Closing the Loop: Behaviour Change from Theory to Practice

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THE INTERNATIONAL ENERGY Agency's Demand Side Management Implementing Agreement has initiated work that aims to focus on behavioural changes in energy use, which is one of the biggest challenges towards a more sustainable society. This research sets out to provide clear recommendations for policy and programme improvement and best practice. Over 40 case studies on transport, building retrofits, small and medium enterprises (SMEs), and smart metres from more than 10 countries* were analysed. This research is innovative in two aspects: although modest in intention, it is the first empirical exploration of the ways in which models and theories underlying behavioural projects and programmes may affect particular outcomes and what are the circumstances for those outcomes. The other innovative feature is the use of storytelling to describe findings and cases. We found there are many stories to be told — heroic stories, learning stories, horror stories, and love stories, and it was found that storytelling is a very effective way to convey the often complex interdependencies and factors influencing behavioural change.

The scroll showcases a love story on changing lifestyles, starting with people's homes, which was a part of the Swedish Sustainable Järva Programme. Sustainable Järva is a five-year rehabilitation project where the neighbourhoods around Järvafältet — largely formed during the Swedish 'one million home programme', 1965–75 — are being renovated and developed into a 'new' urban district with a strong environmental profile. The project is part of Järvalyftet (Vision Järva

*The case descriptions can be found on the IEA DSM Task 24 NING site (www.ieadsmtask24.ning.com), and on a Wiki dedicated to Task 24 (see www.ieadsmtask24wiki.info). These case studies were provided by the participating countries and other experts from countries that support this task. The participating countries are the Netherlands, New Zealand, Switzerland, Italy, Austria, Norway, Sweden, Belgium, and the UK.

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Once upon a time.... There were six neighbourhoods around the field of Järva that were in urgent need of improvement. The area had been constructed during the 1960s and 1970s as part of the 'one million home programme', initiated by the Swedish government to tackle a growing housing deficit in the country's urban areas. The neighbourhoods contained housing units for more than 60,000 people, but the socio-cultural context had changed and the buildings were turning old and outdated.

Every day.... People in the area were experiencing economic as well as social challenges. Many of the foreign residents were unemployed, had difficulties learning the Swedish language, and the younger generations were lacking good opportunities for education. The houses they lived in were terribly inefficient and the area in general did not work for the needs of its current residents. Several investments had been undertaken during the years to improve the situation, but nothing helped and the people felt no one was listening to them.

But, one day... The city of Stockholm decided that it would once again invest in the area, to improve the living conditions for the people living there. But this time it would be different; they had realized that the circumstances were radically different in the 1960s and 70s. They realized that in order for the 'upgrading' to be successful, they needed to include the residents in the process – from the beginning.

Because of that... The Järva dialogue was initiated during the fall 2009 and for one week 10,000 residents contributed with more than 30,000 opinions and suggestions about how the area should be developed and improved. Based on these contributions, the vision Järva 2030 was formulated and measures were planned to address the four areas of (*i*) improved housing and urban environment, (*ii*) everyday security, (*iii*) better education and language teaching, and (*iv*) more jobs and entrepreneurship.

But then... It was also realized that the area and the buildings had been constructed before the energy crisis without considering the environment, and thus the project Sustainable Järva was introduced to also bring about an environment, climate, and energy focus in the development.

Until, finally... The dialogue with the residents continued and together with all stakeholders many great measures were planned to promote sustainable lifestyles, satisfaction, and well-being. The ultimate goal of the project is to make Järva as a model and inspiration for sustainable development for similar areas, both nationally and internationally.

And, ever since then... The neighbourhoods around the field of Järva have become a place where people want to live!

2030), which is a programme initiated by the city of Stockholm, to promote social, economic, and ecological development in the area. It is a joint investment, including several different actors — local stakeholders, politicians, government administrators, entrepreneurs, residents, etc., — where the overall goal of the project is to make Järva into a national and international model for sustainable rehabilitation that promotes environmental responsibility while still preserving the area's unique and historical values. As such, the programme combines many stakeholders with varied backgrounds and takes a more systemic perspective as starting point. The project revolves around several working areas, where energy-efficient renovations of seven selected apartment blocks (350 homes) constitute a major and important part. Other areas of focus are renewable energy, as well

as sustainable transportation and cycling promotion measurements. In order to promote a sustainable lifestyle, the project also — apart from technical solutions — has a Whole System focus on social aspects, such as information, involvement, and education (See Exhibit 1). The ambition is that with better knowledge and more influence the residents will become inspired and capable of making use of 'new possibilities' that comes with technological advancement.

The programme's more systemic perspective provides an important learning that retrofitting can be a 'gateway' into other more habitual behaviour changes around, for example, lighting and appliance use and even domains beyond the energy domain, such as waste and transportation behaviour. We collected many more stories and learnings. For example, we found that Italy's Time of Use Tariff for electricity consumption is a typical hero story, promising a silver bullet technology and solid economic approach (Smart metres plus time-of-use tariff to encourage peak load shifting). However, we often find that a lot of our hero stories are actually learning stories, like the neoclassical economics-inspired SME programme in New Zealand. This programme found that it was only successful in getting SMEs to take up their subsidies for energy audits and corresponding interventions, if a trusted industry association ran collaborative learning workshops with the SMEs first. Another love story is the New Zealand Warm Up New Zealand (WUNZ) building retrofit programme, which realized that it is not about the energy savings, but the associated huge health benefits from insulating cold and draughty houses, especially for the poor.

The second way of using storytelling in this project was in telling the stories of each of the theoretical models used. We found that the neoclassical or behavioural

Exhibit 1: Communities in action

economics approaches, which are most common in buildings retrofits and smart metering rollouts, are inherently insufficient to change people's behaviour as they assume that incentives plus information provision — with maybe some clever nudges — will make people change their behaviour. As most energy use is wholly habitual, and not only rational, these approaches are often of limited success when outcomes are actually measured. The more systemic social approaches, such as the one used in the Swedish example, have more engaging stories. They sound like something you would like to be engaged in, rather than a top–down approach. However, they also bring their problems as they usually take a lot of collaboration, are hard to evaluate and on first look, are more costly. The morale of most of our stories is that there is definitely no silver bullet model or story that will always succeed in changing people's energy-efficiency behaviour. The evidence suggests that trying to design approaches without tailoring them to the specifics of the context is itself a cause of failure. The best story we can tell is that a mix of interventions will probably get you long-term success, which means that projects need to be:

- tailored to different — national, local, organizational, and domestic — levels
- tailored at both the individual and social level
- aiming at changing both the investment and habitual behaviour
- targeting multiple motivations, not only economic and informational ones
- adding strong quantitative and qualitative evaluation — of actual and perceived/modelled behaviour changes — into project design
- focussing on the lifestyle in which energy is key to performing functions