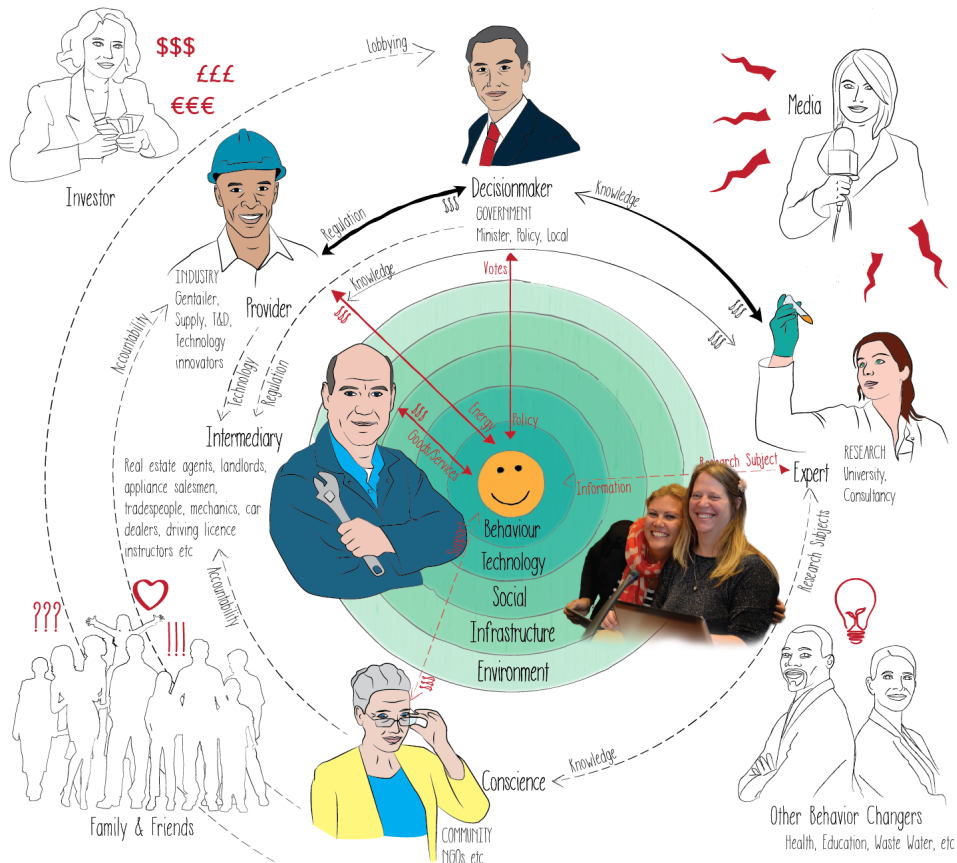


International Energy Agency  
Energy Technology Initiative on  
Demand Side Management Technologies and Programmes



# Work Plan for Phase 2

*Task 24 – Phase II*  
Helping the Behaviour Changers

November 2014

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# Contents

Background .....	4
Task 24 – Phase 1 .....	4
The need for an extension of Task 24 .....	4
New work plan .....	11
Objectives of Task 24 Phase II .....	12
Expected Benefits for Participants .....	12
Subtasks.....	13
Continued: Subtask 0 - Task Management.....	13
Objectives .....	13
Task Management and Distribution of Responsibilities .....	13
Task sharing and expected person months/days per partner.....	14
Continued: Subtask 5 – Expert Platform .....	14
Background.....	14
Objectives .....	15
Deliverables .....	15
Task sharing and expected person months/days per partner .....	15
Subtask 6 – Understanding the Behaviour Changer Practices and Priorities (“The Issues”) .....	15
Background.....	15
Objectives .....	16
Deliverables .....	16
Task sharing and expected person months/days per partner .....	16
Subtask 7 – Who are the Behaviour Changers in the top DSM issue? (“The People”).....	16
Background.....	16
Objectives .....	17
Deliverables .....	17
Task sharing and expected person months/days per partner.....	17
Subtask 8 – Developing a Toolbox of Interventions for Behaviour Changers (“The Tools”).....	17
Background.....	18
Objectives .....	20
Deliverables .....	20
Task sharing and expected person months/days per partner .....	21
Subtask 9 – Standardising evaluation Beyond kWh (“The Measure”).....	21
Background.....	21
Objectives .....	22
Deliverables .....	22
Task sharing and expected person months/days per partner .....	22
Subtask 10 – Telling an Overarching Story (“The Story”) .....	23
Background.....	23
Objectives .....	23
Deliverables .....	23
Task sharing and expected person months/days per partner.....	23
(Voluntary) Subtask 11: Real Life Application .....	23

Background.....	23
Objectives .....	24
Deliverables .....	24
Task sharing and expected person months/days per partner.....	24
Task sharing overview .....	24
Deliverables overview .....	24
Budget.....	25
Detailed budget based on 4 participating countries .....	25
Timeline .....	26
Risk Register.....	26
IEA Demand Side Management Energy Technology Initiative.....	27

# Background

## Task 24 – Phase 1

Task 24 was initiated in January 2012 (official start July 2012) and was financially supported by 8 countries (Netherlands, New Zealand, Sweden, Norway, Switzerland, Belgium, Italy and Austria). It also has received strong in-kind (expert) support from the UK, Spain, Portugal, UAE, France, Australia, South Africa, Canada and the US. Over 230 behaviour change and DSM experts from over 20 countries are participating in Subtask 5, which is the invite-only Task 24 Expert Platform ([www.ieadsmtask24.ning.com](http://www.ieadsmtask24.ning.com)). 15 successful expert workshops have been held to date and there are over 135 videos and presentations of these events on the Expert Platform<sup>1</sup>. The Task has been presented to 1000s of experts in more than 25 conferences and seminars and has been highly publicised on social media. Over 30 publications have been published to date<sup>2</sup>. Feedback and publicity of Task 24 has been outstanding - new, engaged experts are continually joining us, enabling us to collect relevant case studies from a truly global perspective.

Over 60 case studies showing the successful (or not so successful) use of diverse models of understanding behaviour in the areas of transport, SMEs, smart meters and building retrofits have been collected to date from 15 countries. They have been analysed and an interactive 160pp 'Monster' report<sup>3</sup> and Wiki ([www.ieadsmtask24wiki.info](http://www.ieadsmtask24wiki.info)) have been developed. A short storybook version<sup>4</sup> of the 'Monster' report is also available. Several case studies for Subtask 2 have been collected - in Austria, Norway, Sweden, New Zealand, the Netherlands, Italy and Switzerland<sup>5</sup>. We also addressed the all-important question of how to best evaluate successful long-term behaviour change outcomes (Subtask 3) from the perspective of the various 'Behaviour Changers' (in industry, government, intermediaries, research and the third sector) who are our target audience. Subtask 3 has been developed with researchers at the University of California Irvine and Victoria University Wellington (Deliverable 3 – 'How do we know what we know?'). We have also developed an in-depth positioning paper (Deliverable 3A – 'Did you behave as we designed you to?') and factsheets on three specific intervention tools from the building retrofit area (Deliverable 3B – 'From 'I think I know' to 'I know what you did and why you did it'). On finalising the Task, we have provided country-specific recommendations and to do's/not to do's from in-depth stakeholder analyses collected during workshops, from our National Experts and during case study analyses (Subtask 4). The Task has also written a report on behavioural insights for ESCo Project Facilitators for IEA DSM Task 16<sup>6</sup> and published several articles, peer-reviewed conference papers and blogs.

## The need for an extension of Task 24

The results from Task 24 (both the theoretical analysis of case studies and in-depth communication and surveys with our many experts) led us to conclude that the reason why energy efficiency is still 'the greatest market failure of our time' is because most current approaches are still based on a rather technocratic understanding of energy end user behaviour, with technology, market forces or energy supply dictating interventions geared at behaviour change. We have made a start with presenting this conclusion using storytelling and responses so far were very positive as our stories enabled people (e.g. policymakers) with no background in behavioural sciences to understand how different social science approaches towards behaviour change will have different outcomes. There are now two things that we need to take a step further:

- We need to elaborate our empirical knowledge base (elaborate on who, why, how?)
- We need to strengthen and support the community/platform of experts into co-creating improved interventions, *using storytelling* and a *collective impact approach* as process tools to overcome language/jargon barriers, inherent systemic barriers and silos.

<sup>1</sup> For all workshops, conferences etc see Appendix 1 of any [Subtask 4 country reports](#).

<sup>2</sup> For a list of all publications lists see Appendix 2 of any [Subtask 4 country reports](#)

<sup>3</sup> <https://www.dropbox.com/s/6zsa4l89kv20jeh/Subtask%201%20The%20Monster.pdf?dl=0>

<sup>4</sup> <https://www.dropbox.com/s/bikivxctvku4l8/The%20Monster%20storybook.pdf>

<sup>5</sup> All reports from Phase I can be found on [www.ieadsm.org](http://www.ieadsm.org)

<sup>6</sup> [https://www.dropbox.com/s/554m3xc4ancv8w/The%20life%20of%20ESCo%20facilitators\\_full%20report.pdf?dl=0](https://www.dropbox.com/s/554m3xc4ancv8w/The%20life%20of%20ESCo%20facilitators_full%20report.pdf?dl=0)

We pose that a better understanding of the *human* aspect of energy use, including behavioural and societal drivers and barriers and external and internal contexts, will greatly improve the uptake of energy efficiency and DSM policies and programmes. This is not at all to say that technology, market and business models and energy supply are not hugely important aspects of the Energy System. Instead, we pose that the *Energy System begins and ends with the human need for the services derived from energy (warmth, comfort, entertainment, mobility, hygiene, safety etc) and that behavioural interventions using technology, market and business models and changes to supply and delivery of energy are the all-important means to that end.*

Below we will elaborate on a different ‘model of understanding’ (based on work from Task 24 to date) of the energy system and its actors that offers a pragmatic approach for how we propose to further improve the co-creation of knowledge, learning, sharing and translation into practice among practitioners in the energy field.

The way the Energy System is currently established (see Figure 1), does not easily permit such a whole-system view which puts human needs, behaviours and (ir)rationalities at the center of interventions geared at system change. Instead, if we look at the Energy System through the human lens (Figure 2), we can see that it isn’t necessarily this top-down/left-right linear relationship starting with supply and ending with the end user, but rather a circular relationship which actually starts with the end user need for an energy service (click [here](#) for a short video presentation explaining this in more detail).

