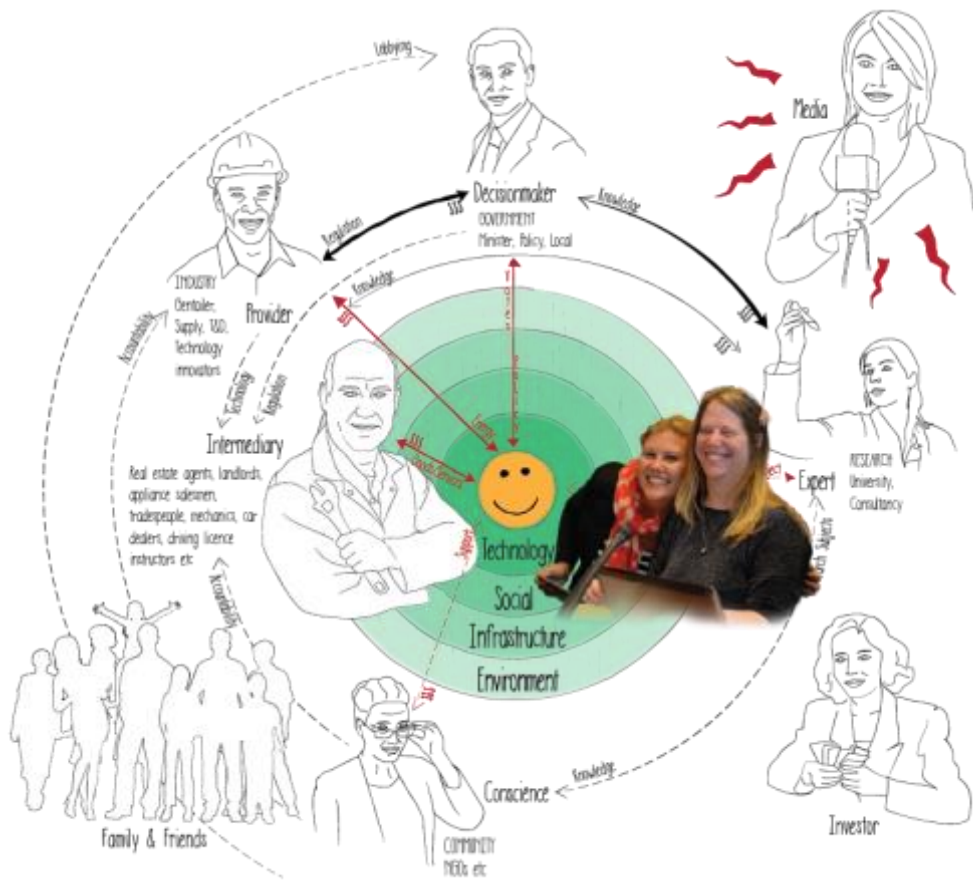


International Energy Agency
 Energy Technology Initiative on
 Demand Side Management Technologies and Programmes



BECC Workshop minutes

Task 24 Behaviour Change in DSM – Phase II Helping the Behaviour Changers

November 2015

Dr Sea Rotmann

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BECC Conference Workshop, Sacramento October 19, 2015

Agenda

- 1:30 - 1:35 Arrivals, coffee, names on post-its
1:35 - 1:40 Welcome
1:40 - 2:00 Introductions - 1 min each (timed) - you, me, we (Name, organization, and what your best and worst day at work would look like)
2:00 - 2:45 **Skip Laitner**: *Re-framing the economic imperative*. (Interactive - e.g., how many use incentives, taxes, etc. and how well they think this works. Four questions and three thought experiments)
2:45 - 4:15 **Sea Rotmann** (with 15 minute break included): *Overview of Task 24*, the Behaviour Changer Framework, 'human energy system' then using a real-life example and the Behaviour Changer Framework to envisage a current energy system through the human lens
4:15 - 5:00 **Beth Karlin**: *Storytelling activities* You – We – Now, learn how to perfectly pitch yourself
5:00-5:20 Review of learnings
5:20 - 5:30 Closing / Thank You / Evaluations

Introductions

- Verena - Zurich; working on real-time feedback; 3rd BECC
Joana - social scientist at Fraunhofer; 4th BECC
Kurt - PhD candidate in Alberta; location efficiency; 4th BECC
Julie - Doctoral candidate at UW; also architect; 1st BECC
Utsab - first BECC; software developer; left job to work on something more impactful; going to a hackathon and looking for something meaningful to build (best pitch!)
Bernhard - PhD student, consumer preferences for battery storage;
Tony Raeker - City of Fort Collins; 4th BECC; all the behavioral tricks to get 50% of buildings to upgrade; 30% reduction across all buildings in 4 years
Richard Bull - University of deMontford; heard of BECC at ECEEE; research on behaviour change and buildings; wants to move beyond feedback from people as problem to people as solutions
David Thayer - interested in applied research; run energy efficiency programmes in CA
Morgan - ES2; consultancy in Oklahoma; first BECC; learn as much as possible to take back to southern culture
Susan Norris – wants to change the world, dealing with a lot of frustrations especially regarding Californian regulatory structure
Toshi – did a recent feedback study in Japan

For storytelling session later:

- Who do you remember? what do you remember?
personal details?
connection to BECC community?
broad vision?
call to action?

