nus national union of students

Co-funded by the Intelligent Energy Europe Programme of the European Union

HELLENIC REPUBLIC
National and Kapodistrian University of Athens

Are students the future of energy efficiency? Findings from an EU wide energy saving project

Dr. Richard Bull
Dr. Neil Jennings
Joanna Romanowicz
Marina Laskari

SAVES

DE MONTFORT UNIVERSITY LEICESTER

The invisibility of energy

Introducing SAVES

- A 3 year EU funded inter-dormitory energy saving competition within 17 universities in 5 EU countries
- SAVES is the overall project name that covers the expansion of the UK Student Switch Off campaign
- Competition within/between dorms to see who can reduce their energy usage by the greatest amount or have the lowest usage per student (smart meter data)

DE MONTFORT UNIVERSITY LEICESTER

HELLENIC REPUBLIC
National and Kapodistrian University of Athens

SAVES

Co-funded by the Intelligent Energy Europe Programme of the European Union

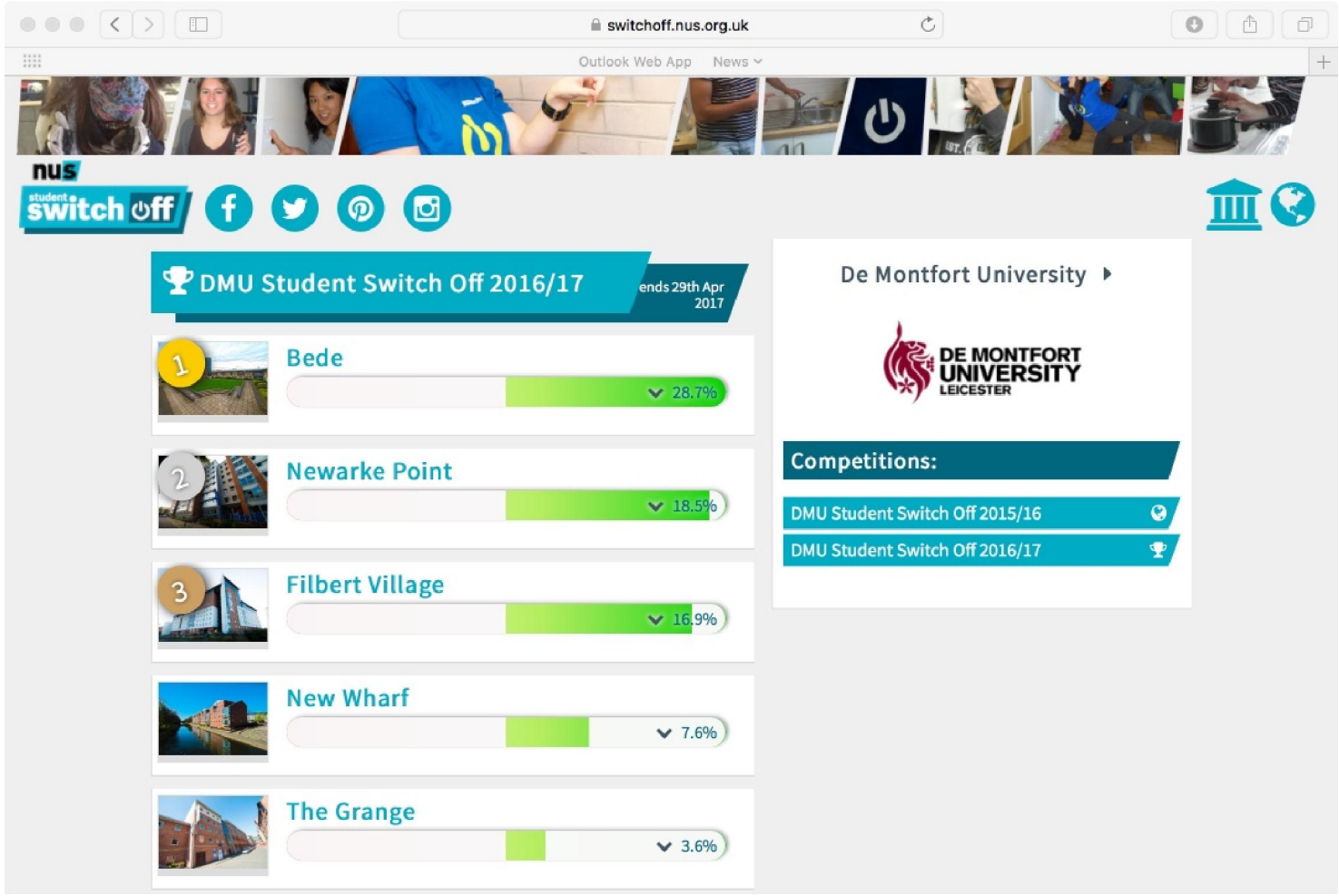
nus national union of students

The competition

- Builds on existing social relationships, peer-to-peer communications, rivalries and communities
- A fun approach to raising awareness amongst students with feedback and prizes to provide incentives for action
- National/international winner
- We focus on 6 main energy saving behaviours
- An energy dashboard

1 there's 6 in the table later . . .

Richard Bull, 10/12/2016


switchoff.nus.org.uk
Outlook Web App
News
nus
student switch off
DMU Student Switch Off 2016/17
ends 29th Apr 2017
1
Bede
28.7%
2
Newarke Point
18.5%
3
Filbert Village
16.9%
New Wharf
7.6%
The Grange
3.6%
De Montfort University
DE MONTFORT UNIVERSITY LEICESTER
Competitions:
DMU Student Switch Off 2015/16
DMU Student Switch Off 2016/17

Methodology

- **Electricity data**
  - For each dormitory building there was pre & post intervention electricity data
  - Electricity consumption data for academic year 2014/2015
  - Electricity consumption data for academic year 2015/2016
- **Quantitative and Qualitative data on behaviour**
