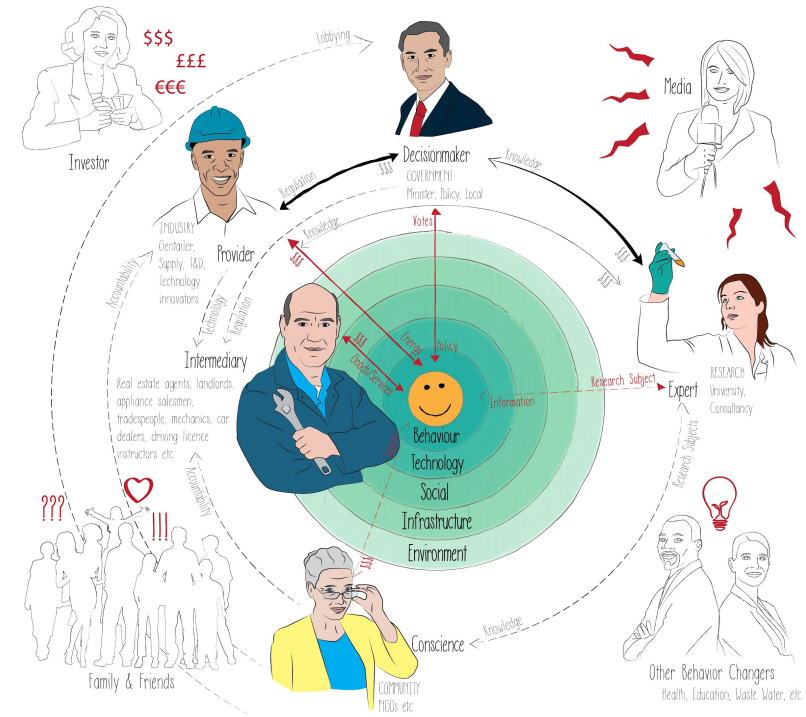


IEA DSM Task 24: Behaviour Change in DSM

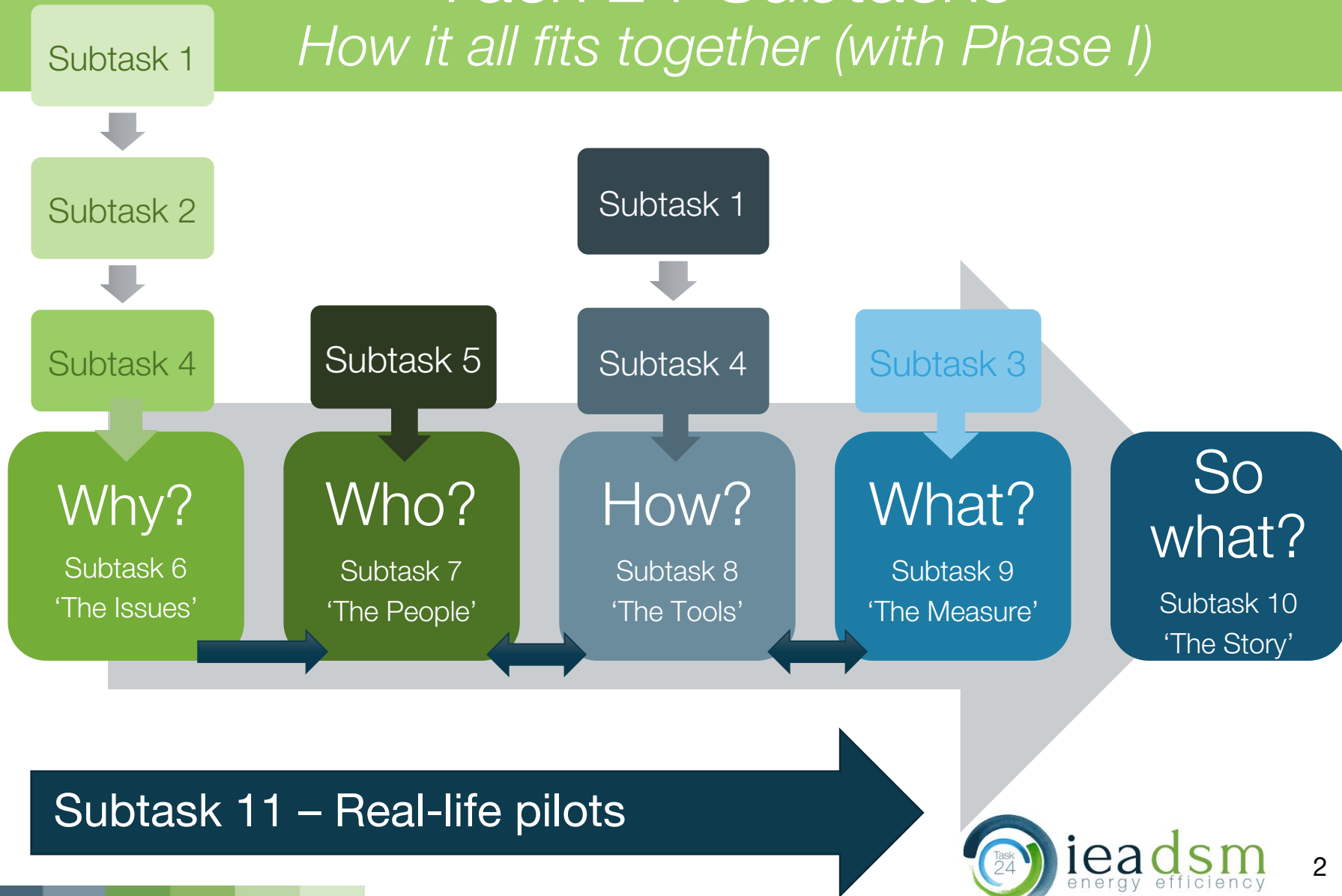


Phase II - *Helping the Behaviour Changers* FINAL STATUS UPDATE

Dr Sea Rotmann
Operating Agent Task 24
London ExCo Committee Meeting
October 2, 2018

Task 24 Subtasks

How it all fits together (with Phase I)



