricing**

Students highlighted that the cost of halls was in some cases 30% higher than private accommodation and consequently respondents felt that they had to receive some further benefits from the higher rent sacrificed.

*'The price for accommodation is very high anyway. We come here, we pay more. 30-40% more than someone live in the area in a house'.*

*'if I was to live alone, I probably pay same amount, but I would have a bigger apartment and may be a spare room, depending on where I would live'.*

*'I think it is a bit over priced for this area because I have friends who pay something similar for this type of accommodation in London. In that area everything is more expensive. The same space the same quality probably everything is the same in price which is weird'.*

Excessive energy consumption and the benefits received from this was seen as one way of regaining some of the extra cost of halls.

*'I don't save electricity, just use how much I need. I don't save it. I can even leave my lights on when I leave for a short time. Or I don't really care about the electricity consumption because it is already included in the bill'.*

*'I always have at least one light switch on kitchen or study or the main light or the bathroom. The light in the bathroom is always on I never switch it off'.*

*'If we had to pay for it I think that we would be more cautious but the fact that it is all included you don't really think about it.'*

Links to environmental issues or costs to hall owners were not made. Throughout the discussion, money is regarded as a key driver and rewards related to saving money were seen as attractive by the respondents.

*'Ok if there is a self-interest and some money involved people will be doing it'.*

*'Well, obviously money. Money is the best. Because money is the most liquid asset'.*

*'Money at the end of the year'.*

*'Refund the money'.*

Whilst some mentioned a rent rebate based on energy consumption as an appealing incentive, others didn't as parents paid for their rent and any reward would be returned to parents and not directly to them.

*'They won't give me the money they would credit to my parents, I would probably be not. If they would give me a check and to me then may be'.*

*'Our dorm fee is very high so it would be good if they could refund'.*

One student mentioned that within the contract, there was some mention of not exceeding energy usage but she was aware that not many people knew about it and that perhaps there was no way of enforcing it. Students mentioned the need for stronger targets and awareness of the boundaries to energy consumption and any potential impact on price as a way of raising awareness of the impact of their consumption. Any approach adopted would need to be driven by individual usage and not by collective data and incentives.

*'Everything was fixed however they did say in the contract that they do give each person £300 the whole year to go towards electricity and if you go over they start charging you'.*

*'Maybe if they gave them £300 for the year and if they went over they pay extra but if they go under they can get that money back, it would be more of an incentive. So you could budget it, everyone would like something back'.*

## **The Proposal**

The process of sharing information and rewards needs to be simple and energy measurements need to be translated to money not energy measurements. An app was suggested as the most appealing way of sharing information as this was a familiar format for students. There were social and convenience benefits from having an app to track energy usage and this also appealed to their desire to retain the individual nature of the offering.

*'This is one more incentive to use this app even more at least for me'.*

*'If you want to make it work then an app is a good idea because we use our phones every day'.*

*'I don't have an idea like I have saved like 300Watts, I would have no idea if that is good or not'.*

*'Has to be in everyday language, not watts or anything, money'.*

*'If you say how much because everyone is price conscious, everyone cares about money'.*

*'I think the app is absolutely fantastic as an idea however what about having share buttons to link it to social media and your pages and show what you are saving and trying to impose this 'cool' element'.*

Students were reluctant to share personal data with others and didn't want others to be able to see what their energy usage levels were.

*'If don't want my neighbours to see my results of savings? Could I protect my results? Could I make it private or something? If I want it just for myself and don't want anyone to see it?'*

Adverts with the app were seen as an irritant and something which would stop them from using the app. Large TV screens with community or hall level information were not as attractive but it was felt that they would best be placed within laundry areas as this is where all students would go to. Overall, students felt that an app would work best and saw some social benefits to the approach beyond financial incentives. One student mentioned social capital gained by impressing their parents with their attention to saving money and becoming more self-sufficient as a young adult.

*'Too many advertisements would make me not want to be a part of it'.*

*'Our reception is far away from us, it is in the other building'.*

*'We don't really have a lobby, or common area'.*

*'We may see it if it is there but we may not want to know that'.*

*'Laundry room, because everyone has to do laundry'.*

*'If you are bringing money back, if your parents pay for your accommodation and you are bringing money back to them, they would love you'.*

*'I think if I could show it her in terms of money she would understand more'.*

*'Teaches us responsibilities'.*

*'When you get your own flat it won't be as a huge shock to you, it is quite useful'.*

## The Incentives

Individual incentives were seen as the most enticing with vouchers for food shopping and restaurants identified most often. Tesco's was mentioned with regards to food shopping. Clearly on a national rollout care would be needed with this. Tesco's is the most convenient supermarket for NTU students but may not be for other universities. Pizza Express, Dominos and Nando's was mentioned as examples of restaurant vouchers. Some also mentioned reduced gym membership and sports equipment as health and 'green' issues were seen as being part of a better lifestyle. The overarching feeling throughout was that information and incentives needed to be individual in nature. Some students felt that a collective target would lead to tensions within halls and they were not supportive of this type of approach. Competition with other halls was also not attractive and something which they would not engage with. As with the information, the incentive process also needed to be easy with voucher delivery perhaps being part of the app and electronic in nature. It was suggested that if a certain level of energy reduction was achieved an automatic link to an electronic voucher would appear as part of the app.