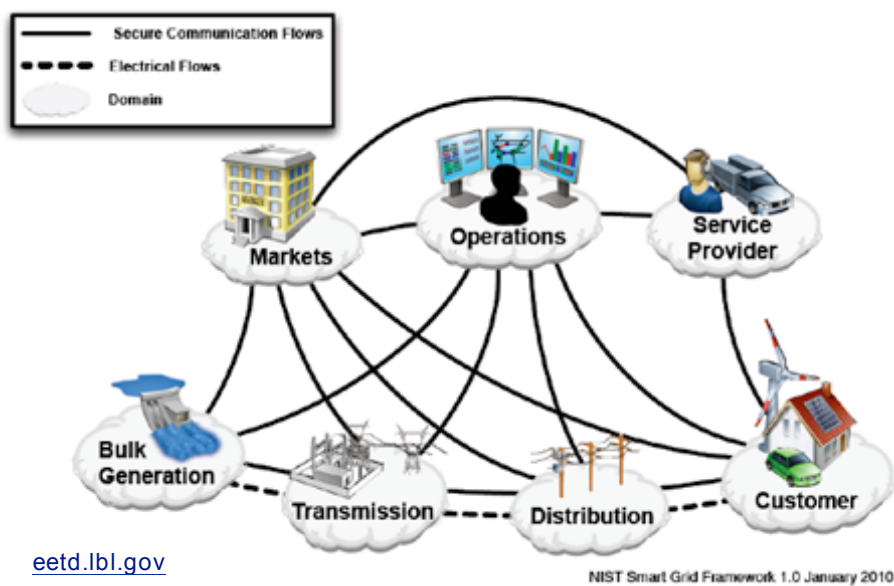


Figure 1. Current, linear way of looking at the energy system (starting with supply)



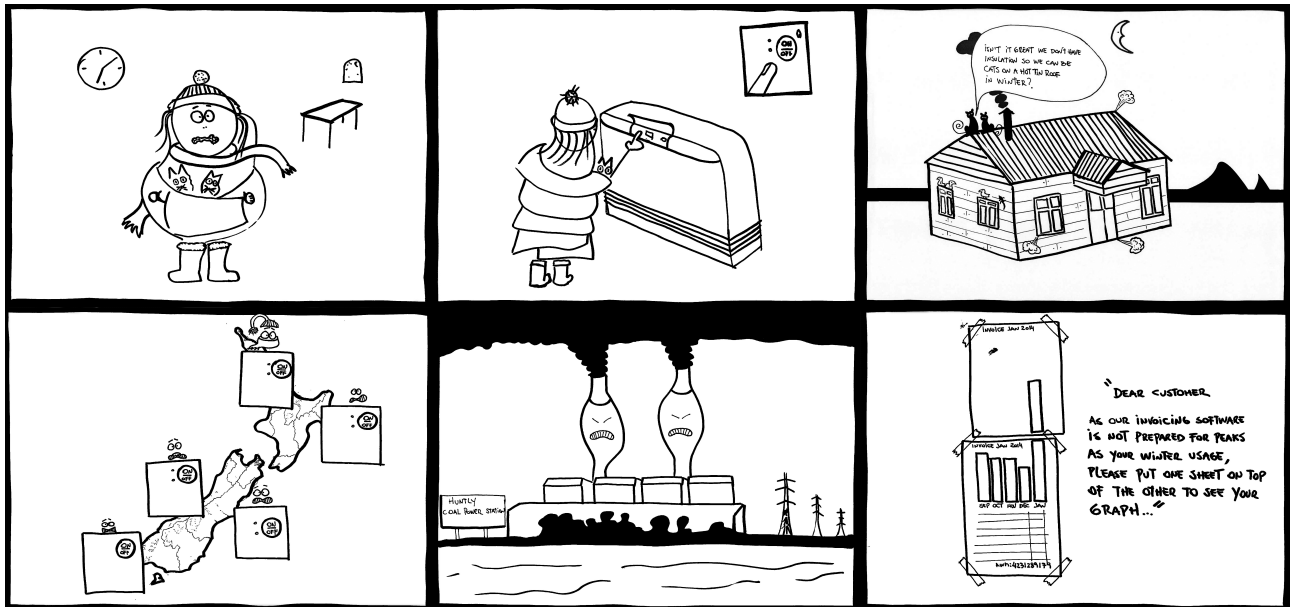


Figure 2. An alternative way of looking at the energy system (starting with the end user). [Click here](#) to watch an explanation of the diagram. Thanks to our Spanish expert, Juan Pablo García.

Amongst (rather than sitting above as in Fig 1) this view of the system, which now goes from the end user need for a service to supply, instead of than the other way around (or, rather, is circular), sit the 5 **Behaviour Changers** (the *Decisionmaker*, *Provider*, *Expert*, *Intermediary* and the *Conscience*, Fig 3). We introduce these actor-types who are the main behaviour change agents (of course their roles may overlap and are not set in stone) in order to highlight their individual and collective importance to achieving behaviour change. Each of these actors plays an important part but none of them can create systemic change in isolation. They depend on each other, on end users and on the conditions set by the particular social, institutional, physical and political context in which they work.

There are also other groups that are highly influential as a potential Behaviour Changers but not directly involved in a specific aspect of the Energy System and the *End User*, whose behaviours are attempted to be affected and changed (Figure 3). These other groups are the *Media*, a group that can have enormous impact on end user understanding of aspects of the energy system, both good and bad, and that can strike fear particularly into the hearts of the *Decisionmaker* and the *Provider* (as these two groups are particularly vulnerable to bad news stories). The *Conscience*, on the other hand, usually benefits from media interest, eg when holding other Behaviour Changers in the system accountable for social or environmental impacts from their practices. Other important Behaviour Changer groups outside of the Energy System are the *Investor*, *Family and Friends* (probably the most influential group, on the end user and also on the other Behaviour Changers in the system) and *Other Behaviour Changers* from areas such as health, education, waste, water etc. Of course, the energy *End User* is the real, final Behaviour Changer so it is crucially important that the other Behaviour Changers learn about diverse end-user groups and their needs.

We can see a much more complex and realistic impression of the drivers and barriers, conflicting mandates and relationships of our Behaviour Changers who are in charge of optimising the System and affecting change in the End Users' energy use/using behaviours in Fig 3.

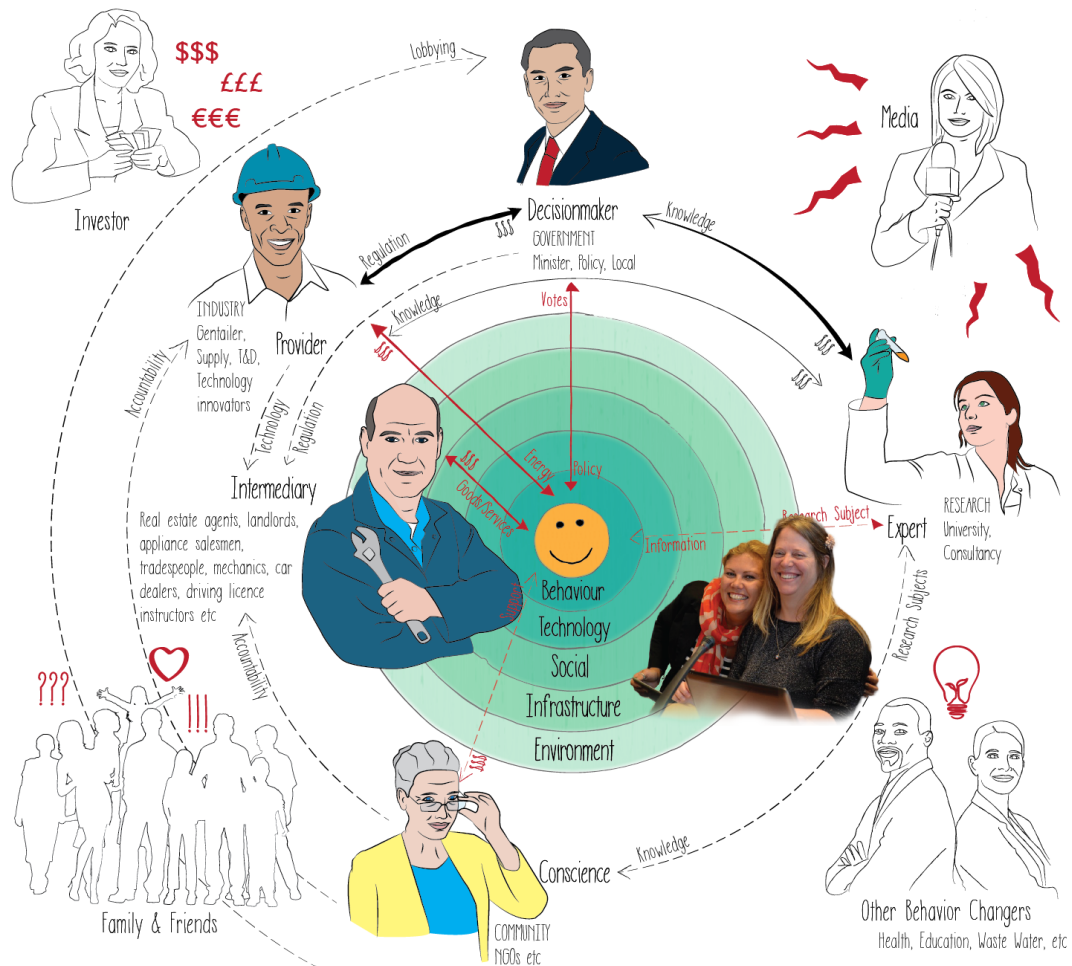


Figure 3. Diagram of the Behaviour Changer Framework that works on behavioural interventions on the Energy End User in a generalised Energy System. For explanation, click [here](#) to watch a step-by-step presentation of the diagram.

An important note to Figure 3: Of course this is only a ‘model’ of the system (remember: ‘All models are bad, but some of them are useful.’ George E.P. Box) and has thus been simplified, concentrating on the main mandate/s of each Behaviour Changer. However, each Behaviour Changer may have multiple roles (for example, *Experts* in knowledge institutes lobby sometimes, as do energy *Providers* who are often the ones that dictate energy policy in many countries; and NGOs (the *Conscience*) may very well also act as *Intermediaries*, depending on their role and aims). Of course *End Users* can also lobby (locally), intermediate (energy coaches), investigate (mobilise local knowledge) and provide energy (home PV), rather than being just the passive agents most models in the current system assume them to be. However, even though this is slowly changing (see the rise of the ‘prosumers’ and the increased interest in energy security, energy emissions and energy poverty in many countries), the end user is still the main target that behaviour change interventions by the Behaviour Changers are geared at (hence they are in the center of this diagram).