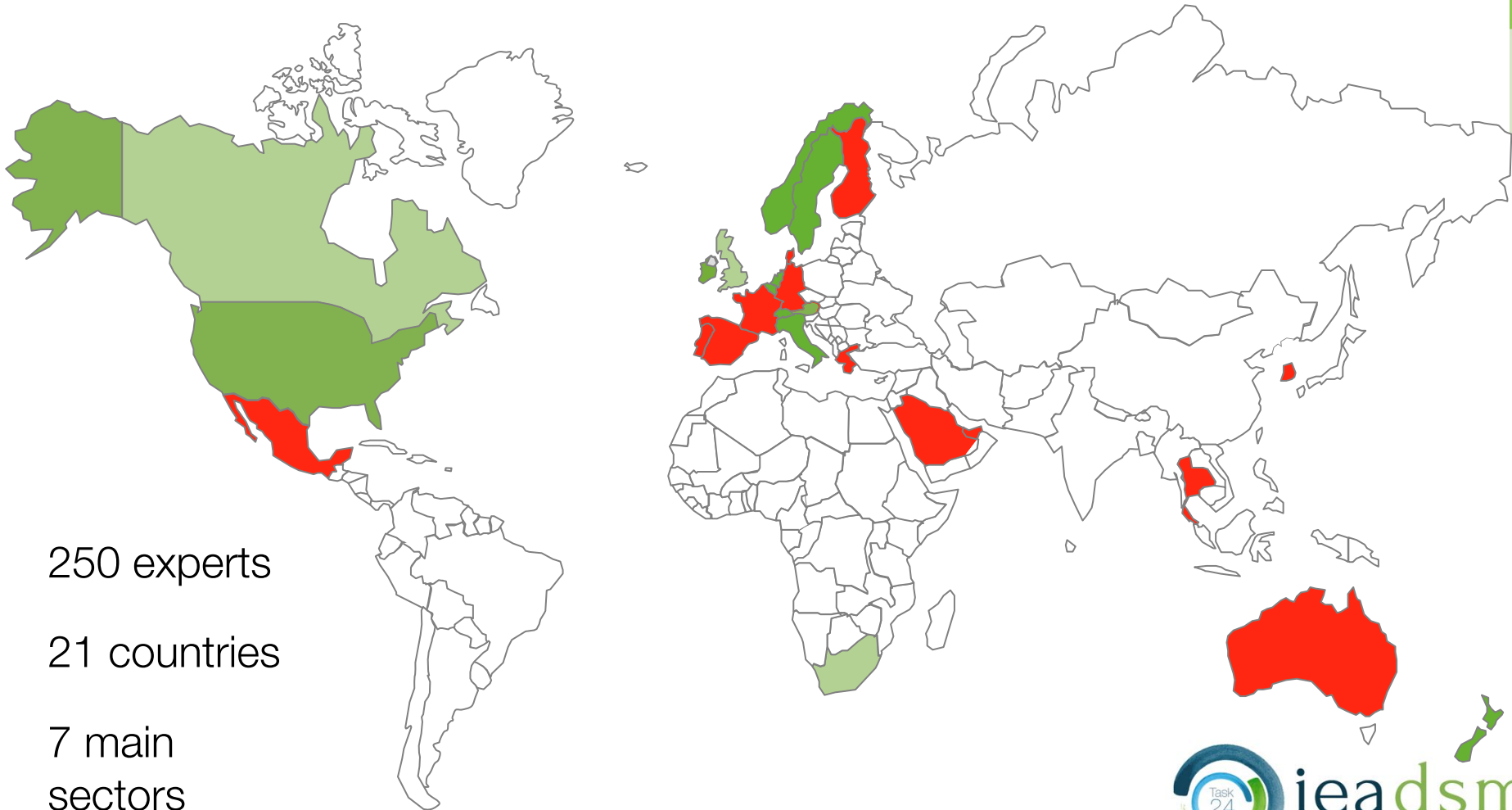
Subtask 5 – Expert Platform and dissemination Objectives from the last 6 months

- Expert network continually growing
 - Expert platform will be shut down and is continuing in person, e.g. in international Task 24 workshops
- Content incl presentations, videos and reports uploaded
 - all publications are now on IEA DSM website
- Continue publicising and dissemination of Task 24, including at top international conferences on behaviour and energy
 - ACEEE summer study (Aug 2018), BEHAVE conference paper, panel & workshop (Sep 2018), BECC conference presentation and special session and 2nd Task 24 US workshop (Oct 2018)

N – Ning Expert Platform

Description: Great to start collecting bios and getting experts on one platform. Also great for mass mail-outs www.ieadsmtask24.ning.com

Learning: Not fully utilised by experts for its social media capability. Now outdated.



250 experts

21 countries

7 main
sectors

Participating countries, contributing experts

Y – YouTube channel Task 24

Description: Social Media can be a very useful tool, so is the medium of film for **Storytelling**. Especially in Phase I, we filmed all workshops and presentations and put them on our own [Task 24 YouTube Playlist](#).

Learning: However, like with the **Ning Platform** and **Wiki**, the time and effort that goes into filming and editing is probably not worth the amount of engagement that you'll receive (the 39 films have been viewed 3125 times, an average of 80 views per film).

Watch some choice selections of Task 24 in film:

- [Oxford Task 24 workshop – the movie](#) (2012)
- [Insulation love story from NZ](#) (2014)
- [Task 24 experts telling their energy stories](#) (2015)
- [Explanatory video](#) how the “magic carpet of behaviour change” works (2016)
- [“Dr Sea’s Energy System”](#) – through the human lens (2016)
- [DSM University webinar](#) on how to change behaviour in the healthcare sector (2017)
- The most watched film was when the [ExCo went Great White Shark diving](#) in Cape Town (2014) – watched over 1100 times!



GREAT WHITE SHARKS! Up real close...

1,151 views

👍 5 💬 0 ➦ SHARE ≡ ⋮

C – Conference proceedings

There are several top international conferences on energy and behaviour which the Task has been regularly represented & published at (see links to 18 papers) since 2012:

- 3rd *International Sustainability Conference* Basel, CH: [Carabias-Hütter et al \(2012\)](#)
- 3rd *International Exergy, Life Cycle Assessment, and Sustainability Workshop & Symposium (ELCAS3)* Greece: [Carabias-Hütter et al \(2013\)](#)
- *American Psychological Association* (APA) Washington DC 2013
- *IEEE International Smart Grid conference* Copenhagen, DE (behaviour session leader) 2013
- *Behavior, Energy & Climate Change* (BECC) USA 2013 (transport panel), 2016 (Task 24 workshop), 2017 (social & technical committee), 2018 (Task 24 session)
- *BEHAVE* 2012, 2014 (panel leader), [2016](#) and [2018](#) (steering committee)
- *American Council for Energy Efficient Economies* (ACEEE) summer study [2016](#), [2018](#)
- *European Council for Energy Efficient Economies* (ECEEE) summer study 2009, [2011](#) (panel leader), [2013](#), 2015 ([evaluation](#) & [storytelling](#)), 2017 ([Behaviour Changers](#) & [green leasing](#))
- *International Energy Program Evaluation Conference* (IEPEC) [2014](#) (session leader), [2015](#), [2016](#)
- *Energy Cultures* conferences New Zealand 2015 and 2017
- *National Energy Research Institute* (NERI) conferences NZ 2013 and 2014
- *IEA Expert Group on Research & Development* (EGRD): [2011](#) (panel lead), [2013](#), [2017](#)

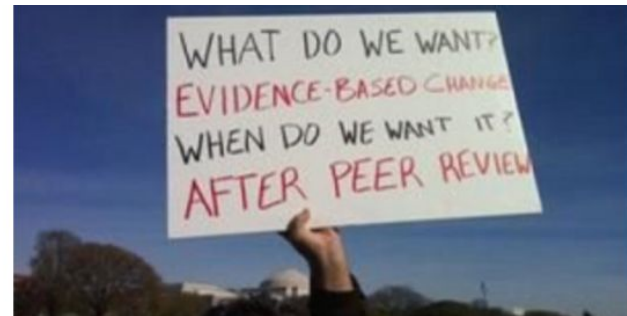


J – Journals, peer-review

This is how academic research gets validated – by peer review and publishing in a reputable journal (aka “primary literature”). We have co-edited our own Special Issue and published in this, and another major energy research journal.

Insight: TCPs aim more at policymakers than academics, which is why most Task work is technical reports, guidelines and toolkits

See also: Conference proceedings



Read more:

- Special Issue on “[Narratives and Storytelling in Energy and Climate Change Research](#)”, Energy Research and Social Science Volume 31 (September 2017)
- Rotmann, 2017. [“Once upon a time...” Eliciting energy and behaviour change stories using a fairy tale story spine](#). Energy Research and Social Science, Special Issue 31
- [M. Moezzi, K. Janda and S. Rotmann \(2017\), Using stories, narratives, and storytelling in energy and climate change research](#). Energy Research and Social Science, Special Issue on *Storytelling in Energy and Climate Change Research*.
- Batey, M. and R. Mourik (2016). [From calculated to real energy savings performance evaluation: an ICT-based methodology to enable meaningful do-it-yourself data collection](#). Energy Efficiency 9(4): 939-950.

S – Storytelling

Definition We needed to find an overarching ‘language’ in order to bridge the many different disciplines, sectors and Behaviour Changers we were dealing with: this language was storytelling.

Insights: The Task embarked on an exciting journey of using various storytelling tools to simplify learnings, bridge silos and ‘translate’ between different *Behaviour Changers*. This worked exceedingly well and broke some real ground.