Skip Laitner

How to re-frame economics to be more aligned with human behaviour?

First, we need to help participants understand that behavioral perspectives have generally been limited to small incremental changes; but what is needed -- for the sake of both climate and a robust and sustainable economy -- large scale changes are absolutely required. And that we must reframe energy for a 21st century perspective. In effect, energy as work rather than energy as commodity sold on the market. In France, for example, we're talking the reduction of energy requirements by 50 percent with all remaining energy needs powered by renewable energy technologies.

Presentation can be found [here](#) and examples from Pima County can be found [here](#). Skip's 'corny art story on the price of gas' can be found [here](#).

Notes: New thinking about energy and the economic imperative. Step back and re-examine important issues in a new way. Don't think as energy as a commodity but the ability to transform matter into the G&S we want. 1959 visionary talk 'plenty of room at the bottom'. Don't get locked in by yesterday's information. Two insights: Reynolds and Firestone. 5-step thought experiment.

Energy as commodity vs work

Examine magnitude of energy waste

Link between EE and economic activity per capita

Examine energy services cost and externalities

Path forward, next steps.

Climate change as the big driver. It matters but we are also dealing with a weakened economy due to inefficient use of resources which also drives CC. G of US economy is declining. Only look at a few years at a time which always looks like it's going up, but it has been steadily declining. Can be tied to inefficient use of both resources and capital. Exercise with what we think we know and what is actually true.

2 views on energy:

1. **Commodity** in the market

2. More vital: energy as **capacity** to do useful **work**

To ensure development of innovation the emphasis needs to be on energy as work.

When we talk about energy, we are actually talking about exergy. Energy = exergy+anergy = constant. 2nd law of Economics (Kümmel 2011). Work = Exergy *Efficiency. Only very small fraction of available resources is actually used for work.

Energy not as cost but as cost of energy services. Cost = unit price of energy. Cost*Flow of energy = expenditure

Full cost of E services = capital, labor, resources as they transform matter into goods and services but also needs to account for full cost of market transformation and transaction and all externalities. Iceberg with 14% EE on the top is good example of showing problem with current approaches: the 86% wasted energy isn't regarded in the programmes that get designed.

Idea for feedback from Garrison Institute: reflect silently for 1 minute, write for 1 minute, talk for 2 minutes to your neighbour then group discussion.

Feedback: 30% of ideas we cling to and 70% of ideas we don't see - what are examples? Susan swims daily in Skip's last 3 slides, utilities are so locked in for last 40 years, looking at widgets and buildings. Wastes so much time and money and trust and soul. Treadmill with leash on their necks, difficult to keep morale up. Explaining energy as work really good but difficult to do for home owners, business owners. People don't want cheap energy they want warm pizza and cold beer. Economics treats everything in small qualities which makes it very hard to understand the bigger picture/system. Alberta only jurisdiction that doesn't have EE programme in North America. 40 years of resistance.

Sea Rotmann

Task 24 and the Behaviour Changer Framework: How to envisage an energy system through the 'human' lens?

Overview of IEA Task 24 (slides [here](#))

First global behaviour change research Task

Phase I - Main objective: create a global expert network; design a framework; deliver outcomes; empower experts; provide overview of models and theories and detailed case studies; monitoring and evaluation template; reduce silos.

Audience: Behaviour Changers in Government (decision maker); Industry (providers); Researchers (experts); Third sector (conscience); Middle actors (doers)

Subtasks:

1 – Helicopter overview of models, frameworks, etc.

- 2 – In-depth case studies
- 3 - Evaluation tool
- 4 – Country recommendations
- 5 – Expert platform

What is behaviour?

All human actions that affect the way that fuels are used to achieve desired services. Behaviour along three dimensions (could review Karlin et al., 2013 - Dimensions of Energy Behavior for additional as identified in past literature)

Phase II

Work in collaboration with Behaviour Changers in countries to develop a toolbox of interventions what, who, how, why, and so what?

Task 24 view:

The Energy System starts and ends with the human need for energy services where interventions using technology, business models, supply and distribution of energy and market forces are the all-important means to that end. Then figure out the right tools and interventions for specific real-life issues in different sectors and with different end users and behaviours. It is a model for fostering true collaboration, uses a collective impact approach.