The *End User* here also means his/her energy behaviours, norms and practices. What needs to be remembered, is that each of the Behaviour Changers is also an end user, and thus part of similar technological, social, infrastructural and environmental contexts as shown around the *End User* (but it would have made the diagram too complex). Every one of these Behaviour Changers holds an important piece of the puzzle and has a lot of power and tools to affect change in their own right. However, none of them can affect systematic, societal change on their own as each operates in complex, individual contexts and faces different political realities. It is imperative to collectively address the challenges that arise when attempting to transition the existing system. That starts with developing a shared understanding of these challenges, which provides a

starting point to start developing ways to address these challenges – always with due attention to end-user needs.

This framework is meant to be used as a ‘heuristic’ to make the mandates and relationships of the Behaviour Changers and their interaction with the end user more clear and to enable story telling of each of the Behaviour Changers working on a specific behavioural intervention in a specific domain, context and country. It will be used in workshops to explore the stories of each relevant Behaviour Changers working towards a very specific common intervention goal (for example, how to overcome the split incentive issues with landlords in the building retrofit domain). We will use this framework to explore the current situation, the different mandates, drivers, barriers, conflicts and intervention tools each Behaviour Changer has and their relationships with each other, their primary stakeholders and the *End User*. Then we will explore what the system *should* look like and collectively develop a roadmap towards best practice. Each workshop will explore the changes between BAU and best practice and use the framework to evaluate, re-iterate and test completion towards the collectively agreed-upon roadmap. The story told [here](#) is a generic, first approximation of the NZ picture.

The Task 24 extension aims to visualise, discuss and improve this story in each national and the international context, supported by new stories based on very specific empirical cases from the participating countries. In that way we aim to arrive at a very detailed story that gives due attention to all relevant dimensions and actors of our energy system. In addition, we aim to develop ways and methodologies in collaboration with the Behaviour Changers to support systemic change. The Task 24 extension aims at supporting Behaviour Changers in using such a systemic approach, so that they can design, implement and evaluate better programmes and policies to change end user behaviours and enable DSM and energy efficiency, *together*.

We plan to do this by using a so-called *Collective Impact Approach*, which is a management framework built on principles from conservation psychology and has been used successfully by social entrepreneurs faced with the difficult task of bringing many stakeholders from different sectors together to solve complex, societal problems<sup>7</sup>. As Kania & Kramer (2011) write: ‘*Some societal problems are technical in that the problem is well defined, the answer is known in advance, and one or a few organizations have the ability to implement the solution. Adaptive problems, by contrast, are complex, the answer is not known, and even if it were, no single entity has the resources or authority to bring about the necessary change. In these cases, reaching an effective solution requires learning by the stakeholders involved in the problem, who must then change their own behavior in order to create a solution.*’ The main thrust of the **Collective Impact Approach** is based on the ‘*commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem. Collaboration is nothing new. The social sector is filled with examples of partnerships, networks, and other types of joint efforts. But collective impact initiatives are distinctly different. Unlike most collaborations, collective impact initiatives involve a centralised infrastructure, a dedicated staff, and a structured process that leads to a common agenda, shared measurement, continuous communication, and mutually reinforcing activities among all participants.*’ We believe that Task 24 can provide the trusted, neutral infrastructure and processes needed to make collective impact approaches work on specific DSM issues, as they are identified as top priority by the IEA DSM Executive Committee.

The biggest benefit of the Collective Impact Approach comes from a core group of sector leaders deciding to abandon their individual agendas in favour of a collective approach to improving a common goal (such as an increased uptake of energy efficiency). This is of course also the biggest hurdle to overcome - how to get a group of powerful leaders, each with their own mandates, drivers and restrictions to leave their respective silos and decide to collaborate on an even basis - even if they may have different tools and approaches to achieve the common goal. Successful examples of this have been found not only in social enterprises, but also the education area (eg Cincinatti’s ‘Strive’ programme), health (eg ‘Shape up Somerville’ in the US) and the environmental area (eg the ‘Elizabeth River Project’ in the US or the ‘Land and Water Forum’ in NZ). As Kania and Kramer (2011) note: ‘*Evidence of the effectiveness of this approach*

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<sup>7</sup> Examples recounted [here](#) by Kania & Kramer (2011)



*is still limited, but these examples suggest that substantially greater progress could be made in alleviating many of our most serious and complex social problems if nonprofits, governments, businesses, and the public were brought together around a common agenda to create collective impact. It doesn't happen often, not because it is impossible, but because it is so rarely attempted. Funders and nonprofits alike overlook the potential for collective impact because they are used to focusing on independent action as the primary vehicle for social change.'*

The **Collective Impact Approach** has never been used in the energy field, as far as we are aware, nor have there been studies that specifically addressed these five **Behaviour Changer** sectors and their individual mandates, how and where they overlap with each other and where specific conflicts arise in the system (and how these conflicts can best be overcome). Although there is knowledge on the issues regarding decisionmaking in parallel processes, there are known gaps relating to 'translation' issues and the need for a common language. This new approach to fostering collaboration (and evaluating the Collective Impact Approach in the energy arena), co-creating knowledge with Behaviour Changers using **storytelling** as a way of translating between different (disciplinary and sectoral) perspectives, while also further **evaluating** and improving the method of using narratives as a common overarching language, is central in the extension of Task 24. A consistent monitoring regime (largely qualitative stakeholder analyses) with relevant feedback loops will reinforce and, where necessary, iterate the proposed approach.

There is a logical approach to the structure of this extension (see Fig 4): identify the main issues to focus on in order to limit the scope and ensure comparability between participating countries ("The Issues" or WHAT, Subtask 6); identify the main Behaviour Changers ("The People" or WHO, Subtask 7); Develop and evaluate the tools needed in order to achieve behaviour change in practice, like storytelling or the Collective Impact Approach ("The Tools" or HOW, Subtask 8); developing standardised evaluation measures to assess how change has occurred ("The Measure" or WHY, Subtask 9); and synthesising the learnings into an overarching story ("The Story" or SO WHAT, Subtask 10). We will then hopefully also get to trial these tools in practice, if Behaviour Changers are joining voluntary Subtask 11 ("The Pilot" or THIS IS HOW).

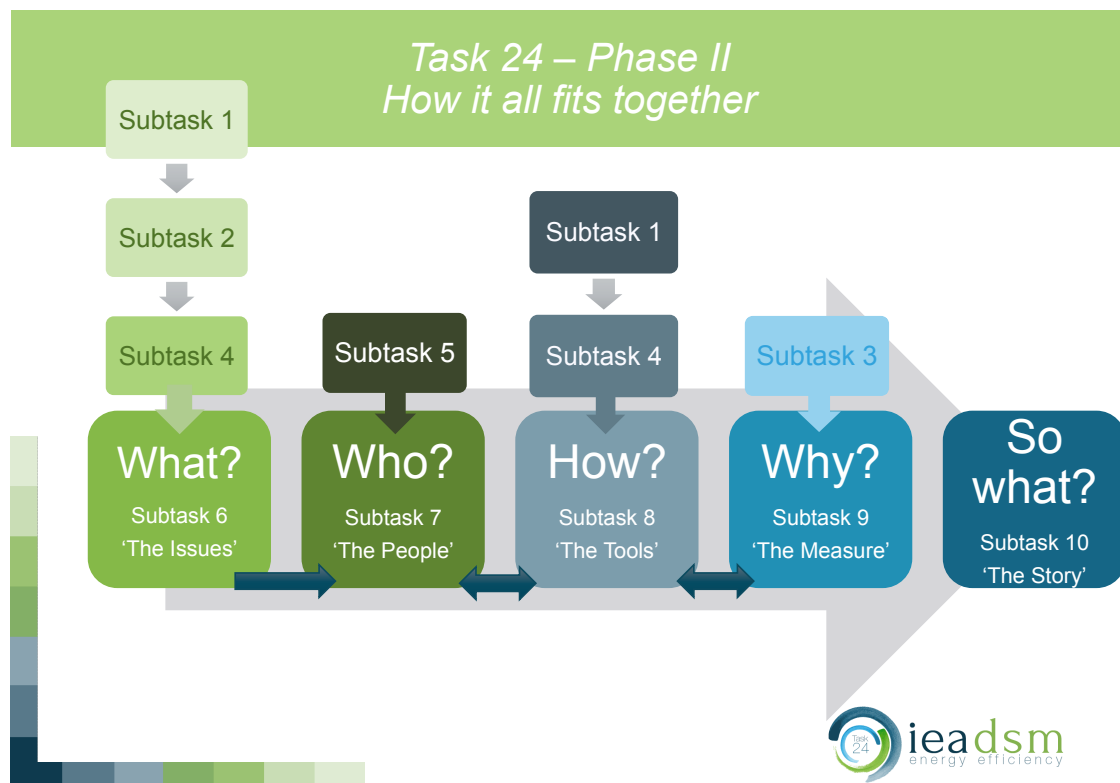


Figure 4. Flow of Phase II Subtasks and how Phase I Subtasks feed into them

Based on our work so far, we pose as a hypothesis that an interactive, collaborative, whole-system approach can help to co-create knowledge with inputs from different perspectives, in such a manner that the outcomes are in a language that is understood by and appeals to a wide variety of people involved in behavioural change work. From this hypothesis, the following research questions arise:

- How can an approach such as the Collaborative Impact Approach, contribute to shared learning among stakeholders (Behaviour Changers in the energy arena) that have very different mandates, viewpoints, stakeholders, norms, motivations and interests?
- How can storytelling aid this learning process, by having participants share their insights (and perspectives) through the use of narratives, and by having them jointly create new narratives on how to understand, facilitate and influence end-user behavioural changes in energy?

The activities that are part of the extension do not start from scratch in each country, but will make extensive use of the following inputs:

- case study results from Task 24 (ST 1 & 2)
- evaluation tool will be trialled and built on (ST 3)
- country-specific recommendations (ST 4)
- expert platform from Task 24 (ST 5) will be built upon to identify Behaviour Changers.