See also: Hero & Horror stories, Learning & Love stories, Story spine

Read more:

- Special Issue on “[Narratives and Storytelling in Energy and Climate Change Research](#)”
- Rotmann (2017). “[Once upon a time... Eliciting energy and behaviour change stories using a fairy tale story spine. Energy Research and Social Science, Special Issue 31](#)”
- [M. Moezzi, K. Janda and S. Rotmann \(2017\). Using stories, narratives, and storytelling in energy and climate change research](#)
- Rotmann et al (2015). “[Once upon a time... telling a good energy efficiency story that sticks](#)”
- Rotmann (2018). “[ST 8 - Storytelling from A to Z](#)”



Subtask 5 – Special Issue on Storytelling in Energy Research and Social Science (ERSS)

- Our 2 publications have been cited 13 times in 2018 and were viewed over 14,000 times.
- Our introductory article became the most-downloaded paper of ERSS in 2018
- Paul Stern said it was *“a fascinating collection, pointing toward ways to connect narratives with more standard scientific approaches to energy and climate change analysis, leading to better informed choices. In short, this issue suggests interesting and important directions for doing things like informing decisions in the energy and climate arenas. Kudos and thanks to its editors!”*
- Shape Energy H2020 project is using a story spine in multi-stakeholder storytelling workshops (ex project partner Duneworks).

⇒ Our work on storytelling has probably been the single-greatest *academic* contributor of Task 24

Subtask 6 – The Issues

Objectives from last 6 months

- Building on work from Subtasks 2 and 4, develop common **top 3 DSM issues** → Done
- Research and review **current approaches** and practices on these top issues → Done
- Feed these cases, and the ones analysed in Subtask 1 and 2 into a **Toolbox of Interventions** (ST 8) → Done

Publications:

[Subtask 6&7 – Final Report Sweden](#)

[Subtask 6&7 – Collaboration and Green Leasing: A case study of the Swedish Energy Agency's new office building in Eskilstuna](#)

Subtask 6&7 – Final Report New Zealand (waiting for final sign-off by co-funders Corporate Affairs Team)

[Subtask 6&7 – Case Study Analysis – Home Energy Audit Tool \(HEAT\) kits in New Zealand](#)

[Subtask 6&7 – Final Report Ireland](#)

[Subtask 6&7 – Cross-Country Case Study Comparison Ireland – Home Energy Saving Kit Library Programmes](#)

[Subtask 6&7 – Cross-Country Case Study Comparison Ireland – Database of Energy Saving Kit Programmes](#)

C – Case study analyses

Description: A case study analysis is not merely a descriptive but a critical exercise, typically an examination of a situation/institution with view towards making recommendations

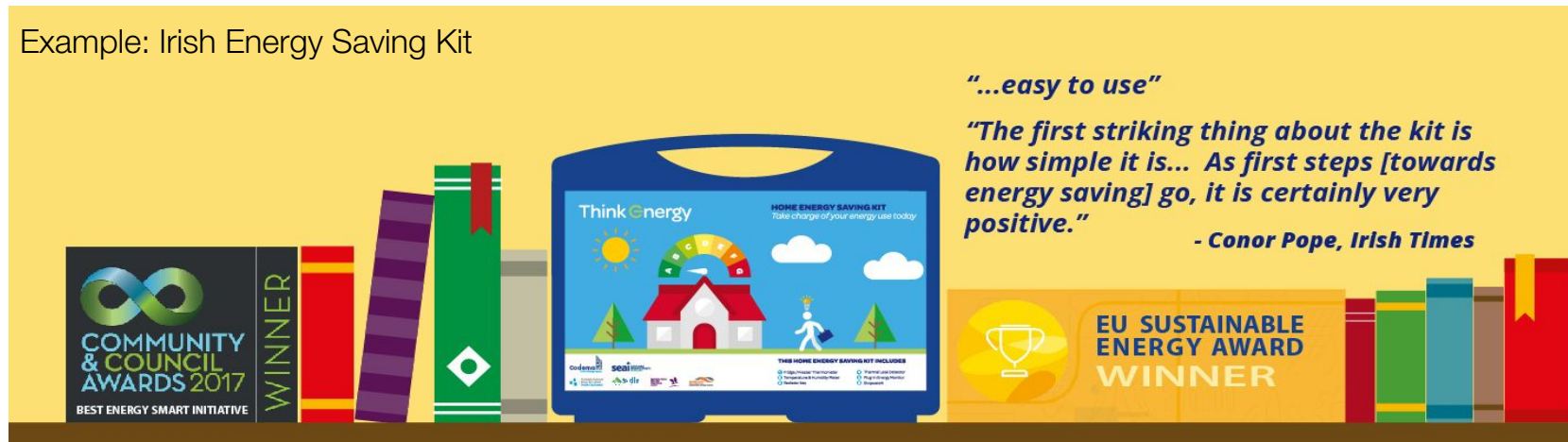
Tool: Subtask 8 [case study templates](#) – what we used to collect cases below

See also: Focus Groups, Interviews, Psychological & sociological research

Read more:

- ST 1 Mourik & Rotmann (2013) [“The Monster case study analysis](#)
- ST 2 Country case study analyses: [Austria](#), [Netherlands](#), [New Zealand](#), [Norway](#), [Sweden](#), [Switzerland](#)
- ST 6&7 [“Cross-country case study analysis for energy saving kit programmes”](#)
- ST 6&7 Janda et al (2017) [Advances in green leases and green leasing: Evidence from Sweden, Australia & UK](#)

Example: Irish Energy Saving Kit



C – Commercial office buildings

Description: The ST6 Issue in Sweden was Green Leasing in commercial office buildings.

Insight: We invited international experts and undertook a case study with the Swedish Energy Agency's office move.

Read more:

- BELOK (2016) [“Pilot study: Incentive leases for energy efficiency”](#)
- Janda et al (2017) [“Advances in green leases and green leasing: Evidence from Sweden, Australia, and the UK”](#)
- BELOK (2018) [“Collaboration and Green Leasing: A case study of the Swedish Energy Agency's new office building in Eskilstuna”](#)
- Rotmann & Bulut (2018) [“Sweden Final Report”](#)



G — Green Leasing

Task 24 definitions:

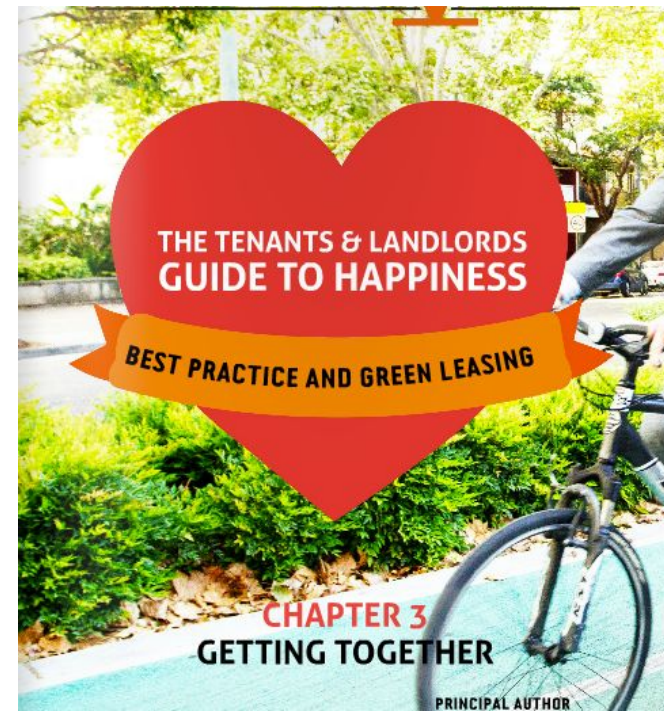
- **Green Lease** is an addition to the standard legal contract between landlord and tenant. It places these parties under mutual obligation to improve the environmental performance of a building, with a primary focus on energy management, through cooperation. Green leases do not only benefit the environment, but may also create mutual financial benefits for both the tenant and the landlord.
- **Green Leasing** has been conceptualized as a form of ‘middle-out’ inter-organisational environmental governance that operates between organisations, alongside other drivers. Where the term “green leases” usually reflects a change to the wording of a formal lease document; “green leasing” reflects a change to the relationship between the landlord and the tenant, which may be through the mechanism of the lease or through other channels.