  - Pre-post intervention questionnaire surveys
  - Focus groups
- **Energy dashboard use**
  - Focus groups
  - Two years worth of electricity data
- **Control group in Sweden**

DE MONTFORT UNIVERSITY LEICESTER
HELLENIC REPUBLIC National and Kapodistrian University of Athens
SAVES
Co-funded by the Intelligent Energy Europe Programme of the European Union
nus national union of students

Behaviour Change 2015/16

Action	Cyprus	Greece	Lithuania	Sweden	UK	Total
Switch off lights in empty rooms	-2%	0%	-4%	0%	0%	-1%
Avoid leaving electronic equipment on stand-by	6%	7%	-2%	-3%	-1%	-2%
Put a lid on pans when cooking	***16%**	9%	0%	***5%**	3%	***4%**
Boil the kettle only with the amount of water you intend to use	14%	***17%**	***-8%**	3%	***6%**	*3%
Put an extra layer on before deciding to turn on the heating	-4%	***-15%**	-3%	-1%	1%	0%
Open windows before deciding to use a cooling device or system	-2%	6%	1%	-1%	0%	0%

DE MONTFORT UNIVERSITY LEICESTER

HELLENIC REPUBLIC
National and Kapodistrian University of Athens

SAVES

Co-funded by the Intelligent Energy Europe Programme of the European Union

nus national union of students

Energy Savings 2014-15

	United Kingdom	Sweden	Lithuania	Greece	Cyprus	TOTAL
Baseline	15,388,587	1,980,515	3,774,526	1,850,909	194,705	23,189,242
Usage	14,6046	1,865,485	3,709,885	1,801,849	181,228	22,163,088
kWh saving	783,946	115,031	64,641	49,060	13,477	1,026,154
% saving	5.09	5.81	1.71	2.65	6.92	4.43
CO_2 savings (kg)	421,355	1,956	17,453	35,323	9,865	485,952

DE MONTFORT UNIVERSITY LEICESTER
HELLENIC REPUBLIC
National and Kapodistrian University of Athens
SAVES
Co-funded by the Intelligent Energy Europe Programme of the European Union
nus national union of students

Energy Savings 2015-16

	United Kingdom	Sweden	Lithuania	Greece	Cyprus	TOTAL
Baseline (MWh)	20340	2706	4153	1661	244	29104
Usage (MWh)	18650	2377	3739	1646	143	26556
Extrapolated saving (MWh)	5	244	12	0	0	260
Total saving (MWh)	1690	330	413	15	101	2548
% saving	8.3%	12.2%	9.9%	0.9%	41.2%	8.8%
CO_2 savings (tonnes)	908	6	109	11	73	1,107