The momentum and engagement developed in Task 24 now needs to be translated into further practical solutions to unraveling the complexity and to tap into the large potential for DSM and energy efficiency which remains to be unlocked in the behavioural wedge (at least 30% of total energy use). An extension for this Task will go quite a way towards improving our collective, global knowledge and actively co-creating, implementing, evaluating and iterating a method of collaboration, common language and toolbox for more successful DSM interventions in policy, programmes and pilots.

## New work plan



The Task 24 extension aims to use a *Collective Impact Approach* as its overarching methodology to develop and test the tools, guidelines and an overarching 'language' that will support the Behaviour Changers to collaboratively work towards improving the uptake of behavioural demand side management interventions. We will do this by:

- **Bringing together a vast range of highly engaged experts from every sector involved in changing energy-using behaviours ('the Behaviour Changers') and breaking down silos:** researchers from all disciplines involved in the Energy System, funders, government (local, regional, national, international), SMEs, utilities, industry, technology developers, NGOs, energy advisors and consultants, transport specialists, tradespeople, building physicists and architects, DSOs, TSOs, ESCOs, community groups, transition towns etc. These experts will both be engaged experts, and also the less willing, we will explicitly aim to involve those Behaviour Changers that are resistant to change, and to learn from their practices, issues and concerns.
- **'Matchmaking' Behaviour Changers from different sectors, countries and interests** - This is something Task 24 has already done many times, we will continue to collect these good news stories of collaboration. In this extension we will focus on facilitating explicit discussions between different disciplinary perspectives. We will focus on deepening the understanding of the political- institutional context Behaviour Changers operate in. We also aim to involve stakeholders from sectors beyond the energy field which have experience with large-scale, whole-system transitions, e.g. health and telecommunications.
- **Publicising our Task and the IEA DSM Implementing Agreement, as well as the notion of putting the human aspect at the center of the Energy System.** We are highly engaged in social media and write columns and blogs which have a large, global energy efficiency audience. We are widely known, including in the IEA Secretariat and ISGAN, as the 'go-to' people/Task involved in behaviour change and DSM. We will further our collaboration with other IEA implementing agreements and eg H2020 research proposals that are interested in end user or market behaviour.
- **Developing creative ways of disseminating our work but including formal research outputs, policy briefs etc in a common 'language' that crosscuts interdisciplinary barriers and jargon.** The 'language' developed in Task 24 is the use of narratives to break down complex facts into more easily understood parables. There is a qualitative research aspect to this, as we will investigate how quite literal

storytelling enables the audience to better recall outputs and results and to better foster mutual understanding and the development of a common agenda.

- **Having a wide scope and whole-system approach, befitting the complexity of the topic; yet concentrating on each country's top areas of DSM needs.** DSM in our Task is defined as: *'Interventions (top-down and bottom-up policies, programmes and actions) developed and performed by Behaviour Changers (Government, Industry, Research, Intermediaries, the Third Sector) that seek to influence the ways the End Users consume energy at home, at their workplace or whilst travelling. In the short-term, it may not always lead to a total reduction in energy consumption (although this is the medium to long-term goal), but to the most efficient and environmentally friendly use of energy to derive the services that underpin social and economic wellbeing (eg comfort, mobility, entertainment, cleanliness, production etc).'*

## Objectives of Task 24 Phase II

The main objective of this Task is take good theory into practice to allow Behaviour Changers (from government, industry, intermediaries, research and the third sector) to:

- Engage in an *international expert network* ('THE EXPERTS')
- Develop the *top 3 DSM priorities* to identify the most (politically, technologically, economically and societally) appropriate DSM themes to focus on ('THE ISSUES')
- Identify and engage *countries' networks in the 5 Behaviour Changers* sectors for at least one of the top 3 DSM themes to develop a collective approach ('THE PEOPLE')
- Use and test a *Collective Impact Approach* to develop shared methodologies, guidelines and a common 'language' based on narratives to aid Behaviour Changers' decisionmaking of how to choose the best models of understanding behaviour and theories of change (a *'toolbox of interventions'*) ('THE TOOLS')
- Standardise *how to evaluate behaviour change programmes* 'Beyond kWh' and 'Beyond Energy' including multiple benefits analysis ('THE MEASURE')
- *Collate national learnings into an overarching (international) story* to understand, compare and contrast the different behaviour change approaches, risks and opportunities and which recommendations can be universally applied ('THE STORY')

## Expected Benefits for Participants

The benefits for the participating countries and for the DSM Implementing Agreement will encompass:

- Participation in the IEA DSM *International Expert Platform* and strong engagement with national Behaviour Changer networks from all sectors
- *Reframing the issues*, including a better understanding of the 'human' aspect of the energy system
- *Improved political buy-in* and policy development, including by IEA Secretariat
- *Addressing funding and/or policy disconnects*
- Improving *business/industry approaches and collaborations*
- Good examples of how to use *storytelling in policy and practice*
- Help with specific initiatives, development and evaluation of *field research pilots*
- *Dissemination and publicity* for IEA DSM
- *Improved knowledge and understanding* among Behaviour Changers, especially what different models and theories of behaviour change are there and when to best use them
- Showcasing and testing the feasibility and effectiveness of the *Collective Impact Approach* in practice, in the highly complex energy area
- Collaborations aimed at the common goal of achieving *systemic, societal changes with collective end user participation at its core* rather than small-scale, short-term individual changes
- Ability to monitor, evaluate and prove ongoing success of *behaviour change outcomes beyond kWh*
- Contribute to the *IEA DSM University* thus further developing this contribution to the global research and energy community.

## Subtasks

### Continued: Subtask 0 - Task Management

<b>Subtask Number</b>	0
<b>Start Date</b>	Month 1
<b>End Date</b>	Month 36
<b>Subtask Title</b>	<b>Project Coordination, ExCo feedback, reporting</b>
<b>Activity Type</b>	Management and administration

#### Objectives

- Overall project coordination and management, including contact relationship management
- Attendance of ExCo meetings, conferences and reporting to IEA DSM ExCo

This Subtask will focus on overall project management, attending ExCo meetings and report-back to the IEA DSM ExCo members, organising financial, contractual and other administrative issues and publicising the Task. It will also involve some workshops and webinars to finalise the Task definition and expert input/output.

#### Outputs:

Overall project organisation and management (OAs); Task Status reports (OAs); Annual reports (OAs); End of Term report, if applicable (OAs with inputs from NEs); Participation in IEA DSM ExCo meetings (OAs); Task flyers – at the start, during and at the conclusion of the project (OAs); Communication with related IEA tasks and other projects (OAs).

#### Task Management and Distribution of Responsibilities

The Operating Agents (OAs) are responsible for the overall performance, time schedule, information transfer, reporting etc of Task 24 following the Procedural Guidelines for the IEA DSM Programme.

##### *The responsibilities of the OAs include<sup>8</sup>:*

- Taking care of the overall management of the Task, including co-ordination, liaison between the Subtasks, flow of information between the participants and communication with the Executive Committee;
- Providing a Task status report to each ExCo meeting, the Final Report and the Task Annual Reports;
- Disseminating the results of the work;
- Chairing the Task meetings and setting the agenda. Assistance at each meeting will be provided by the National Expert from the country hosting the meeting;
- In her role as Subtask leader, the Operating Agent is responsible for the quality and the management of the work to be performed under the Subtask; including the preparing, editing, and organising of Subtask deliverables, providing status reports on the progress made and convening and leading Subtask meetings as required;
- Performing additional services and actions as may be decided by the ExCo if provided with appropriate resources;
- Maintaining contacts with work related to this Task going on in other Implementing Agreements or in other international organisations; organising other meetings as presented in the work plan.

##### *Task 24 Operating Agents*

Dr Sea Rotmann (SEA, NZ) and Dr Ruth Mourik (DuneWorks, NL) are the two Co-Operating Agents of Task 24, with Dr Sea Rotmann undertaking primary duties such as invoicing, reporting and contracting.

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<sup>8</sup> Note that the responsibilities described here apply to other Subtasks as well

### Each National Expert (NE):

- Will help identify and coordinate the experts in each of the 5 Behaviour Changer sectors for at least one topic chosen as national top significance (by the ExCo member, National Expert and current Task 24 experts of the country).
- Provide the OAs with reports and information on the results of the work carried out by them and the country experts from the 5 Behaviour Changer sectors;
- Will give the best possible contribution to the content and reviewing of the draft reports of the Task and the Subtasks;
- Will organise at least two expert meetings and/or shared learning workshops in his/her home country over the course of the Task and attend at least one international conference;
- Will contribute to the Task 24 expert platform and their own national platform of Behaviour Changers;
- Supports the OAs in disseminating the results of the work, including among their networks.

The participating countries will assign appropriate national experts (NEs) to Task 24 on their notice of participation. The NEs will help the OAs choose the second layer of experts (the Behaviour Changers) that will be involved in the Task 24 extension (their involvement is expected to be in kind).

### Principal Investigator (PI, Subtask 9):

- Will lead Subtask 9 including supporting work that will feed into it
- Subcontract, where necessary
- Liaise with Principal OA and NEs to gather feedback and country-specific inputs

The Principal Investigator for Subtask 9 is likely to be Dr Beth Karlin from the University of California Irvine/DoE or a qualified person subcontracted by her to lead this Subtask.

### Task sharing and expected person months/days per partner<sup>9</sup>

Subtasks	SEA	DW	NL	NZ	SE	AT	CA	XX
Administration	2.5m	5d						
Definition Workshops	2d	1d	1d	1d	1d	1d	1d	1d
ExCo Meetings and reporting	1m	5d						
<b>TOTAL</b>	<b>3.5m</b>	<b>0.5m</b>	<b>1d</b>	<b>1d</b>	<b>1d</b>	<b>1d</b>	<b>1d</b>	<b>1d</b>

### Continued: Subtask 5 – Expert Platform

Subtask Number	5
Start Date	Month 1
End Date	Month 36
Subtask Title	Social Media Expert Platform
Activity Type	Networking and dissemination

### Background

We have developed a very successful international expert platform, which includes over 230 Behaviour Changers from 21 countries to date. New experts are continually asking to join the platform. The platform uses social networking tools to foster collaboration. It contains all videos, presentations, photos, reports, discussions, events and Subtask groups of Task 24. It also links to a Wiki and dropbox for file sharing, as well as slideshare, youtube, linkedin, facebook and twitter groups. The broadcast message function of this network is probably the most useful feature to provide frequent updates of any new reports, events, or Task workshops.