Insights: The process of Green Leasing is preferable to the product

See also: Commercial Office Buildings

Read more:

- [Janda et al 2017](#)
- Janda et al 2016. "The evolution of green leases: towards inter-organizational environmental governance."
- Granell et al 2017. "Quantifying the impact of green leasing on energy use in a retail portfolio: limits to big data analytics."
- Rotmann & Bulut (2018). [Swedish Final Report](#).



R – Residential sector

Description: Occupied or unoccupied, owned or rented, single-family or multifamily, housing units and mobile homes, excluding institutional housing.

Insight: Most Task 24 case studies, and also generally, behaviour change interventions are based in the Residential Sector.

Read some Task 24 examples:

- Mourik & Rotmann (2013). Subtask 1 [case study analysis](#)
- Mourik (2014). Subtask 2 [“PowerMatching City”](#) (NL)
- Rotmann (2014). Subtask 2 [“Powering Tomorrow’s Homes”](#) (NZ)
- Eberwein et al (2014). Subtask 2 [“2000 Watt Society”](#) (CH)
- Lang (2015). Subtask 2 [“Energy Hunt vs €CO₂ Management”](#) (AT)
- Rotmann (2018). Subtask 6 [“Irish Energy Saving Kits cross-country comparison”](#)
- Rotmann & Chapman (2018). Subtask 9 [“Evaluating the Irish Energy Saving Kit programme”](#)
- Rotmann (2018). Subtask 6 [“New Zealand’s HEAT kit programme”](#)
- SEAI (2018). [Subtask 6&7 – Final Report Ireland](#)



R – Regulation/Regulatory barriers

Definition: Regulation is an abstract concept of management of complex systems according to a set of rules and trends.

Insight: Regulatory Barriers can cause high costs of entry, stifle innovation and can cause difficulties when claiming savings for e.g. energy efficiency programmes.

Read more:

- Subtask 6 – [Austrian case study on embedding behavioural evaluation into the Energy Efficiency Law](#)
- Subtask 6 – [Ergebnisbericht Austria \[in German\]](#)
- Subtask 6 – [USA/CEE Final Report includes regulatory barriers to evaluating and claiming energy utility behaviour change programmes](#)



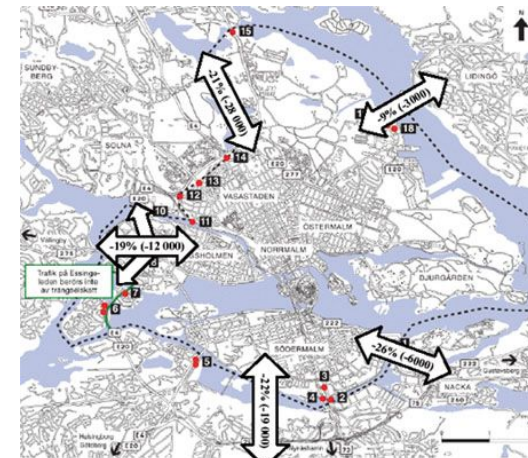
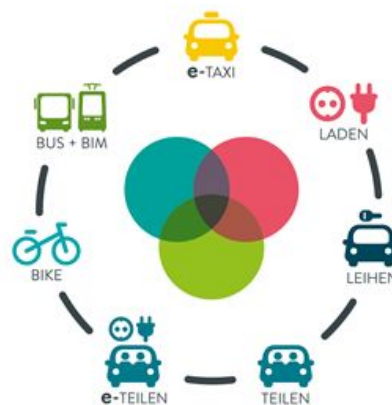
T – Transport sector

Description: The research theme on Transport behaviour provides research-based explanations for human behaviour in traffic. It combines knowledge of the effects of individual characteristics such as attitudes, cognition, habits and skills with a mapping of the travel behaviour of individuals and groups.

Learning: It was the 2nd-hardest sector to find good case studies for. We had case studies focusing on driver behaviour, fuel and mode switching.

Read some Task 24 examples:

- Mourik & Rotmann (2013). [“Subtask 1 - Monster case study analysis”](#)
- Nyström (2014). [“Subtask 2 – Stockholm’s congestion trial”](#)
- Rotmann & Kallsperger (2017). [“ECEEE Summer Study Task 24 workshop minutes.”](#)
- Kallsperger & Rotmann (2017). [“Subtask 6&7 - Austria Final Report including mobility-sharing platforms”](#)



U – Utilities and energy sector

Description: *The utilities sector is a category of stocks for utilities such as gas and electricity. The sector contains companies such as electric, gas and water firms, and integrated providers. The energy sector includes companies involved in the exploration and development of oil or gas reserves, oil and gas drilling and refining, or integrated power utility companies - including renewable energy and coal.*

Insight: Originally, DSM was focused on the utilities sector but we have expanded on this definition for Task 24. New Zealand and the US both had the utilities sector co-sponsoring the Task. In NZ, it was the 2nd largest lines company, [PowerCo](#) and in the US it was via the [Consortium for Energy Efficiency](#), with 10 utility sponsors.

See also: Demand-side Management

Read more from Task 24:

- Mourik and Rotmann (2013). [“Subtask 1 Monster case study analysis”](#)
- Rotmann (2014). [“Subtask 2 – PowerCo smart home case study”](#)
- Mourik (2014). [“Subtask 2 – PowerMatching City”](#)
- Rotmann (2018). [“Subtask 6&7 – NZ Final Report”](#)
- Rotmann & Ashby (to be published). [“Subtask 6&7 – US Final Report”](#)



U – University sector

Description: Higher Education mainly and generally means University level education. In Task 24, we concentrated on ICT use in the Higher Education Sector in the Netherlands, with a cross-country comparison to the UK.

Learning: It was very difficult to engage the Decisionmakers in Universities and this leadership is essential for behaviour change interventions to work

Read more:

- Cobben (2017). [“Subtask 6 – Case study comparison on ICT in Higher Education”](#)
- Mourik & Smits (2018). [“Subtask 6&7 – Final Report The Netherlands: Executive Summary plus Annexes”](#)
- [Subtask 10 – Policy Brief the Netherlands](#)



Utrecht University



Subtask 7 – The People

Objectives from last 6 months

- Identify the most appropriate Behaviour Changers in each participating country → DONE
 - Develop national Behaviour Changer dialogues → DONE
 - Backbone support to help ongoing communication between the Behaviour Changers → DONE
 - Evaluate Behaviour Changer Framework's impact → DONE
 - Collect examples of successful matchmaking stories → informal
- Behaviour Changers have been identified in all countries and 30 successful workshops have been held with 400+ experts & stakeholders. Interview, case study and report templates, country reports and policy briefs have been finalised - except for US. We will have 1 more workshop and finalise US report by End 2018.

B – Behaviour Changer

Definition Task 24 A Behaviour Changer is a person or agency tasked with the goal of designing, implementing, evaluating and/or disseminating interventions geared at changing energy End User behaviours.

Insight: In this Task, we differentiate between five Behaviour Changer sectors and it is important to get all of them “around the table”. The **Decisionmaker** (usually government on all levels), the **Provider** (usually energy- and energy technology-providing industry on all levels), the **Expert** (researchers and consultants from a multitude of disciplines), “the **Conscience**” (the Third sector including NGOs, community organisations, consumer groups etc.) and the **Middle Actor** (usually service providers in direct contact with the End User)

Behaviour Changers



Decisionmak
er



Provider



Middle Actor



Conscience



Expert

C - Collaboration

The main learning from the theoretical overview in Phase I was that long-term behaviour change interventions that really work can only be created in collaboration between different Behaviour Changers and End User reps

Insight: Task 24 thus created the [Behaviour Changer Framework](#) to facilitate such multi-stakeholder collaboration – and proved it works in almost 30 workshops in 10 countries, with >200 Behaviour Changers

See also: Collective Impact Approach, Behaviour Changer Framework

Read:

- Cowan et al (2018) "[It's not my job: Changing Behavior and Culture in a Healthcare Setting to Save Energy.](#)"



Behaviour Changers from CEE and Atrium Health (both 2018 US workshops)

C – Collective Impact Approach

Developed by Kania & Kramer (2011). [“Collective Impact”](#)

Examples: Analysed and utilised for ST 6&7 in [ICT use in Higher Education](#) (NL), [Healthcare](#) (US) and [Residential Energy Saving Kits](#) (IE & NZ)

The Five Conditions of Collective Impact

Common Agenda

All participants have a **shared vision for change** including a common understanding of the problem and a joint approach to solving it through agreed upon actions.