Our Issue – the City of Fort Collins having to reduce building energy use by 30% (in SMEs)

Decisionmakers: City – Tony and Landlord - Morgan

Provider: Utility - David

End user: Restaurant owner - Susan

Experts: Building engineer – Joana; Psychology/social science – Kurt; Consumer behaviour – Bernhard; Management - Richard

Conscience: Chamber of Commerce – Skip and Customers / Health & Safety - Verena

Middle actors: Architect – Julie and ESCO – Morgan



Our BECC Behaviour Changer Framework in action on the City of Fort Collins's goal to reduce energy use in SME buildings by 30% by 2020

Behaviour Changers: What are their main mandate, stakeholders, restrictions and tools? Everyone wrote their own down then we went around the table and roleplayed each other's to show understanding and empathy for the other players.

Behaviour Changers	Mandate	Restriction	Stakeholders	Tools
Decisionmaker (City)	Achieve deep CO2 reductions; improve economic wellbeing; don't harm business climate; facilitate upgrade process; increase awareness	No new subsidies/ incentives; political barriers; more regulation & complexity; keeping programme admin simple; technical barriers eg feasibility of each location	The businesses; city staff; developers, builders, contractors etc	Climate Wise recognition programme; incentives and rebates
(Landlord)	Increase rent/profits; create a space that people want to rent	Investing in EE when it doesn't directly affect me; ROI; dealing with codes and statutes; altering main use of the building	Myself, investors and lenders	Show how EE can increase property values and profits to lenders; introduce a social norm for other landlords to follow
Provider	Safety; reliable infrastructure; regulatory requirements; savings; demand response	Reliability; generating capacity; customer needs; maintaining a profit margin	Customers; PVC; investors; suppliers and vendors	DSM programmes; incentives; design; codes; direct relationships; marketing
Expert	CO2 reduction; evaluating cost efficiency; show options and opportunities; help implement research insights in practice	Code of authorities; money; changing routines and practices; uncertain goals	University; government; institutional organisations eg Chamber of Commerce; restaurant owner and landlord	Measure impact; cost efficiency evaluation; disseminate results; provide robustness; observation; understanding habits and practices and key stakeholders
Conscience (Chamber of Commerce)	ensure ease of normal business routine; minimise mandates and restrictions to business owners; seek quality employees and maintain amenities that retain employees and business	already very busy with little free time to adopt new program effort; limited Association budget; inertia and resistance by both businesses and politicians	the business but also the political machinery that can make it easy or hard to get things done	PR; membership budgets to provide a little support; bully pulpit; recognition/awards
(Restaurant Client)	good quality, healthy food at reasonable prices delivered promptly in a comfortable atmosphere	price; comfort (she always gets too cold); time; hygiene; hates change	Her boss (only has 30m lunch break); her children (allergies); her mother in law (save \$); her physician (diet)	Rating the restaurant online; will not return if not OK; complaining
Middle Actor (Architect)	help owner achieve net zero energy; comfort	knowledge re problems and relevant solutions; process; city jurisdiction bureaucracy	the tenant; building consultants; landlord; utility	PSE – design, construction, after energy bill; incentives (solar) and education; measuring/targeting energy goals; feedback; surveys; design of passive housing; more durable and maintainable construction
(ESCO)	provide EE knowledge and services	Budget; political jurisdiction/knowledge; willingness to change; regulatory	Restaurant owner; landlord; utility; government	Audits; other services; monitoring and evaluation; rebates

Feedback from the Group: The relationship arrows are a mess, and it is hard to narrow them down. Only a couple of them have used this kind of whole-system approach and included the human point of view

(PG&E and Julie). Even within the Providers e.g. you have all sorts of fraught relationships. Samsø is a good example of a net zero community that did it bottom-up which was very different to the usual top-down approaches. Which one is more enduring? This one seems to be a 'middle-out' approach which may be better. Use grassroots to get the first 20%, incentives for the middle 40% and regulation for the next 40%? Examples of institutions and local authorities who have taken leadership on change – is this still top-down? Fort Collins: has mandatory energy performance disclosure and then gives a rating; has an outreach programme based on behavioural economics and financial evaluation; improves training and skill base.

Next step: clear the BCF, start with not the individuals but what we have in common (goals, agenda...). Which relationships do already work well and where are bombs (i.e. system conflicts) that can be removed or at least diffused and how? What tools does everyone bring to the table to help with that? Which other Behaviour Changers are missing or which are not directly relevant to this issue? Which relationships need to be strengthened especially with the end user? What are everyone's measures and metrics of success and how will they collect and report them? → Then build an intervention roadmap together.

Beth Karlin

Storytelling YOU – WE - NOW

Idea: Scale also requires wide scale adoption, which means telling stories well. Walk through 2-3 exercises from SEE Change Workshop. Can feed in from the Behaviour Changer Framework 'stories'. Help re-frame narratives so they have more impact and are easier to understand by others. Some can maybe be done during the BCF workshop part?

