Irish energy-use behaviour intervention initiatives for mass media communication
Shanks, Kirk; MacPhaidin, Aodhan

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Irish energy-use behaviour intervention initiatives for mass media communication.

- Energy-use behaviour
- Energy efficiency campaigns
- Greater understanding of issues and factors

Dr Kirk Shanks, Dublin Institute of Technology (www.dit.ie, www.shanksconsulting.co.uk, www.energyduo.ie)
Aodhan MacPhaidin (www.energyduo.ie)
Energy consumption trends in Ireland

Source: Sustainable Energy Ireland (sei.ie)

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Irish energy-use behaviour interventions for mass media communication
Actual v’s Theoretical energy

Irish energy-use behaviour interventions for mass media communication
Actual v’s Theoretical energy – types of differences

Non-behavioural:
- microclimate
- construction quality
- fabric integrity
- system maintenance
- electrical appliances/equipment

Behavioural:
- operational efficiencies
- heating periods
- room temperatures
- occupation periods
- hot water consumption
- lighting usage
- small power appliances & equipment usage habits

Irish energy-use behaviour interventions for mass media communication
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- Average Irish household €1,767 per year on energy

- Average household consumes 25,304 kWh/yr (78% fossil fuel, heating/hot water/cooking & 22% electricity)

- Proportion of household disposable income spent on energy ranges from 1.7% to 13%...

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Recent drivers

- Energy-use behaviour in national & EU energy efficiency policies
  - ‘Delivering a sustainable energy future for Ireland’ (2007)

- European regulation (EPBD)
- Fuel price shocks
- Availability and evolution of technologies...

Resulting in:

- Government commitment to implement a National Energy Efficiency Campaign (2007/08)
  - Power of One
    (Department of Communications, Energy and Natural Resources, www.dcenr.gov.ie)

- National television station (RTE) prioritised environment and environmental heritage in its themes for programming (2007)
  - ‘My family aren’t wasters...”

Irish energy-use behaviour interventions for mass media communication
Power of One Street (2007/08)
www.sei.ie/Power_of_One/Power_of_One_Street/

-Phase 1 (2007), Phase 2 (2008)
-12 households, 2 businesses, 1 school
-Web and mass media based
-Experiential, driven by tips and feedback
-Energy Challenges (*site specific tips and feedback*)
-Energy Coaches

Irish energy-use behaviour interventions for mass media communication
Irish energy-use behaviour interventions for mass media communication

Resident 1: The Heffernan Family, Dublin Suburbs

Energy Stats:

Residents: Five - two parents and three daughters
House: Detached 1970s; solid wall construction
Biggest Problem(s): Space heating, small power and lighting
Hobbies:
Franki: Equestrian sports, cooking, travel
Maureen: Travel, sports, reading
Niall: Football, music, fishing

Resident 6: The Connolly-Heery Family, Dublin City Centre

Energy Stats:

Residents: Three, two parents and a baby
House: 1900s Mid-terrace; solid block construction
Biggest Problem(s): Space heating, hot water and small power (e.g. efficient settings on appliances)
Hobbies: Food, film, sports, Lahore: Eating, sleeping

Overview: The Dublin-based Connolly-Heery family has just gotten bigger. With the arrival of Louise Heery just seven months ago, parents Niall and Karen have seen their world change dramatically. In fact, new mum Karen recently decided to put her career on hold to look after her daughter and is finding it difficult to limit energy usage at home with a young child. For instance, she must keep their 1900s, three-storey terrace house warm...
Month 1: Space heating  
   e.g. adjust temps, zoning, door/window/curtain usage…

Month 2: Lighting  
   e.g. usage/switching

Month 3: Domestic hot water  
   e.g. adjust temp, adjust timing, consider usage (taps running etc…)  

Month 4: Small power  
   e.g. chargers, appliances/electrical equipment

Month 5: Cooking  
   e.g. kettle usage, cooking patterns, lids, etc…

Month 6: Eco-drive Challenge  
   Timed period to minimise energy consumption using own approaches and what has been learnt…

-Baseline characterisation
  - fuel consumption
  - electrical consumption (total at mains incomer)
  - energy survey
  - appliance/equipment audit

-Energy logbooks
  - general tailored tips
  - diary log (fuel, electric and non-energy)

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Annualised energy and fuel consumption + CO₂ emissions
- multiple fuel measurements
- room temperatures (*relative to external temperature*)
- logbooks and direct feedback to coaches
- annualised on basis of adapted heating degree day equation

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- Patterns of electrical consumption
  - based on daily average kWh
  - logbooks and coaching feedback

Irish energy-use behaviour interventions for mass media communication
### Power of One Street – Overall results (2007/08)