*'Refund rent or coupon for Tesco, useful things. If you give me a coupon for an expensive French restaurant no thank you. Good things are Tesco, supermarkets, Subway, food places.'*

*'I think first and foremost food is the way to their hearts and that will get them going.'*

*'Obviously rewards for myself would be better but if it would help a charity that would be good.'*

*'I would think I am saving energy and she is using the energy I have saved.'*

*'You might get one flat where everyone is really up for it and though go to the flat below and they aren't bothered.'*

*'I would think that, once I asked my friend to close the door of the fridge and she thought I was weird. And she said I pay for rent why should I?'*

It is also worth noting that respondents also liked the idea of penalties of some form. With clear targets and boundaries with energy usage they felt that penalties alongside incentives would work well for students.

*'I think sometimes I think more about penalty than a reward'.*

'I think that if there was a punishment for not following the scheme that would be better'.

## **Recommendations**

Recommendations have been categorised within two key themes; communication and incentives.

### **Communication**

- Share information via an App not communal TV
- Any information needs to be in £ as this is the key driver for behaviour change
- Student ambassador scheme was seen as complimentary to the PUMA scheme as students may want to but may not know how to reduce energy

### **Incentives**

- Make energy limits and targets clear with associated incentives and penalties
- Individual rather than collective rewards work best, students want to compete against themselves not others
- Simple process for information and incentives are needed
- Facebook and twitter are the best communication methods
- Within Facebook allow others to see when incentives are awarded eg a post with 'Anna received £10 Tesco voucher today'
- Tesco's food vouchers, Domino's, Pizza Express for restaurants
- Gym membership and sports equipment also mentioned
- Rent rebates appealing but would not work for those whose parents paid the rent

## **Conclusion and ending statement**

The current report is grounded on the primary research data collected. The main aim of the report is helping Puma Energy LLP to achieve the goal of being successful and growing on the remote monitoring management market in halls of residence segment.

Currently students are aware of their excessive energy usage and in a sense see it as a 'right' given their excessive rent. Nonetheless, they do recognise the problem however incentives need to be driven by financial gain and not through environmental benefits. Individual incentives feature strongly and Facebook and the Student Ambassador schemes are seen as complimentary to any change in energy use behaviour in halls.

For the future research, it can be suggested that the sample can be extended to cover the UK and quantitative research methods can be used. We will update PUMA on any progress made with this further research.

## **APPENDICIES**

Common themes in the research findings:

### **Financial**

- Common not to think about electricity consumption because it is included in the price
- Accommodations are in general perceived as fairly priced because of all inclusive concept
- Electricity is used more heavily than it used at home due to all inclusive aspect
- Electricity is heavily exploited
- If the app refers to money it is relatable and easy to follow/understand
- Can budget easier
- Tips to save money
- Earning money back is very popular – have a budget and earn the money that you don't spend – rebate/re-imbusement of rent – earn points to exchange into money
- Parents would be impressed by money saved not energy saved
- Vouchers are the most popular reward
- Food most popular type of voucher – Dominoes, Nandos, Pizza Express, Subway, Tesco, supermarket, cheaper restaurants
- Entertainment and shopping – Asos, Amazon, sport kits
- Gym
- Penalties of overconsumption are also considered as stimulant

### **Environmental**

- Some do consider environment when saving energy
- Some do not consider – mostly a 50-50 divide
- When sacrifices are clear (such as colder darker accommodation) not so willing to reduce electricity

- Polar bear picture showing the mood changes depending on the reduction of electricity is very effective for females and also some males – can visually see the impact

- Important to show impact but does not always effect motivation

- Water is more important than electricity

### **Personal**

- Preparation for living alone – the future: agreed on a good habit

- Good for freshers leaving halls

- Scheme makes you feel good – guilt free – is a side effect rather than a motivation

- Want a reward, want to see the benefit for themselves: self-interest is dominating motivation

- Want to be in control of their energy

- Personal gain outweighs charitable sentiment

- Want to feel that earning a reward is achievable

- Adverts would deter from using the app

- Want tips but in a positive manner – to encourage not punish

- See big reward for halls as unattainable – little chance to win (competitive)

- Little interest in collective rewards i.e. parties and events

- Personal gain outweighs collective gain

### **External**

- Would not change the relationship with parents

- Parents/especially mum are big external influences

- Having energy inclusive of rent can soften the impact of this influence (as well as living away from parents etc.)

- Cause tension with flatmates – imposing
- Could motivate flatmates
- Flatmates will leave you to do the work
- Not all flats could be motivated for a halls competition – competitive or cooperative
- Stop turning off lights in shared areas because of inconvenience to others
- Sense of security – keep light on
- Important for staff/landlord to be a part of the scheme too
- Student ambassadors to lead the scheme

### **Habit**

- Some have energy saving habit ingrained in them
- From school at a young age
- Mostly from parents/home
- Acknowledge that they retain habit but they are not as strict as when they are at home
- Those with habit are more likely to spend their time/effort in saving energy
- Think it could potentially change habits

### **Convenience**

- Light out of lights in halls make rooms dark so hard to read/study
- Take time with stocking and taking from the fridge
- Simplicity is essential
- Don't want to calculate their usage
- Want it easy to set-up/access/immediate start
- Watts has no meaning but money does – watts is too complicated
- Smartphone app is convenient – popular device

- Smartphone app is techy and allows you to stand out the crowd
- Receptions are sometimes far away or non-existent
- Screens were not very popular – laundry rooms may be a good location
- Speed of which the device notifies the respondent of information
- Would spend less effort and time saving energy if it is inconvenient
- Control the lights from the phone
- Social Media popularity among the sample (ranked): 1. Facebook 2. Instagram 3. Twitter/VK.com (Russian social network) 4. Snapchat/LinkedIn/Pinterest

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