<sup>9</sup> OA contributions are based on 6 countries joining the Task Extension

## Objectives

- Continued running, maintenance and improvement, as necessary, of social expert platform and its associated Wiki ([www.ieadsmtask24wiki.info](http://www.ieadsmtask24wiki.info))
- (At least) one international conference for all Behaviour Changers engaged in Task 24 in order to showcase Task 24 stories and case studies and assess the validity of international recommendations (the overarching story).
- At least two scientific papers in high impact journals, and an attempt to develop a special issue on Behaviour Change in DSM (eg in *Energy Policy*).

## Deliverables

D 6: Social network expert platform and meeting place for (invited) DSM and Behaviour Changers and implementers. This platform may in future be hosted on the DSM-IA Task 24 website.

D 7: At least one international conference for all Behaviour Changers involved in Task 24.

## Task sharing and expected person months/days per partner

Subtasks	SEA	DW	NL	NZ	SE	AT	CA	XX
Maintenance, upgrade	1m							
Engagement of experts	3m	0.5m	10d	10d	10d	10d	10d	10d
International conference	1m	10d	3d	3d	3d	3d	3d	3d
Peer-reviewed publications	1m	1m	1d	1d	1d	1d	1d	1d
<b>TOTAL</b>	<b>6m</b>	<b>1.5m</b>	<b>14d</b>	<b>14d</b>	<b>14d</b>	<b>14d</b>	<b>14d</b>	<b>14d</b>

## Subtask 6 – Understanding the Behaviour Changer Practices and Priorities (“The Issues”)

<b>Subtask Number</b>	6
<b>Start Date</b>	Month 2
<b>End Date</b>	Month 18
<b>Subtask Title</b>	Top DSM issues per participating country
<b>Activity Type</b>	Workshops, empirical analysis

## Background

As part of ST 2 and 4 of the current Task 24, many DSM stories and issues are being identified that lack in-depth understanding and are in need of further research to account for context specificities. Most countries have not clearly identified these top questions with the input from the whole variety of Behaviour Changers. There will be some high priority DSM issues that **the Decisionmakers** have (politically motivated or informed by (inter)national obligations), **the Experts** may have published some papers with (national) lists of behaviour change actions and their (technological or economical) potential impacts<sup>10</sup>, and **the Providers** will have (confidential or commercially sensitive) priorities of their planned DSM spending. However, it is highly unlikely that **the Conscience** and **the Intermediaries** both of whom are imperative for any bottom-up engagement and rollout of behaviour change programmes, were engaged in developing national DSM priorities.

What we aim to do as added value in this Subtask is to identify and take what lists of behavioural potentials and DSM policies and programmes are developed in each participating country already, and focus in on 3 top overall areas (with the ExCo, National Experts and other country experts from the Task 24 platform, also drawing on stakeholder analysis performed for Subtask 4). We acknowledge that the priorities will differ between countries, as will their (technical, economic, political and societal) potential due to different national contexts. We will ascertain and highlight these country differences but will focus on 3 overall priority areas in order to be able to compare and contrast country differences using similar approaches and themes. Then we will collate a relevant group of Behaviour Changers from all 5 Sectors for at least one top priority area

<sup>10</sup> eg <http://www.pnas.org/content/106/44/18452.full.pdf+html>

in each country (chosen in ST 7) in order to share learnings and develop more focused intervention approaches and case studies according to each of their insights (ST 8).

## Objectives

- Building on work from Subtasks 2 and 4, develop lists of common top 3 DSM *implementable* issues and their potentials in each country
- Use the *Collective Impact Approach* and the Task 24 Expert Platform to research and review current approaches and practices, nationally and internationally, on these top issues and provide feedback from the different disciplinary perspectives and their collaborative discussions and negotiations from available case studies and narratives that could illuminate some of the approaches (based on work in Subtask 1, 2 and 7)
- Feed these cases, and the ones analysed in Subtask 1 and 2 into a *Toolbox of Interventions* (ST 8)

## Deliverables

D 8: List of top 3 DSM issues, including analysis of case studies elsewhere and their approximate contribution to each participating country's load management (economic, technological, political and societal potentials)

D 9: Continued collection and analyses of case studies and stories to add to the 'Monster' Wiki (ST 1 and 8)

## Task sharing and expected person months/days per partner

Subtasks	SEA	DW	NL	NZ	SE	AT	CA	XX
Top 3 DSM Issues	1m	0.5m	5d	5d	5d	5d	5d	5d
Case Studies, Wiki	2m	1m	5d	5d	5d	5d	5d	5d
<b>TOTAL</b>	<b>3m</b>	<b>1.5m</b>	<b>10d</b>	<b>10d</b>	<b>10d</b>	<b>10d</b>	<b>10d</b>	<b>10d</b>

## Subtask 7 – Who are the Behaviour Changers in the top DSM issue? (“The People”)

Subtask Number	7
Start Date	Month 3
End Date	Month 33
Subtask Title	<b>National DSM Experts, Stakeholder Analyses &amp; Field Research</b>
Activity Type	Workshops, networking, empirical analysis

## Background

Subtask 5 has collected - and will continue to do so - a large range of Behaviour Changers from all sectors and stakeholder groups, from over 20 countries. Their short bios, websites and interests can be found on the invite-only Expert Platform ([www.leadsmtask24.ning.com](http://www.leadsmtask24.ning.com)). We will continue this platform into the Task Extension but also propose to develop more focused networks for the participating countries with more detailed information on the various Behaviour Changers, their sectors and mandates, their restrictions and barriers, their stories of their past and current work, and what they are most concerned about regarding DSM and behaviour change. We posit that, even though countries have strong networks and knowledge of who the Behaviour Changers in **Government, Industry and Research** are, they are not so strongly developed once it comes to **Intermediaries** and the **Third Sector**. In order to be able to design and implement systemic behaviour change interventions geared at social practices or lifestyle changes, these Behaviour Changers who come with a more practical and bottom-up perspective, are imperative.

The difference and added value to the International Expert Platform is that we want to create much more in-depth relationships with and between the Behaviour Changers in each country using a *Collective Impact Approach*, which will also be tested how it works in practice in the complex energy area. This Subtask will bring together the most relevant and appropriate



Behaviour Changers for the chosen priority area/s (ST 6) that will collaborate during the Task extension. If they (or some of them) are already collaborating on this issue, we will build upon existing relationships and knowledge. The Behaviour Changers will be interviewed in-depth and used to assess the effectiveness of the Collective Impact Approach and narratives as a common language (via continual stakeholder analyses before, during and after the Subtask finishes). They will take an integral part in the development of the methodologies, guidelines and overarching ‘language’ to aid whole-system, societal change by improving the uptake of behavioural DSM interventions (ST 8). The National Experts will coordinate this second layer of country experts (the ‘Behaviour Changers’).

## Objectives

- Identify, with help of the ExCo, National Experts and existing Expert Platform the most appropriate Behaviour Changers focusing on at least one of the top 3 DSM issues chosen by each participating country (can include the residential, business and transport sectors)
- Collect detailed information on their specific interests, organisations and past and current work, get each to tell their ‘Sector Story’
- Use the Collective Impact Approach to initiate discussions between different disciplinary perspectives and sectoral contexts. An explicit focus will be on deepening the understanding of the political-institutional context Behaviour Changers are operating in and what it means for their capacity to take a more systemic approach to behavioural change.
- Develop national Behaviour Changer dialogues in each participating country by holding (bi) annual workshops (1-2 days per country per year, all up maximum of 6 days per country - note some of this time includes work from ST 6 and 8)
- Foster mutual engagement, collaboration and shared learning amongst Behaviour Changers, enable them to build relationships on neutral, trusted ground
- Backbone support to set a common agenda, measurement systems, mutually reinforcing activities and ongoing communication between the Behaviour Changers
- Evaluate Behaviour Changers’ impressions on the effectiveness of the Collective Impact Approach and use of narratives as a common language to overcome barriers
- Collect examples of successful matchmaking stories.

## Deliverables

D 10: National networks of Behaviour Changers from all 5 sectors (government, industry, research, intermediaries, the third sector) in at least one of the top 3 DSM focus areas (chosen in ST 6); including workshop reports, videos, presentations, pecha kuchas, stories, blogs, Wiki etc  
 D 11: Evaluation Report based on in-depth stakeholder analyses on the effectiveness of the Collective Impact Approach and use of narratives as a common language to overcome barriers

## Task sharing and expected person months/days per partner

Subtasks	SEA	DW	NL	NZ	SE	AT	CA	XX
Identify and interview Behaviour Changers	2m	0.5m	4d	4d	4d	4d	4d	4d
Workshops/webinars incl prep, travel	2m	1m	5d	5d	5d	5d	5d	5d
Evaluation of effectiveness of approaches used here	3m	1m	3d	3d	3d	3d	3d	3d
<b>TOTAL</b>	<b>7m</b>	<b>2.5m</b>	<b>12d</b>	<b>12d</b>	<b>12d</b>	<b>12d</b>	<b>12d</b>	<b>12d</b>

## Subtask 8 – Developing a Toolbox of Interventions for Behaviour Changers (“The Tools”)

<b>Subtask Number</b>	<b>8</b>
<b>Start Date</b>	Month 6
<b>End Date</b>	Month 33
<b>Subtask Title</b>	<b>Context-sensitive toolbox for Behaviour Changers</b>
<b>Activity Type</b>	Workshops, guidelines, manuals

## Background

In Task 24 we found that we are already seeing a slow shift from mainly economic and psychological approaches that only focus on the individual as behaviour change agent, to more sociological and systemic approaches that take the wider dependencies and contexts of our complex energy system into account. However, this shift is still taking place in silos, mainly from the bottom-up and without large-scale, coordinated national efforts to design interventions that could change energy practices on the wider, societal level. This Subtask will focus on collaboratively developing (using a Collective Impact Approach) the most appropriate methodologies, guidelines and a common ‘language’ with Behaviour Changers in all 5 sectors. Instead of the usual 1 or 2 blunt, top-down instruments geared at individual change (eg information and financial incentives), we will work on developing a toolbox of interventions for each of the top areas chosen in ST 6 with all the Behaviour Changers chosen in ST 7 geared at whole-system, societal change. These interventions will also include removing barriers and working towards changing wider contexts affecting end users like infrastructure or social changes.