Shared Measurement

Collecting data and measuring results consistently across all participants ensures efforts remain aligned and participants hold each other accountable.

Mutually Reinforcing Activities

Participant activities must be **differentiated while still being coordinated** through a mutually reinforcing plan of action.

Continuous Communication

Consistent and open communication is needed across the many players to build trust, assure mutual objectives, and appreciate common motivation.

Backbone Support

Creating and managing collective impact requires a dedicated staff and a specific set of skills to **serve as the backbone for the entire initiative and coordinate participating organizations and agencies.**

Reprinted with the permission of FSG and the Stanford Social Innovation Review

B – Behaviour Changer Framework

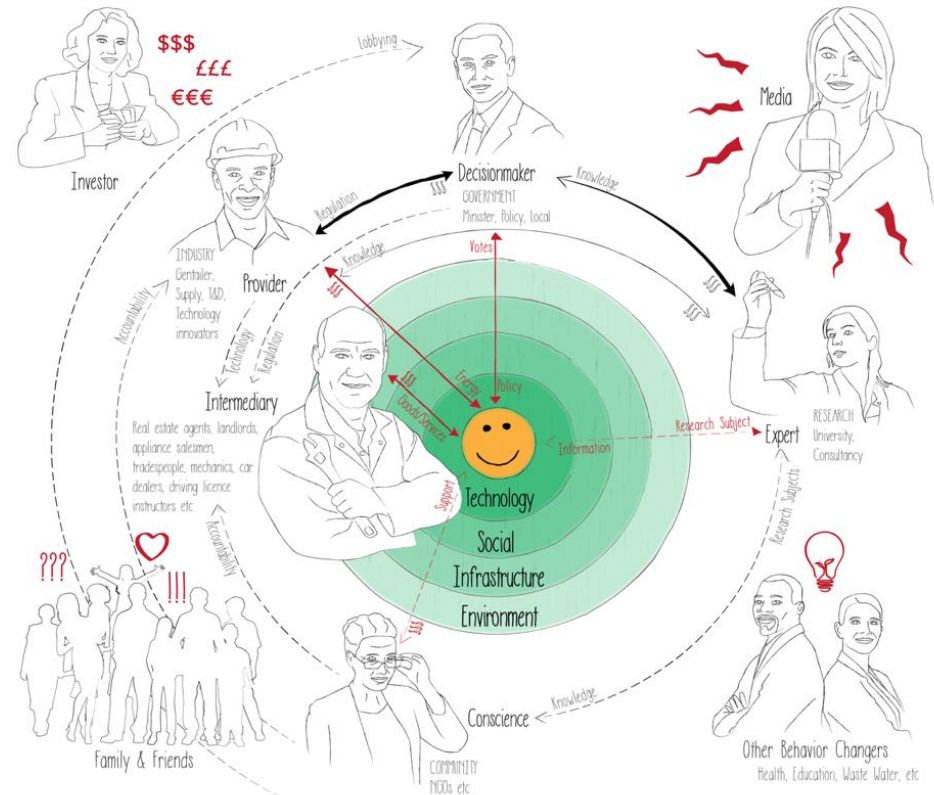
Definition: The Task 24 Behaviour Changer Framework was created to provide a visual overview of the social ecosystem, focusing on all relevant stakeholders, i.e. the Behaviour Changers (ST 7) from the different sectors and their relationships with one another, and the End User.

Insights: The “magic carpet” proved extremely successful in the field, leading to actual, measurable energy savings in real-life pilots. It also [won an award for most promising or innovative project](#) at ECEEE Summer Study 2017

See also: “Magic Carpet”, Collaboration, Collective Impact Approach

Read more: Rotmann, S (2016) [“How to create a ‘magic carpet’ of behaviour change”](#)

Watch: [explanatory video](#)



W – Workshops

Description: An important aspect of IEA Technology Collaboration Programmes (TCPs) are workshops with various national experts of participating countries, and other stakeholders.

Insight: Task 24 has undertaken more workshops than most – 60 in 16 countries, with over 500 experts and stakeholders participating. They are key to the “Align & Connect” phase at the start of all behaviour change design

See also: Behaviour Changer Framework, Collaboration, Collective Impact Approach, SCI Process

Read:

- Breukers & Rotmann (2012). [Brussels Workshop Minutes](#)
- Churchouse, Mahoney & Rotmann (2012). [Oxford Workshop Minutes](#)
- Hull (2012). [Task 24 Oxford Workshop minutes by Task 23](#)
- Rotmann & Kallsperger (2017). [ECEEE Summer Study workshop minutes 2015 & 2017](#)
- [Rotmann \(2015\). BECC conference Task 24 workshop minutes](#)
- [Rotmann \(2016\). BEHAVE conference Task 24 workshop minutes](#)
- Rotmann (2018). Combined workshop minutes (only available to funders), 250pp.



Subtask 8 – Toolbox for Behaviour Changers



IEA DSM Task 24 – Phase II: Behaviour Change in DSM

Behaviour Change from A-Z

Dr Sea Rotmann, Operating Agent
Wellington, New Zealand

July 2018

Background and how to read this “toolbox”

The **Subtask 8** deliverable was to create a testable toolbox for behaviour change interventions:

- A description and evaluation of the validity and effectiveness of the **Collective Impact Approach** in the energy arena, as a peer-reviewed paper ([Rotmann, 2016](#) and [2017a](#), [Cobben 2017](#)).
- A [Decision-making Tree](#) that enables *Behaviour Changers* to better utilise the findings of **ST1 & 2**
- A peer-reviewed paper on the impact of **storytelling** in energy research ([Rotmann, 2017b](#); [Moezzi, Janda and Rotmann, 2017](#); [Rotmann, 2018](#)).
- A collection of sector stories from each *Behaviour Changer* (see **ST6** Final reports & Rotmann, 2017b)
- This includes a list of behavioural intervention tools each *Behaviour Changer* has at their disposal in each of their national and sectoral contexts (see Task 24 workshop minutes and **ST6** Final reports).
- Continued testing and development of evaluation tools created in **ST 3 & 9** ([Rotmann and Chapman, 2018](#)).
- Testable toolbox for national *Behaviour Changers* (when choosing to take part in **ST11**, see [Cowan et al 2017](#) and [2018](#)) and/or synthesis of internationally-valid tools to feed into the Overarching Story (**ST10**, to be published).