DE MONTFORT UNIVERSITY LEICESTER

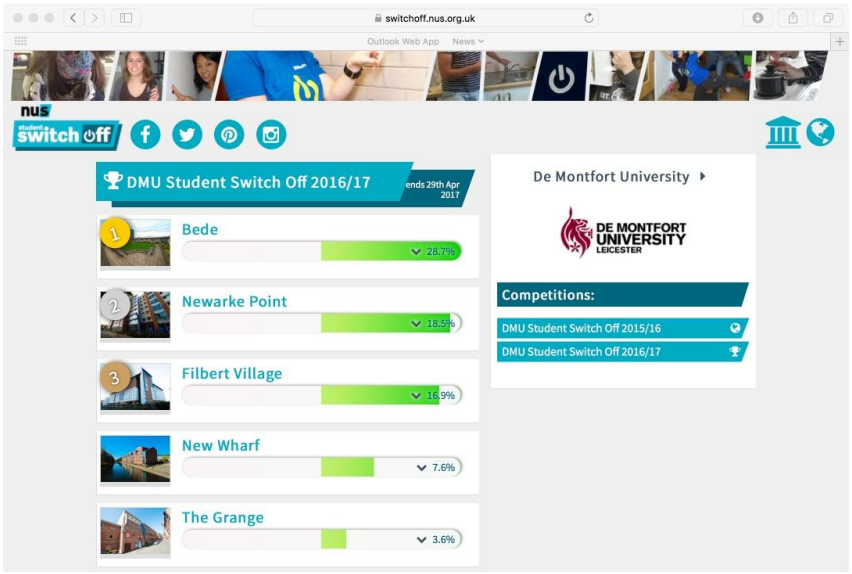
HELLENIC REPUBLIC
National and Kapodistrian University of Athens

SAVES

Co-funded by the Intelligent Energy Europe Programme of the European Union

nus national union of students

Energy Dashboard Use



- Preferred comparisons to be with 'halls' near them
- Increased social media functionality
- Regular alerts
- Discussion forums & greater interactivity

DE MONTFORT UNIVERSITY LEICESTER

HELLENIC REPUBLIC
National and Kapodistrian University of Athens

SAVES

Co-funded by the Intelligent Energy Europe Programme of the European Union

nus
national union of students

Conclusions/Recommendations

- Consistent savings (8%) can be made through **simple actions**
- Dashboards ***appear* to offer increased opportunity** for savings – but further research is required
- Habit discontinuity theory shows promise – students are **open to change at this time of life!**

DE MONTFORT UNIVERSITY LEICESTER
HELLENIC REPUBLIC National and Kapodistrian University of Athens
SAVES
Co-funded by the Intelligent Energy Europe Programme of the European Union
nus national union of students

Questions? (& further reading . . . .)

- Bull, R., Lemon, M., Everitt, D., & Stuart, G. (2015). Moving beyond feedback: Energy behaviour and local engagement in the United Kingdom. Energy Research & Social Science 8 32-40
- Bull et al (2014) Digitally Engaging and Empowering Employees for Energy Demand Reduction: A New Approach for the Next Generation? ACEEE Summer Study Conference Proceedings. August.
- Bull et al (2013). Are people the problem or the solution? A critical look at the rise of the smart/intelligent building and the role of ICT enabled engagement. ECEEE Summer Study Conference Proceedings 2013, pp. 1135-1145; 5A-079-13
- Bull, R., J. Petts, et al. (2008). "Social Learning from Public Engagement: Dreaming the impossible?" *Journal of Environmental Management and Planning* 51(5): 703-718.

Website: www.saves-project.eu

Contact: rbull@dmu.ac.uk

Twitter: @richbull

DE MONTFORT UNIVERSITY LEICESTER

HELLENIC REPUBLIC
National and Kapodistrian University of Athens

SAVES

Co-funded by the Intelligent Energy Europe Programme of the European Union

nus national union of students