This toolbox will not aim at delivering the already known intervention tools from Subtasks 1 and 2 in yet another form to these stakeholders, although this Subtask will also provide better access to these tools. This Subtask will take the national inventories of context factors influencing the Behaviour Changers in their development of programmes/policies in the selected DSM areas of greatest need. It will then provide insight into these context issues and develop guidelines on how to support or initiate change in the given institutional context of the Behaviour Changers. This will allow for a more conducive policy/programme development environment in collaboration with other Behaviour Changers who may possess an important ‘piece of the puzzle’ that is currently missing.

The main thrust of the *Collective Impact Approach* can be summarised as ‘The commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem’<sup>11</sup>. There are 5 conditions of collective success:

1. **A common agenda:** *All participants collaboratively work towards a shared vision for change that includes a common understanding of the problem and a joint approach to solving it through agreed-upon actions.* A first important step is to bring together the Behaviour Changers from the different sectors, get them to tell their (sector) stories so that everyone understands each Behaviour Changer’s unique mandates, needs and restrictions including what solutions they specifically bring to the table (their ‘piece of the puzzle’), where their mandates overlap with other Behaviour Changers’ mandates and where they may be in conflict with other Behaviour Changers’ mandates and needs (see the short presentation for Figure 3 for a NZ example). *These differences are easily ignored when organisations work independently on isolated initiatives, yet they splinter the efforts and undermine the impact of the field as a whole. Every participant need not agree with every other participant on all dimensions of the problem. All participants must agree, however, on the primary goals for the collective impact initiative as a whole.*
2. **Shared Measurement Systems:** *Developing a shared measurement system is essential to collective impact. Agreement on a common agenda is illusory without agreement on the ways success will be measured and reported. Collecting data and measuring results consistently on a short list of indicators at the community level and across all participating organisations not only ensures that all efforts remain aligned, it also enables the participants to hold each other accountable and learn from each other’s successes and failures.* This will build upon Task 24’s Subtask 3 and go further into

<sup>11</sup> Kania & Kramer (2011): [http://www.ssireview.org/articles/entry/collective\\_impact](http://www.ssireview.org/articles/entry/collective_impact)

mutually developing evaluation indicators in the shared learning platforms (Subtask 7). Subtask 10 will go deeper into synthesising a standard method for evaluating behaviour change programmes 'Beyond kWh and Beyond Energy'.

3. **Mutually Reinforcing Activities:** *Collective impact initiatives depend on a diverse group of stakeholders working together, not by requiring that all participants do the same thing, but by encouraging each participant to undertake the specific set of activities at which it excels in a way that supports and is coordinated with the actions of others.* Mutually creating a common agenda, clarifying each Behaviour Changer's specific activities (and how their impact will be measured), summarising them in a 'roadmap' and reporting back regularly by telling stories of success and learnings will be a major focus of Subtask 8.
4. **Continuous Communication:** *Developing trust among nonprofits, corporations, researchers, intermediaries and government agencies is a monumental challenge. Participants need time to see that their own interests will be treated fairly, and that decisions will be made on the basis of objective evidence and the best possible solution to the problem, not to favor the priorities of one organisation over another. The process of creating a common vocabulary also takes time, and it is an essential prerequisite to developing shared measurement systems.* Task 24 has already created strong relationships based on trust and respect for every sector's and discipline's unique skills, requirements, mandates and language. We will delve much further into this aspect, particularly around the use of storytelling as a narrative tool that enables a breakdown of silos and circumvents disciplinary jargon. The usefulness of this tool, and its according iterations will be evaluated during Subtask 7.
5. **Backbone Support Organisations:** *Creating and managing collective impact requires a separate organisation and staff with a very specific set of skills to serve as the backbone for the entire initiative. Coordination takes time, and none of the participating sectors has much to spare. The expectation that collaboration can occur without a supporting infrastructure is one of the most frequent reasons why it fails.* This is where Task 24, and the wider IEA DSM Implementing Agreement's strength really comes to the fore. We are not beholden to a country, sector or discipline, instead we aim to provide a neutral, international, trusted and respected platform that develops, synthesises and utilises the tools of all individual national experts and Behaviour Changers involved. It is rare to have the opportunity to work from such a level of neutrality, in combination with the strength that comes from being part of a reputable, international DSM agreement and large collection of already committed experts.

The toolbox will be developed to contain a detailed outline of the most powerful tools in each Behaviour Changer sector and each country (eg the range of policy interventions for Government; the technology and market tools of Industry; the knowledge of Research; the accountability and lobbying power of the Third Sector and the marketing and face-to-face information strength of Intermediaries). It will have a strong focus on tools that support the appropriate context for the Behaviour Changers and which are more conducive to developing systemic interventions, with stories and case studies illustrating their application. The workshop sessions with the Behaviour Changers will focus on how far the actual programme or policy development practices are useful, and where and how they fall short of achieving whole-system, societal change.

Next to providing tools on how to deal with their specific institutionalised work practices, an additional part of the Behaviour Changers' toolbox will be to create a decisionmaking tool that can categorise the case studies and stories collected in ST 1, 2 and 6 according to their specific relevance to a topic and Behaviour Changer sector. It will be based on a decisionmaking tree, asking specific questions from the Behaviour Changers on the desired outcomes of a behaviour change intervention, such as:

- **What** behaviour do you want to change?
- **Why?**
- **Who's** the target for the behaviour change?
- **Where** do they behave like that normally?
- **How** do you think you can change it?
- **Why** would you go about it like that?
- **When** do you need to get it done by?

- **How** do you measure success?
- **How** will you get these measurements?
- **How** much \$ do you have/need?
- **How** many people are you hoping to change?
- **How** long will the effects of the change last?

It is important to address these questions from the perspective of the particular Behaviour Changers' sector in order to easily identify the most relevant case studies to them.

Other tools will be to create more 'story books' of the most illustrative and educational case study stories - for each of the main domains and for all the Behaviour Changer sectors. We will continue the development of storytelling and narratives and their applicability and usefulness in the 'real world'. This will include qualitative stakeholder analyses and 'testing' of the usefulness of the narratives compared with the more common, social science reporting which we will still undertake (part of ST 7).

We will also continue to build on the work developed in Subtask 3, especially Deliverables 3A and 3B (Deliverable 3 will be built on in its own Subtask 9). We will, together with our Behaviour Changers and NEs, develop further factsheets of commonly used intervention tools in different domains (eg transport, SMEs) and assess the usefulness of a double-loop learning approach to assess multiple benefits of DSM interventions. This work may feed into a new IEA DSM Task, together with the IEA Secretariat, on Multiple Benefit Analysis (Task 26).

Finally, the Behaviour Changers will collaboratively develop a hypothetical, but testable, toolbox of interventions geared at whole system, societal change on their top DSM area of focus - ie putting together all the pieces of the puzzle in practice (voluntary ST 11).

## Objectives

- Use the *Collective Impact Approach* to unite Behaviour Changers from all 5 sectors on a specific DSM issue (both chosen in ST 6 & 7) and develop, in collaboration, a common agenda, shared measurement indices, mutually reinforcing activities (a 'roadmap'), continuous communication and the backbone support function necessary to make it happen. Evaluate this approach continually via stakeholder analyses.
- Collect information for a *Decisionmaking Tree* to pick the most appropriate case studies and models of understanding analysed by Task 24 (ST 1, 2 and 6) and test its usability with the Behaviour Changers.
- Develop the *common language of storytelling* further and provide different examples of using storytelling and narratives in practice and how to best do it in the specific areas of focus and each of the Behaviour Changers' sectors.
- Identify all the tools in each Behaviour Changer's *Toolbox of Interventions*, analyse their pros and cons, risks and opportunities, where they fall short and how another tool from another Behaviour Changer could overcome this deficit.
- Continued testing and development of the *Evaluation Tools* (ST 3) that can prove if a (toolbox of) intervention/s leads to actual, ongoing behaviour changes in practice. The Behaviour Changers will feed back on its potential applicability, risks and additional needs by working through (hypothetical or real life) examples chosen in ST 6 and using double-loop learning approaches to assess multiple benefits of interventions.
- Collaborative development of a testable *Toolbox of Interventions* for each top DSM focus area, where each Behaviour Changer sector has clearly identified and measurable roles and responsibilities. This intervention may then be taken into a real-life setting and trialled in practice (either as ST 11 or outside of Task 24).
- The toolbox is built on *national and sectoral context specificities* but will be synthesised and tested (eg in the international conference (ST5)) for the general aspects that are of international validity (ST10 - the overarching story).

## Deliverables

D 12: Testable toolbox of interventions of each country and their top areas of DSM focus This includes:

- A description and evaluation of the validity and effectiveness of the *Collective Impact Approach* in the energy arena, possibly as a peer-reviewed paper (could be part of a special issue on Task 24, as envisaged in the continuation of ST5)
- A *Decisionmaking Tool* that enables Behaviour Changers to better utilise the findings of ST1 and 2 without necessarily having to read all large Task 24 reports
- A peer-reviewed paper on the *impact of storytelling* in DSM
- A collection of *sector stories* from each Behaviour Changer in each country and DSM topic chosen in ST6, including analysis on how these stories can be used to aid collaborative DSM intervention design
- This includes a list of *behavioural intervention tools* each Behaviour Changer has at their disposal in each of their national and sectoral contexts
- Continued testing and development of *evaluation tools* created in ST 3
- *Testable toolbox* for national Behaviour Changers (when choosing to take part in ST11) and/or synthesis of internationally-valid tools to feed into the Overarching Story (ST10)

### Task sharing and expected person months/days per partner

Subtasks	SEA	DW	NL	NZ	SE	AT	CA	XX
Decisionmaking tool and case studies	3m	1.5m	5d	5d	5d	5d	5d	5d
Storytelling tool and language	3m	2m	10d	10d	10d	10d	10d	10d
Toolbox of interventions	2.5m	0.5m	5d	5d	5d	5d	5d	5d
<b>TOTAL</b>	<b>8.5m</b>	<b>4m</b>	<b>20d</b>	<b>20d</b>	<b>20d</b>	<b>20d</b>	<b>20d</b>	<b>20d</b>

### Subtask 9 – Standardising evaluation Beyond kWh (“The Measure”)

<b>Subtask Number</b>	9
<b>Start Date</b>	Month 1
<b>End Date</b>	Month 30
<b>Subtask Title</b>	<b>Standardising Evaluation Methodology of Behaviour Change Programmes</b>
<b>Activity Type</b>	Workshops, empirical analysis, review

#### Background

We propose to build on results from past studies and, with an international collaboration under the IEA DSM Programme, to create a framework and tool for assessing the impacts of behaviour-based energy efficiency programmes. Such an instrument will include multiple components to allow for the assessment of both mediation and moderation of programme effectiveness in a consistent format that can be used across evaluation studies. In Subtask 3, we collaborated with researchers at the University of California, Irvine (US) and Victoria University of Wellington (NZ), to conduct a methodological assessment of behaviour-based energy interventions in the residential sector (Deliverable 3). Overall, the research on these programmes shows potential for energy savings, but results vary significantly and much is still unknown about the variations both between- and within-studies that impact programme effectiveness. Part of this limited understanding is due to the way that such behaviour-based energy programmes are typically evaluated. Most programme evaluations use the amount of energy used (measured in kWh) as the dependent variable for measuring effectiveness. Although this is an ideal measure of whether behaviour-based energy interventions work, additional information about the participants’ subjective experience collected “beyond kWh” could add significantly to our understanding about not only whether different intervention strategies work, but how and for whom they work.