Content of the toolbox

In blue = general behaviour change intervention tools or processes and how they were applied here

In green = tools, definitions, publications or interventions specifically created for Task 24

In light blue = Task 24 case studies, topics & sectors

- A: ABC Model
 - Action Research
 - Audience
- B: Behaviour
 - Behaviour Change
 - Behaviour Changer
 - Behaviour Changer Framework
 - Beyond kWh
 - Building Retrofits
- C: Case study analysis
 - Collaboration
 - Collective Impact Approach
 - Conference Proceedings
 - The Conscience
 - Context
 - Commercial office buildings
- D: The Decisionmaker
 - Decision-making Tree
 - Double-loop learning
 - Demand-side Management
- E: Economic Research
 - The End User
 - Evaluation
- E: The Expert
- F: The Facilitator
 - Fairy tale story spine
 - Feedback
 - Focus Groups
- G: Gamification
 - Green Leasing
- H: Hero & Horror Stories
 - Habits
 - Healthcare Sector
- I: Interviews
 - International Energy Agency (IEA)
- J: Journals, peer-review
- K: Kick-off Workshop
- L: Learning & Love Stories
- M: Magic carpet
 - The Middle Actor
 - Models of Understanding
 - Moments of Change
 - Monitoring
 - The Monster
- N: Ning Expert Platform
 - Non-Energy Benefits
- O: Outputs vs outcomes
- P: Persistence
 - The Provider
 - Policy Briefs
 - Practice Theory
 - Psychological Research
- R: Regulation/Regulatory Barriers
 - Residential Sector
- S: See Change Institute Process
 - Single-loop learning
 - Small to medium business
 - Smart meters
 - Storytelling
 - Surveys
- T: Theories of Change
 - Transport Sector
- U: Utilities and Energy Sector
 - University Sector
- V: Values
- W: Workshops
 - Wiki
- Y: YouTube Channel

Subtask 9 – The Measure Objectives from the last 6 months

- Co-funded by SCE and PG&E ~USD100,000
- The ‘beyond kWh’ tool has been analysed in Ireland using Bayesian modelling and was triangulated with qualitative focus group and interview data. Results were presented in a paper and panel at the BEHAVE conference in September. A technical report has been finalised for the Irish funders and is expected to be published in a peer-reviewed journal article.
- The Toolkit was also modified for the Swedish Energy Agency pilot and a trial by Vermont Energy Investment Corporation (VEIT)

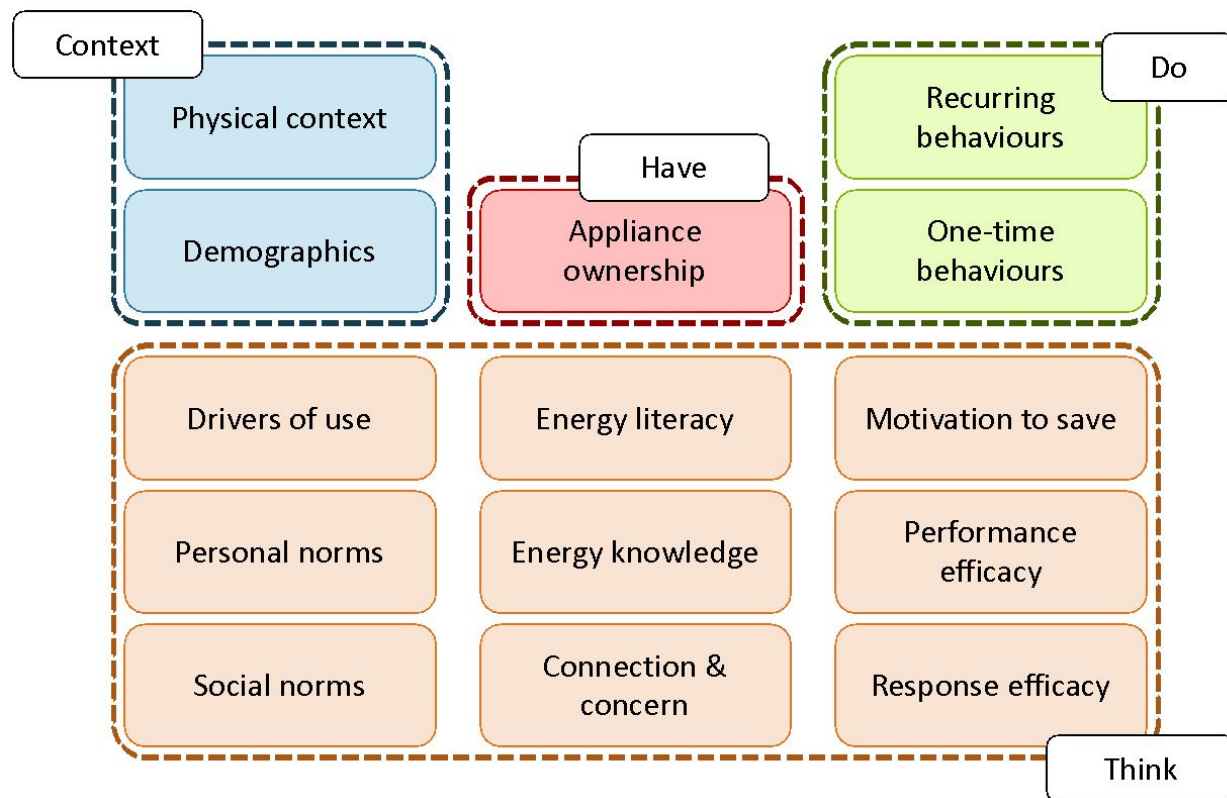
B – Beyond kWh toolkit

Background: Our Project Partners, the [See Change Institute](#), undertook an empirical methodology review of how residential feedback interventions were evaluated:

Read: Subtask 3 [Karlin et al \(2015\)](#) “What do we know about what we know?”

From these insights, they developed a standardised tool, to be internationally validated (see [Irish evaluation report](#)) in Subtask 9: “Beyond kWh toolkit”

See also: Evaluation, See Change Institute Process



Read more: [Karlin et al \(2015\)](#) “Exploring Deep Savings: A Toolkit for Assessing Behavior-Based Energy Interventions”
[Karlin et al \(2016\)](#) “Evaluating Energy Culture: Identifying and validating measures for behaviour-based energy interventions”
[Southern California Edison \(2015\)](#) “Dimensions of Energy Behavior: Psychometric Testing of Scales for Evaluating Behavioral Interventions in Demand Side Management Programs”

E – Evaluation

Definition: *Evaluation* is a structured process of assessing the success of an intervention in meeting its goals and to reflect on the lessons learned during the intervention.

See also: *Monitoring*

Insight: We studied evaluation of behavioural interventions in **Subtasks 3, 9 and 6** in the chosen issues by AT and US, as well as IE, NZ and US in **ST11**

Read more:

- Karlin et al (2015) [“What do we know about what we know?”](#)
- Mourik et al (2015) [“Did you behave as we designed you to?”](#)
- Van Summeren et al (2015) [“From ‘I think I know’ to ‘I understand what you did and why you did it’”](#)
- Karlin et al (2015) [“Exploring Deep Savings: A Toolkit for Assessing Behavior-Based Energy Interventions”](#)
- Karlin et al (2016) [“Evaluating Energy Culture: Identifying and validating measures for behaviour-based energy interventions”](#)
- Southern California Edison (2015) [“Dimensions of Energy Behavior: Psychometric Testing of Scales for Evaluating Behavioral Interventions in Demand Side Management Programs”](#)
- Kallsperger & Rotmann (2017) [“Final Report Austria”](#)
- Grazer Energie Agentur (2017) [“Task 24 Ergebnisbericht”](#) [in German]
- **Ashby & Rotmann** (to be published) “Final Report USA”
- Rotmann & Chapman (2018) [“Using Bayesian models to evaluate the Irish energy saving kit pilot”](#)
- Cowen et al (2017) [“Subtask 11 - CHS case study”](#) and [“It’s not my job”](#) (2018)
- Rotmann (2018) [“Evaluating New Zealand’s HEAT kit programme”](#)



Subtask 10 – The Story

Objectives from the last 6 months

- Collate, analyse and distil all information collected in Subtasks 6-9. Develop **an international handbook** with guidelines and recommendations

→ **Underway. Finalised with US country input end of 2018.**

P – Policy Briefs

Description: *The Chair of the IEA End-Use Working Party, the committee that oversees the IEA DSM Programme, provided all Technology Collaboration Platforms (TCPs) with a template of how to create 2-page policy briefs for our main audience, the Decisionmakers.*

Insight: We have taken this useful template and used it to create policy briefs for all country issues in Phase II, which are combined into the **Subtask 10 – Overarching Story of Task 24.**

Read more:

- [Task 24 Policy Brief](#)
- [Subtask 10 – Austria Policy Brief](#)
- [Subtask 10 – Netherlands Policy Brief](#)
- [Subtask 10 – New Zealand Policy Brief](#)
- [Subtask 10 – Sweden Policy Brief](#)
- [Subtask 10 – Ireland Policy Brief](#)
- [Subtask 10 – USA Policy Brief](#)
- [Subtask 10 – Overarching Story of Task 24](#)



The screenshot shows the top portion of a policy brief. It features the IEA DSM logo with the tagline 'energy efficiency' and the text 'IEA DSM Technology Collaboration Platform' and 'www.ieadsm.org'. Below this is the title 'TASK 24 POLICY BRIEF' and a subtitle 'BEHAVIOUR CHANGE IN DSM: OR HOW MONSTERS, FAIRY TALES AND MAGIC CARPETS CAN HELP CHANGE BEHAVIOURS'. A green box contains a list of bullet points:

- There is no behaviour change silver bullet, just as there is no silver bullet technology or business model that can change everything
- But we have learned that some approaches work better than others
- Viewing the energy system through the 'human lens', starting by understanding end user needs, and taking a whole-system, collaborative approach to designing behavioural interventions is key
- We have trialled and tested the tools to facilitate a collective impact approach to behaviour change with many different sectors, countries and stakeholders
- To help policy and decision makers design better policies, programmes and pilots, we have developed a toolbox for behaviour change interventions from A to Z.