The presentation can be found [here](#).

Notes: social movement and organising theory. This group needs a lot less work in introducing yourself, why you are here and what do you want to gain? Not many people remembered a lot of details of intros of others in the room, Utsab Saha gave pretty much the perfect intro that most people remembered some aspect from.

There's always a story in everything, sometimes unexpected/unintended ones... What's the story that a person is going to take away from me when they walk away from me? Sometimes, if you impress people too much you may not compel them to help you/work with you.

There's a story in everything. We are of two minds. Keep it simple (great Annie Lenox example of the story of stuff). People usually have 60 seconds to introduce themselves but only about 8 seconds before the other person decides if they are going to listen for the other 52 seconds.

Workshop the STORY OF (Sea's example): SELF US NOW

Self: eg your name, who you are (your job?), where do you sit in the BCF? But also go beyond that - who are you as a person? Add a personal detail.

"Hi I'm Dr Sea Rotmann, a former marine biologist who's now trying to change Behaviour Changers' behaviour with the International Energy Agency. But I really am a crazy cat lady who's simply obsessed with the Kraken."

Us: The act of conversation is the act of creation. Create a tribe.

"I am at BECC because it has the greatest conglomeration of Behaviour Changers in one place and I hope by finding the right ones so I can change the world with them."

Now: The third one is really important - what do you want to get out of this, what is your larger vision once you created the connection (US)?

"I'd be super happy coming out of this conference with new experts, new participants in my Task and inspiration of how to do my work better (and funding)."

Appendix – Original invite

1. Workshop working title:

Re-framing Energy for the 21st Century: A Human Systems Approach

2. Short description of workshop:

The emerging evidence suggests that our current economic and climate change paradigms need a radical shift with regard to the energy system. Critical to that view is understanding our own role(s), both as end users and as ‘behavior changers’ (i.e., the people who are designing, implementing and evaluating interventions to change end user behavior).

This workshop is designed to help energy “behavior changers” re-frame energy for the 21st century and use a human-centered energy system framework to redesign our approach to the work that we do. It is being held in conjunction with the International Energy Agency Demand Side Management Programme (IEA-DSM) Task 24, called ‘Helping the Behavior Changers’, and will both share insights from the first three years of the Task and invite participants to inform and participate in future work scheduled through 2018.

The workshop is divided into three parts: (1) re-framing the economic imperative, (2) re-framing the energy system, and (3) re-framing our energy stories. A description of each part follows.

The first part, led by John “Skip” Laitner, will re-frame the current perspective on energy economics. It will explore new terms and concepts—many of which are familiar to physicists and engineers, but may not be part of normal policy discussion. As Skip will discuss, the current system of economic accounts limits insights and understanding about: (1) the current dynamics of productivity improvements and routine economic activity; and (2) the mix of price signals, policies, behaviors, and incentives designed to redirect purposeful effort and productive investment. Applying these insights has the potential to transform the economy into one that provides both social and environmental well-being, and that is also sustainable over the long run.

The second part, led by Dr. Sea Rotmann (SEA - Sustainable Energy Advice) will run through the IEA-DSM Task 24 Behavior Changer framework, which re-frames the energy system through the human, rather than the technocratic lens. Participants will co-create their own Behavior Changer framework, which will help identify the various mandates, roles, barriers, drivers and restrictions for each behavior changer sectors - Government (‘the Decisionmakers’), Industry (‘the Providers’), Research (‘the Experts’), The Third Sector (‘the Conscience’) and Intermediaries (‘the Doers’). We will then map our relationships with each other and with the end user, whose behavior we ultimately would like to change.

The third part, led by Beth Karlin (UC Irvine), will explore the role of storytelling effectively in energy policy and practice. There are many different stories that can be told, and many different ways in which we tell stories, depending on the audience. However, stories that are universal, easily understood, and memorable can help us overcome interdisciplinary jargon and ultimately break down silos between the different behavior changers and the end user. Beth will share insights from the science of storytelling and engage participants in creating their own energy narratives that can be used throughout the conference and beyond.

We are hoping to bring together workshop participants from all behavior changer sectors, from researchers to policymakers to practitioners. We are using a Collective Impact Approach to bring people together and find a common language (by using narratives) to design better behavior change interventions. Please join us in re-framing energy for the 21st century and exploring a new way of thinking and working together.

3. List at least 3 learning objectives for a half-day session and 6 for a full-day session:

- Understand the difference between viewing energy as a commodity versus work and its wider implications on the energy system

- Map out the energy system from a human perspective and identify where they fit within it
- Identify the best ways to interact with other stakeholders of the human energy system and develop strategies for partnering with them
- Practice using energy narratives as a common language and develop an energy story that can be used during the conference and beyond

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