While gender and age may be fairly objective, questions about behaviours and attitudes are subjective in nature and therefore care must be taken in question design. *Psychometrics* is a branch of social science that provides a methodology for creating and assessing variables used to measure subjective human experience. The development of psychometrically-validated tools is

considered essential in fields such as psychology and education, where the outcomes of potentially subjective assessments (e.g., IQ tests in schools, diagnosis for psychiatric treatment) have strong financial and logistical implications. The energy sector is reaching a point where demand-side energy management needs to reach a similar level of rigour and the development of such reliable instruments is a vital step towards reaching that goal.

The proposed PI (Dr Beth Karlin from the University of California Irvine) has conducted research in this area, including as part of Subtask 3 for Task 24. Looking at just one type of behaviour-based intervention (eco-feedback) from the past 10 years, her team found that 85% did collect some data “beyond kWh”, but there was little consistency in the way that these variables were collected or measured. Data on demographics (64%), behaviour (62%), user experience (58%), attitudes (27%), and knowledge (21%) were collected, but there was significant variation in the questions used within each category. No standard tool currently exists to conduct such assessment comprehensively and consistently. Such consistency would improve our overall ability to account for variation in treatment effects and verify savings.

This work is highly promising and would go far in securing behaviour its rightful seat as a valued and measurable source of energy. Funding has been found from US utilities to refine and test preliminary instruments and tools developed by Karlin and colleagues in both lab- and field-based settings and to work to incorporate the views of multiple stakeholder groups to ensure that it is useful across a variety of programme types and potential audiences (e.g. regulatory agencies, academic community). In order for such a tool to be of maximum usefulness, it will need to be further developed in collaboration across a variety of Behaviour Changers, countries/cultures and with input from different research disciplines. This international validation and co-development will take place under Subtask 9. We envisage such a tool to possibly become an international standard of how to evaluate kWh savings from behavioural interventions.

## Objectives

- The goal of this research is to develop and validate a set of tools and metrics that can be used consistently for the evaluation of behaviour-based energy programmes including but not limited to eco-feedback, home audits, information and rebate programmes, and social games.
- An in-depth assessment of current (best) practice, cultural and disciplinary idiosyncracies, country drivers and needs and the best possible international standard (along the lines of psychometric tools like the IQ test - arguably not a perfect indicator of intelligence, but valuable in terms of enabling measurement and comparison).

## Deliverables

D 13: An internationally validated set of tools and metrics for evaluating behaviour-based energy programmes ‘beyond kWh’

## Task sharing and expected person months/days per partner

Subtasks	PI	SEA	NL	NZ	SE	AT	CA	XX
Review of current methods	0.5m	0.5m	5d	5d	5d	5d	5d	5d
Assessment of needs and potential; identify suitable pilots for testing	0.5m	1m	5d	5d	5d	5d	5d	5d
Refine tools for testing, with feedback from member countries	3m	0.5m	10d	10d	10d	10d	10d	10d
Test and validate tools, using data from pilots	3m	1m	2d	2d	2d	2d	2d	2d
Publication and dissemination of tool to an international audience	1m	1m	2d	2d	2d	2d	2d	2d
<b>TOTAL</b>	<b>8m</b>	<b>4m</b>	<b>17d</b>	<b>17d</b>	<b>17d</b>	<b>17d</b>	<b>17d</b>	<b>17d</b>

## Subtask 10 – Telling an Overarching Story (“The Story”)

<b>Subtask Number</b>	10
<b>Start Date</b>	Month 30
<b>End Date</b>	Month 36
<b>Subtask Title</b>	<b>Collation, recommendations, international learnings</b>
<b>Activity Type</b>	Workshops, reports

### Background

Each country will have different contexts in their top DSM priorities (ST 6). Each country will therefore have slightly different Behaviour Changer experts (ST 7). And in different countries Behaviour Changers will face different contexts in their practice of developing behaviour change interventions (ST 8). Each country will have slightly different stories, case studies, interventions and barriers. But there will be some overarching findings and recommendations from each country, Behaviour Changer sector and top area of DSM focus. This Subtask will collate them and form overarching guidelines, tools and recommendations.

### Objectives

- Collate, analyse and distil all information collected in Subtasks 6-9. Develop an international, interactive handbook with guidelines and recommendations including:
- Evidence of the usefulness of following a Collective Impact Approach to solve complex whole-system, societal energy problems in practice.
- A decisionmaking tool from 75+ cases collected in Subtasks 1, 2 and 7.
- A practical guide on storytelling with the many examples and stories collected here.
- Overview of countries’ and sectors’ toolboxes of interventions, common findings and learnings.
- Overview of usefulness of the evaluation tools for each country and sector (as developed in ST 3 and ST 9).

### Deliverables

D 14: Internationally validated, interactive handbook for taking behaviour change theory into practice with in-depth examples of each participating countries’ main areas of focus and via collaboration of 5 Behaviour Changer sectors.

### Task sharing and expected person months/days per partner

<b>Subtasks</b>	<b>SEA</b>	<b>DW</b>	<b>NL</b>	<b>NZ</b>	<b>SE</b>	<b>AT</b>	<b>CA</b>	<b>XX</b>
Collate and analyse all information	1.5m	0.5m	5d	5d	5d	5d	5d	5d
Write handbook	2m	1m	5d	5d	5d	5d	5d	5d
Dissemination	0.5m	0.5m	4d	4d	4d	4d	4d	4d
<b>TOTAL</b>	<b>4m</b>	<b>2m</b>	<b>14d</b>	<b>14d</b>	<b>14d</b>	<b>14d</b>	<b>14d</b>	<b>14d</b>

## (Voluntary) Subtask 11: Real Life Application

<b>Subtask Number</b>	11
<b>Start Date</b>	Month 18
<b>End Date</b>	Month 36
<b>Subtask Title</b>	<b>Implementation, Evaluation, Iteration of Pilots, Programmes or Policies designed in Subtask 8</b>
<b>Activity Type</b>	Support, empirical analysis

### Background

We hope that after identifying the top Behaviour Change issues (Subtask 6), identifying the most relevant Behaviour Changers to address these issues (Subtask 7), developing toolboxes of

interventions for these Behaviour Changers (Subtask 8); creating a standard evaluation tool for Behaviour Changers (Subtask 9) and collating the overarching story (Subtask 10), we will have several pilots, policies or programmes designed that can be trialled in practice. This Subtask will focus on assisting Behaviour Changers with the design, evaluation and iteration (if necessary) of better DSM interventions. This Subtask is voluntary and each country can decide to join it within 12 months of joining the Task 24 extension. The decision to join will be based on feedback from the country's Behaviour Changers and their perceptions of Task 24 and its usefulness to their specific contexts. It is not expected that the ExCo should pay for this voluntary Subtask, but that it will be co-funded by the Behaviour Changers themselves.

## Objectives

- Provide continual assistance during implementation and evaluation of collaboratively designed policies, programmes or pilots in order to iterate them, if necessary.
- Report-back outcomes from each country's intervention and main learnings and stories.

## Deliverables

D 15: Support on design, implementation, evaluation and iteration of national policies, programmes or pilots

### Task sharing and expected person months/days per partner

Subtasks	SEA	DW	NL	NZ	SE	AT	CA	XX
Design detailed behaviour change interventions	2m	1m	5d	5d	5d	5d	5d	5d
Support implementation of interventions	0.5m	5d	2d	2d	2d	2d	2d	2d
Evaluation of interventions	1.5m	0.5m	5d	5d	5d	5d	5d	5d
<b>TOTAL</b>	<b>3m</b>	<b>1.5m</b>	<b>12d</b>	<b>12d</b>	<b>12d</b>	<b>12d</b>	<b>12d</b>	<b>12d</b>

## Task sharing overview

In addition to the cost sharing to the OA budget, each country will be required to:

Provide expert time of approximately 1.5 person-months a year (maximum total 4.5 months per national expert - 5 months total if Subtask 11 is joined). This includes:

- Undertaking part of the research and/or writing work for selected parts of ST 6 to 10
- Attending up to six meetings/workshops of the Task and preparing for them
- Hosting three national meetings/workshops during the lifetime of the Task
- Attending one international conference of Task 24
- Assisting with choosing top three DSM issues
- Assisting with choosing and coordinating countries' Behaviour Changers
- Carrying out the national dissemination activities, plus
- Actively engaging in the (national) expert platform/s
- (Voluntary) Taking part in Subtask 11 efforts.

Participation may partly involve funding already allocated to a national activity, which falls substantially within the scope of work to be performed under this Task.