WHAT'S THE ISSUE?
As environmental and societal pressures continue to rise, OECD governments are doing more and more to meet rising energy needs with greater sustainability policies. Low carbon policies and targets, as well as the Paris Accord are shaping the future of our energy system. We have taken massive inroads into increasing the proportion of renewable energy technologies, with rapid cost reductions and are tracking towards low carbon electricity production.

However, it is clear that current efforts and technologies will not be enough to achieve a 1.5C climate change target. The transport sector is still locked into a largely fossil fuel-dependent near-term future and the shift to 100% renewable energy will take several more generations.

WHY IS THIS IMPORTANT?
One area of great potential of up to 30% energy consumption reduction has been largely overlooked: human behaviour and changes in energy consumption habits and investment decisions. Even though many studies and projects have attempted to change behaviours, and several large-scale efforts have been undertaken via utilities (e.g. with Opower), only very few have managed to sustain long-term 30% reductions in energy use. Without achieving societal change in (energy) consumption habits and routines, it will be close to impossible to achieve the carbon targets that can stall runaway climate change.

WHAT CAN POLICY MAKERS DO?
Why is achieving long-term change in energy habits so elusive? One of the issues is that we continue to address humans under the lens of the current neoliberal socio-economic system – as largely utility-maximising, rational actors. However, studies have shown that over 90% of energy use is entirely habitual and routine. That means that most neoclassical economic approaches based on the 'deficit model' (i.e. that a deficit in information and financial ability is the reason for inefficient energy behaviours) will only work in a small number of instances. For example, during so-called 'Moments of Change' when people move home, or buy a new car or large appliance, when they

renovate or retrofit or maybe have a baby. During those times, they can become more aware of their energy use, and, with the right 'Middle Actors' (e.g. tradespeople, appliance or vehicle salespeople, realtors etc.) in place to give them the most energy-efficient advice, they can be prompted to make (rational) decisions – usually on large investments. These will have long-term, ongoing positive effects as new energy behaviours and habits get locked in.

Identifying these Moments of Change and the relevant, associated Middle Actors who can be trained to 'lock them in', should be part of a policy maker's toolbox. But they cannot do this alone. Most policy makers do not have direct access to End User lives and associated changes in lifestyles and (energy) consumption. In addition, the skill does not address the 90% of routine energy use. One way these much more intractable and complex societal behaviours can be addressed is via a so-called 'Collective Impact Approach' (CIA). This was designed by social entrepreneurs who are dealing with complex problems and many different (and often) difficult stakeholders. This approach, aimed at long-term social change, proposes a collective, rather than an individual approach for solving social problems.

The Collective Impact Approach encompasses a framework to facilitate multi-stakeholder collaboration. Its main features are: A common agenda; mutually-reinforcing activities; continuous communication; shared measurements; and a backbone support organisation. To create a more hands-on tool to identify and work on the five conditions of the CIA, IEA DSM Task 24 developed the so-called 'Behaviour Change Framework'. This was later dubbed 'the magic carpet of behaviour change' by the largest utility in California. This framework was created to have an overview of the social system focusing on all relevant stakeholders, not just policy or decision makers. We call them 'Behaviour Changers' and they fall into five main sectors (government, industry, research, the third, and service sectors). This 'magic carpet' framework focuses on a chosen

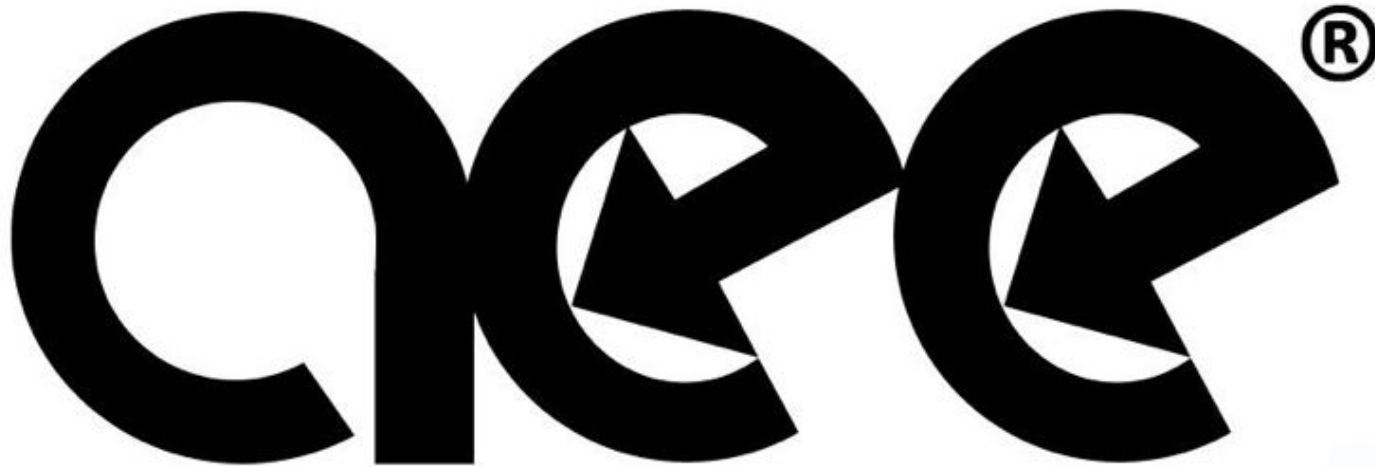
(Voluntary) Subtask 11 – The Pilots Objectives from the last 6 months

- Attract **co-funders** in countries from industry, government, research or the third sector to test *Behaviour Changer Framework* and Task 24 toolbox on different, specific DSM issues in real-life field research pilots
- Very successful pilot for Atrium Health Systems in Charlotte (report done and evaluation results to be published in ACEEE 2018 paper)
- Co-funding from Auckland Council to develop better evaluation scheme for HEAT kit programme

H – Healthcare sector

Description: Task 24 undertook in-depth examination of building operator behaviours in the

. This



The Association of Energy Engineers



Expert meetings, seminars, conferences in last 6m

Date	Place	# of Experts	Type of meeting	Government	Industry	Academic
Apr 2018	Wellington	20	SHM	5	10	5
Apr 2018	San Francisco	20	SHM	1	17	3
Sept 2018	BEHAVE, CH	>60	EX			
Sept 2018	G20, Paris	>50	SHM			
Sept 2018	EUWP, Paris	>50?	SHM			
Sept 2018	CEE, New Orleans	>100	SHM		100+	
Oct 2018	BECC, Washington DC	>100	EX			
Oct 2018	DoE, Washington DC	15	EX	2	13	

Seminars/Conferences/Lectures in last 6m

Date	Place	Participants	Type of meeting	Government	Industry	Academic
May 2018	Boston, US	>100	Conference		100	
Sept 2018	BEHAVE, Zürich	>60	Special Session			
Oct 2018	BECC, Washington DC	>100	Conference			

Collaboration with others – it is imperative to Task 24

- EBC Annex 66 – expert was published in *ERSS SI*
- Task 24 experts – from >30 top Universities & Research Institutes
- IEA Secretariat – ongoing discussions
- See Change Institute, Consortium for Energy Efficiency (US)
- Queensland Government and University (AUS)
- Clair City air pollution project (H2020)
- Carolinas and Toronto hospital networks (US and CA)
- Energy Cultures and Green Grid projects (NZ)
- BECC, BEHAVE, ECEEE & ACEEE conferences

Task 24 – Phase II Timeline

Updated for 6 participating countries

Subtasks	2015		2016		2017		2018	
ST 0 Admin								
ST 5 Experts								
ST 6 Issues								
ST 7 People								
ST 8 Toolbox								
ST 9 Measure								
ST 10 Story								
ST 11 Pilots								

Most reports are now finalised. Due to the late US participation of CEE in Year 3 the US reports and Subtask 10 report will be finalised end of 2018.