<table>
<thead>
<tr>
<th>Participants</th>
<th>Annual Saving</th>
<th>Total CO₂ reduction</th>
<th>Total energy reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brennan family</td>
<td>€793</td>
<td>3.2 tonnes</td>
<td>21.2%</td>
</tr>
<tr>
<td>Watterson family</td>
<td>€282</td>
<td>1.3 tonnes</td>
<td>18.8%</td>
</tr>
<tr>
<td>Horler family</td>
<td>€832</td>
<td>3.6 tonnes</td>
<td>17.6%</td>
</tr>
<tr>
<td>Conway family</td>
<td>€394</td>
<td>1.9 tonnes</td>
<td>25.2%</td>
</tr>
<tr>
<td>Joyce family</td>
<td>€389</td>
<td>1.9 tonnes</td>
<td>21.4%</td>
</tr>
<tr>
<td>Ratoath GAA Club</td>
<td>€295</td>
<td>2.75 tonnes</td>
<td>13.3%</td>
</tr>
<tr>
<td>Cork School</td>
<td>€1750</td>
<td>8.1 tonnes</td>
<td>18.5%</td>
</tr>
<tr>
<td>Heffernan family</td>
<td>€763</td>
<td>3.68 tonnes</td>
<td>18.8%</td>
</tr>
<tr>
<td>Carroll/Cassidy family</td>
<td>€352</td>
<td>1.82 tonnes</td>
<td>20.2%</td>
</tr>
<tr>
<td>Davies family</td>
<td>€424</td>
<td>1.90 tonnes</td>
<td>20.5%</td>
</tr>
<tr>
<td>Gleeson family</td>
<td>€543</td>
<td>3.92 tonnes</td>
<td>22.4%</td>
</tr>
<tr>
<td>Crowley family</td>
<td>€493</td>
<td>2.67 tonnes</td>
<td>16.2%</td>
</tr>
<tr>
<td>Heery family</td>
<td>€328</td>
<td>1.78 tonnes</td>
<td>14.4%</td>
</tr>
<tr>
<td>Meehan family</td>
<td>€920</td>
<td>3.24 tonnes</td>
<td>26.7%</td>
</tr>
<tr>
<td>McCabe family</td>
<td>€519</td>
<td>3.32 tonnes</td>
<td>15.3%</td>
</tr>
</tbody>
</table>
Positive:
- Feedback was effective in establishing reality with participants, explaining answers to questions and identifying ‘low hanging fruit…’
- High level of participant engagement and commitment *(driven by energy coach)*
- Almost all participants enjoyed media exposure
- Some participants were eager to establish competition
- Almost all participants have made some fundamental changes to their behavioural habits
- Multiple feedback metrics *(kWh, Euro, CO₂)*
- High level of mass media exposure/interest:
  - radio interviews
  - segments in established TV series ‘About the house’
  - newspaper articles
  - regular coverage on national RTE 6.1 News

Negative:
- Inconsistent use and quality of recordings in logbooks
- Participant fatigue sets in when a drop in contact with organisers *(e.g. last challenge…)*
- Labour intensive *(downloading and analysis of data)*
- Confusion with generic tips...
- Bounce-back

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**RTE “My family aren’t wasters...” (2007/08)**

www.rte.ie/tv/wasters/

-2 households
-Reality-based
-4 green living challenges (5 days each)
  - Non-electric energy
  - Electrical energy
  - Transport
  - Waste

-Listowel, Co. Kerry
- Family of 4, 3 bed house built 1994, oil central heating, combi-boiler, standard appliances

-Dublin city
- Family of 7, 7 bed house renovated 2002, gas central heating, swimming pool, standard appliances, courtyard lights

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<table>
<thead>
<tr>
<th>Challenge</th>
<th>Co Kerry</th>
<th>Dublin city</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric</td>
<td>Target = 60%</td>
<td>Target = 70%</td>
</tr>
<tr>
<td></td>
<td>Result = 64%</td>
<td>Result = 72%</td>
</tr>
<tr>
<td>Non-electric</td>
<td>Target = 25%</td>
<td>Target = 40%</td>
</tr>
<tr>
<td></td>
<td>Result = 30%</td>
<td>Result = 44%</td>
</tr>
<tr>
<td>Transport</td>
<td>Target = 75%</td>
<td>Target = 38%</td>
</tr>
<tr>
<td></td>
<td>Result = 87.5%</td>
<td>Result = failed</td>
</tr>
<tr>
<td>Waste</td>
<td>Target = 50%</td>
<td>Target = 50%</td>
</tr>
<tr>
<td></td>
<td>Result = 87.5%</td>
<td>Result = 87.5%</td>
</tr>
</tbody>
</table>
RTE “My family aren’t wasters...” - Preparation (2007/08)
www.rte.ie/tv/wasters/

- Baseline characterisation
- Energy survey & appliance audit
- Electric and fuel bills
- Discussion of routines etc.
- Target setting
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RTE “My family aren’t wasters…” - Results (2007/08)

www.rte.ie/tv/wasters/

Daily Chart (11/Nov/2007)

GAS MAIN (GAS CM)

QUINLANS

Daily Chart (25/Nov/2007)

GAS MAIN (GAS CM)

QUINLANS
RTE “My family aren’t wasters...” – Key issues

Positive:
- Competition was effective short-term motivator, though reticence from some initially...
- Some fundamental changes were sustained up to 3 months after challenges
- Strategy of challenging participants to find out for themselves
- Significant viewer interest (21 – 28% of viewers)
- High accuracy of energy related feedback
- Short challenges easier to focus on and drive self-learning
- Media exposure supported ongoing positive engagement with greener living

Negative:
- Expensive monitoring infrastructure
- Participant disappointment when unsuccessful
- Short-term challenges allowed stoppage that could not be sustained
Interventions - scalability

- Feedback
  - tailoring needs site specific information/data
  - monitoring needs sufficient resolution to pick up subtle changes

- Competition
  - participant expectations
  - prizes
  - transparency

- Media interest