## Deliverables overview

Subtask	Deliverable	Deliverable Name	Type of Deliverable	Month of completion
5	D6	Social meeting place for Behaviour Changers	Online social media platform	Ongoing
5	D7	International Conference	Conference	30
6	D8	List of top 3 DSM issues per country	Database	18
6	D9	Case studies	Database	30
7	D10	National Behaviour Changers	Workshops	33
7	D11	Stakeholder evaluation of usefulness of approaches	Report	33
8	D12	Testable toolbox of interventions of	Workshops,	24 but ongoing



		each country	database, reports	
9	D13	Beyond kWh evaluation tool	Standard evaluation tool	30
10	D14	International Handbook with overarching story & recommendations	Interactive handbook	36
11	D15	Support on design, implementation, evaluation of national pilots	Interactive report-back	36

## Budget

We hope to ultimately attract at least 8 countries (and/or sponsors), as this Task benefits from the maximum number of Behaviour Changers (in addition to the national experts) we can engage to draw on their knowledge and learnings. Not all of them may be part of participating countries, thus in-kind contributions of experts and countries to specific Subtasks will be welcome. Subtask 11 is voluntary, each country will be asked (after conferring with their Behaviour Changers and National Experts) after 12-18 months if it wants to join Subtask 11. This will add an extra €15,000 per country (once-off payment).

4-5 Countries	6-7 Countries	8-9 Countries	10+ Countries
<b>€75000 per country (€25000 pa)</b> 2 OAs, 1 PI, travel, platform, filming, workshops, toolbox, reports, int'l conference, overheads	<b>€75000 per country (€25000 pa)</b> 2 OAs, 1 PI, travel, platform, filming, workshops, toolbox, reports, int'l conference, overheads	<b>€75000 per country (€23000 pa)</b> 2 OAs, 1 PI, travel, platform, filming, workshops, toolbox, reports, int'l conference, overheads	<b>€75000 per country (€21500 pa)</b> 2 OAs, 1 PI, travel, platform, filming, workshops, toolbox, reports, int'l conference, overheads
<b>Total budget €300000-€375000</b>	<b>Total budget €45000-€525000</b>	<b>Total budget €600000-€675000</b>	<b>Total budget €750000</b>
Detailed deliverables: • Social expert platform • Top DSM issues • Behaviour Changers • Toolbox • Standard evaluation tool • International handbook	Detailed deliverables: • Social expert platform • Top DSM issues • Behaviour Changers • Toolbox • Standard evaluation tool International handbook	Detailed deliverables: • Social expert platform • Top DSM issues • Behaviour Changers • Toolbox • Standard evaluation tool International handbook	Detailed deliverables: • Social expert platform • Top DSM issues • Behaviour Changers • Toolbox • Standard evaluation tool International handbook
<b>36 months duration</b>	<b>36 months duration</b>	<b>39 months duration</b>	<b>42 months duration</b>

## Detailed budget based on 4 participating countries

Subtask	Cost (€)	Personmonths SEA per ST	Personmonths DW per ST	Total cost SEA	Total cost DW	Total
ST 0	4750	3.5	0.5	16625	2375	19000
ST 5	4750	6	1.5	28500	7125	35625
ST 6	4750	3	1.5	14250	7125	21375
ST 7	4750	7	2.5	33250	11875	45125
ST 8	4750	8.5	4	40375	19000	59375
ST 9 (PI)	4750	4	See below	19000		19000
ST 10	4750	4	2	19000	9500	28500
<b>TOTAL</b>		<b>36</b>	<b>12</b>	<b>€171000</b>	<b>€57000</b>	<b>€228000</b>
<b>Description costs</b>						
OAs travel cost	27500	Costs travel Sea Rotmann and Ruth Mourik incl extended stay in Europe (SEA) and face-to-face meetings (at least annual) between RM and SR, ExCo meetings				
PI (ST 9)	38000	ST 9 Principal Investigator Subcontract				
Workshop	5000	Separate meetings and costs associated with stakeholder analyses & workshops				
Website etc	1500	Web platform, webinars, social media, video conferencing, database, dropbox etc				
<b>TOTAL</b>	<b>€72000</b>					<b>€300,000</b>

## Timeline

Based on 4 participating countries.

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

## Risk Register

The possible risks to the successful completion of this project have been assessed and mitigation approaches identified as shown below.

Risk	Likely hood	Impact	Risk Category	Risk Mitigation Measure(s)	Risk Category, post Mitigation
Lack of full range of requisite expertise, with which to deliver the required services	Low	High	Medium	Knowledge of and access to range of key stakeholders, within the wider Behaviour Changer sectors. Successful expert platform already established	Low
Inability of OAs & NEs to work together	Low	High	Medium	Successful completion of Task 24	Low
Sudden unavailability or withdrawal of Task Experts	Medium	High	High	Participants aware of level of commitment required, no expert has pulled out of Task 24 so far. Wider network of experts means NE isn't only source of expertise	Low
Sudden unavailability of Operating Agents, other key staff member(s)	Low	High	Medium	Ability of Duneworks to re-allocate staff from wider complementary skill pools	Low
Inability to access Behaviour Changers from all Sectors	Medium	High	High	Need to rely on established networks of NEs and ExCo, spend time in each country talking to Behaviour Changers	Medium
Project delivery timescale over-runs. Added burdens from additional countries joining late	Low	High	Medium	Formal Project Management procedures; Regular reporting to the IEA DSM ExCo. Additional countries will extend timeline automatically at no extra cost	Medium
Cost over-runs, particularly on expert platforms and decisionmaking tool	Medium	High	High	Formalised Project Management and review procedures; Project to be performed on fixed price total contract basis; Operating Agents to find additional financing for software applications, if needed.	Low

# IEA Demand Side Management Energy Technology Initiative

The Demand-Side Management (DSM) Energy Technology Initiative is one of more than 40 Co-operative Energy Technology Initiatives within the framework of the International Energy Agency (IEA). The Demand-Side Management (DSM) Energy Technology Initiative, which was initiated in 1993, deals with a variety of strategies to reduce energy demand. The following member countries and sponsors have been working to identify and promote opportunities for DSM:

Austria	Norway
Belgium	Spain
Finland	Sweden
India	Switzerland
Italy	United Kingdom
Republic of Korea	United States
Netherlands	ECI (sponsor)
New Zealand	RAP (sponsor)

**Programme Vision:** Demand side activities should be active elements and the first choice in all energy policy decisions designed to create more reliable and more sustainable energy systems

**Programme Mission:** Deliver to its stakeholders, materials that are readily applicable for them in crafting and implementing policies and measures. The Programme should also deliver technology and applications that either facilitate operations of energy systems or facilitate necessary market transformations.

The DSM Energy Technology Initiative's work is organized into two clusters:

- The load shape cluster, and
- The load level cluster.

The 'load shape' cluster will include Tasks that seek to impact the shape of the load curve over very short (minutes-hours-day) to longer (days-week-season) time periods. Work within this cluster primarily increases the reliability of systems. The 'load level' will include Tasks that seek to shift the load curve to lower demand levels or shift between loads from one energy system to another. Work within this cluster primarily targets the reduction of emissions.

A total of 24 projects or "Tasks" have been initiated since the beginning of the DSM Programme. The overall programme is monitored by an Executive Committee consisting of representatives from each contracting party to the DSM Energy Technology Initiative. The leadership and management of the individual Tasks are the responsibility of Operating Agents. These Tasks and their respective Operating Agents are:

Task 1 International Database on Demand-Side Management & Evaluation Guidebook on the Impact of DSM and EE for Kyoto's GHG Targets – *Completed*  
Harry Vreuls, NOVEM, the Netherlands

Task 2 Communications Technologies for Demand-Side Management – *Completed*  
Richard Formby, EA Technology, United Kingdom

Task 3 Cooperative Procurement of Innovative Technologies for Demand-Side Management – *Completed*  
Hans Westling, Promandat AB, Sweden

Task 4 Development of Improved Methods for Integrating Demand-Side Management into Resource Planning – *Completed*  
Grayson Heffner, EPRI, United States

Task 5 Techniques for Implementation of Demand-Side Management Technology in the Marketplace – *Completed*  
Juan Comas, FECSA, Spain

Task 6 DSM and Energy Efficiency in Changing Electricity Business Environments – *Completed*  
David Crossley, Energy Futures, Australia Pty. Ltd., Australia

Task 7 International Collaboration on Market Transformation – *Completed*  
Verney Ryan, BRE, United Kingdom

Task 8 Demand-Side Bidding in a Competitive Electricity Market – *Completed*  
Linda Hull, EA Technology Ltd, United Kingdom

Task 9 The Role of Municipalities in a Liberalised System – *Completed*  
Martin Cahn, Energie Cites, France

Task 10 Performance Contracting – *Completed*  
Hans Westling, Promandat AB, Sweden

Task 11 Time of Use Pricing and Energy Use for Demand Management Delivery- *Completed*  
Richard Formby, EA Technology Ltd, United Kingdom

Task 12 Energy Standards  
To be determined

Task 13 Demand Response Resources - *Completed*  
Ross Malme, RETX, United States

Task 14 White Certificates – *Completed*  
Antonio Capozza, CESI, Italy

Task 15 Network-Driven DSM - *Completed*  
David Crossley, Energy Futures Australia Pty. Ltd, Australia

Task 16 Competitive Energy Services  
Jan W. Bleyl, Graz Energy Agency, Austria / Seppo Silvonen/Pertti Koski, Motiva, Finland

Task 17 Integration of Demand Side Management, Distributed Generation, Renewable Energy Sources and Energy Storages  
Seppo Kärkkäinen, Elektraflex Oy, Finland

Task 18 Demand Side Management and Climate Change - *Completed*  
David Crossley, Energy Futures Australia Pty. Ltd, Australia

Task 19 Micro Demand Response and Energy Saving - *Completed*  
Linda Hull, EA Technology Ltd, United Kingdom

Task 20 Branding of Energy Efficiency - *Completed*  
Balawant Joshi, ABPS Infrastructure Private Limited, India

Task 21 Standardisation of Energy Savings Calculations - *Completed*  
Harry Vreuls, SenterNovem, Netherlands

Task 22 Energy Efficiency Portfolio Standards - *Completed*  
Balawant Joshi, ABPS Infrastructure Private Limited, India

Task 23 The Role of Customers in Delivering Effective Smart Grids - *Completed*  
Linda Hull. EA Technology Ltd, United Kingdom

Task 24 Closing the loop - Behaviour Change in DSM: From theory to policies and practice  
Sea Rotmann, SEA, New Zealand and Ruth Mourik DuneWorks, Netherlands

Task 25 Business Models for a more Effective Market Uptake of DSM Energy Services  
Ruth Mourik, DuneWorks, The Netherlands

For additional Information contact the DSM Executive Secretary, Anne Bengtson, Liljeholmstorget  
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Also, visit the IEA DSM website: <http://www.ieadsm.org>

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