Task 24 – Phase II Budget

- All invoices paid
- Budget is on track

Matters for the ExCO

- Please sign off on this final status update for Task 24 (acknowledging that the US work will be completed end of 2018)

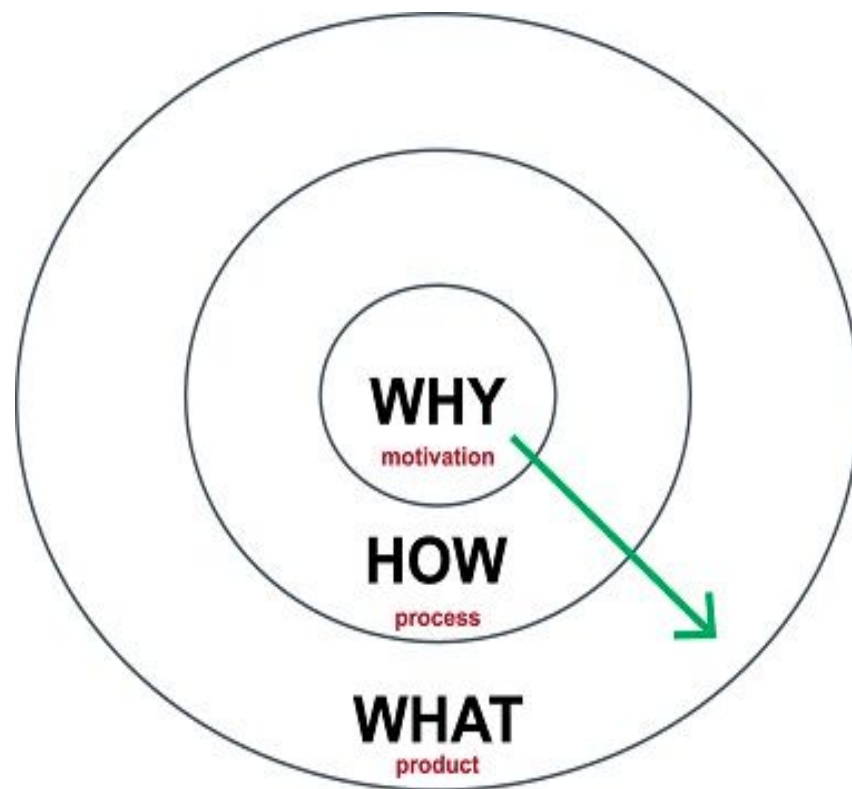
What is next?

New concept note:
Hard-to-Reach Energy Users



Continuing behaviour change in DSM: Hard-to-Reach Energy Users

- *Why*
 - Support our DSM strategy
 - Continue Task 24 expert network
 - Keep NZ in DSM
 - Under-explored issue of interest
 - Huge divergence in definitions
- *How*
 - IEA Task 24 toolbox
 - SCI Process
- *What*
 - ST1 Definitions and case studies
 - ST2 Internationally-validated standard process for behaviour change
 - ST3 Field research trials



Simon Sinek, 2009;
www.startwithwhy.com

Subtask 1: What are Hard-to-Reach Energy Users?

Many diverging definitions and approaches:

1. SMBs
2. Low income
3. Energy hardship / fuel poverty
4. Prosumers
5. Rural or isolated
6. Multi-family residencies
7. Hard to engage / motivate
8. No internet or smart phone access
9. Language or cultural barriers
10. Indigenous communities
11. Highly diverse communities



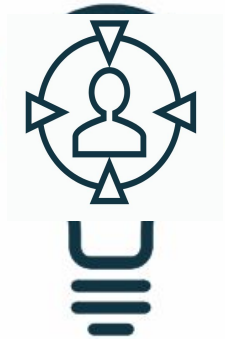
CEE Sponsor: “If we can send them a utility bill, we can reach them, but that doesn’t mean we can REACH them to become more energy efficient.”

Subtask 2: An internationally-validated process of how to “do” behaviour change



ALIGN

stakeholders on “why” and the ecosystem



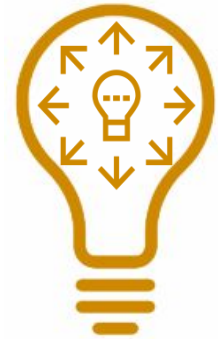
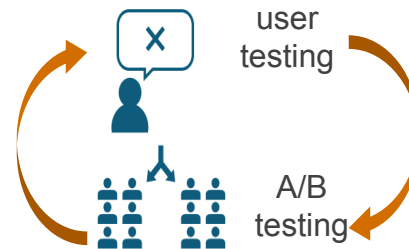
DEFINE

target **audience** and **behavior** goals



DESIGN

and test **content** & **delivery** strategies



DEPLOY

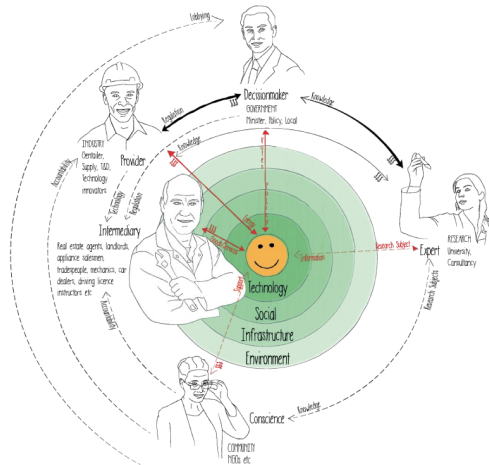
a pilot & **evaluate** process & outcomes



Subtask 3: Field research trials

Many co- and in-kind funding opportunities:

1. **Government:** Energy, Health and Social Agencies, Local Government...
2. **Industry:** Utilities, DSOs, Energy Efficiency Service Providers...
3. **Research:** Academia (e.g. Sheffield Hallam University's "Hardest-to-Reach" project), research on fuel poverty, accessibility, smart feedback and prosumers...
4. **Third Sector:** Community and social groups, consumer groups, refugee services, indigenous community groups and services...
5. **Middle Actors:** Have to be identified and engaged on each field trial



New, mixed funding model?

- *Subtask 0 - Administration*

Task 24 OA to project manage, provide ExCo feedback, maintain expert network and write and disseminate reports - **€12,500 per participating country per year** (2 years)

- *Subtask 1 - Definitions and Case Studies*

Very different between sectors and countries. Develop definitions and find relevant case studies in each / many DSM TCP country / countries (**€3,000 per country or €50,000 out of common fund**)

- *Subtask 2 - Internationally-validated standardised process*

Based on Task 24 toolbox and See Change Institute Process, develop and validate standardised process to align, define, design and deploy behavioural field interventions - **€7,500 per participating country p.a. (2 yrs)**

- *Subtask 3 - Field research trials*

Flexible co-funding approach. Co-funding to be found for countries who choose to join from implementers in industry, govt, research & the 3rd sector

Matters for the ExCO

- Please sign off on taking this concept note to the Task definition phase for ExCo Spring 2019

Thank you very much for your attention!

*Any comments
or questions?*

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