

# IEA DSM Task 24: Closing the loop: Behavioural change From Theory to Practice



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# THE BEHAVIORAL WEDGE



30% of energy demand locked in behavioural wedge

Purchasing  
Investment  
Use, habits  
Maintenance  
social acceptability

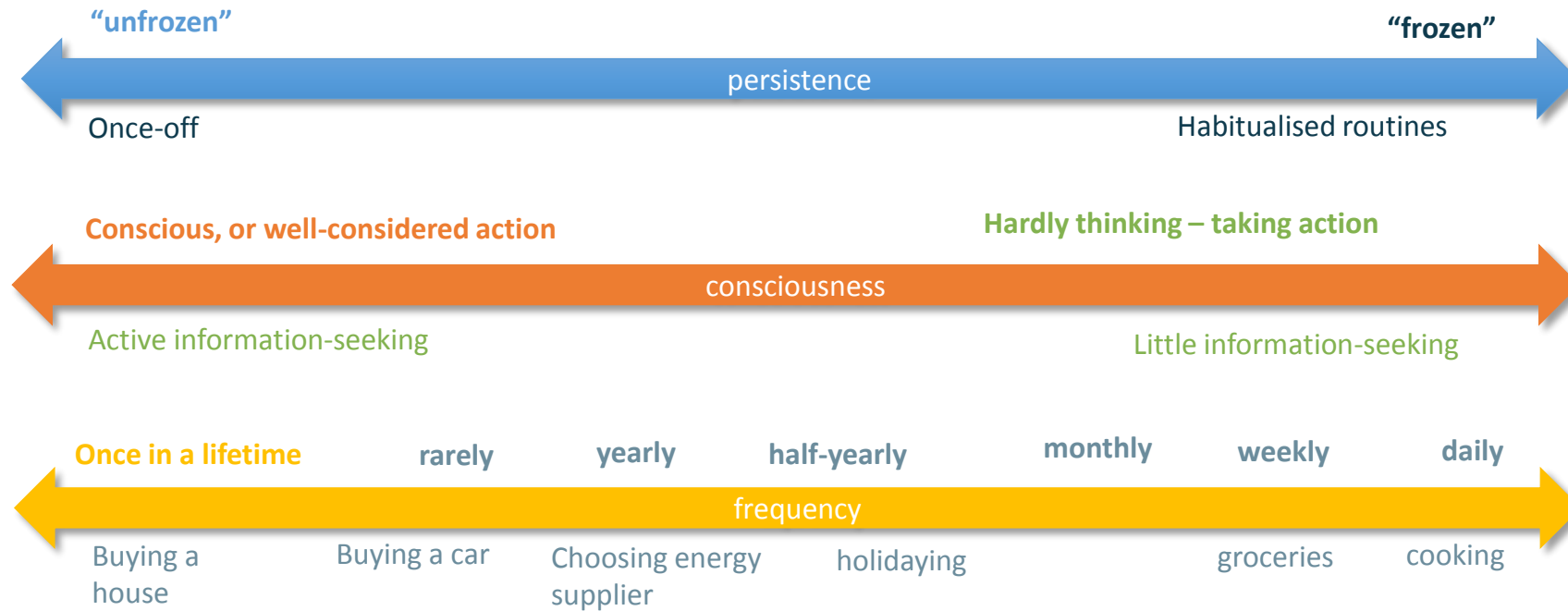
Lack of unlocking this behavioural wedge results from:

- ✓ Homo economicus bias
- ✓ Overly technocratic approaches
- ✓ Limited transfer of best practice and research to the policy domain
- ✓ Lack of meaningful monitoring and evaluation

<http://behavioralwedge.msu.edu/>

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# What is behaviour?



# Conclusions

*Lasting energy efficient behavioural change =*

individual + **social practices**

investment + Habits

+ **context** changes to embed the new practice



All pictures have been retrieved from the internet

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# Analysing what happens in practice

## Repertoire of Human Behavior



Understanding their benefits and drawbacks

Impact design, implementation, monitoring and evaluation

Many interventions underpinned (un)consciously by models and theories



**“All models are wrong, but some of them are useful”**  
George E.P. Box  
(1979)



# Retrofitting programmes: Neo classical economics based featuring financial and information incentives

74,81	+1,78	460300	19,04	17,36	AOIubi-cons	13	+0	4
5,63	-4,25	329100	4,94	3,16	Air Canada	12,7	+0	3
33,94	+0,38	70000	22,48	14,5	Alberta Energy	65,55	+0	
45,81	+1,94	244700	20,18	17,69	Banque Natl	26,4	+0	2
45,06	-0,42	407600	12,31	10,99	Barrick Gold	25	+0	4
74,44	+0,94	1471100	23,19	20,7	Bell Canada	42,05	+0	14
49,88	+1,28	571000	15,74	13,3	BT Telus Comm	41,3	+0	5
96,81	-0,33	269500	34,7	31,1	BK Of Montreal	79,2	+0	4
38,06	-0,18	263500			Bk Of Nova Scotia	42,2	+0	26
25	+0	1088100			Canadian Inc -b	22,85	+0	10
27,38	-0,22	705200	9,29	12,45	Cae Inc	22,6	+0	7
24,2	+4,54	319800	28,14	14,2	Canair Inc	0,41	+0	3
5,81	-1,19	1470700			Canair	24,85	+0	14
5,4	-4,42	63600			Canadian Pacific	41,7	+0	
2	-6,1	2096400	3,33	2,15	Cascades Inc	6,4	+0	20
26,25	+0,23	260100			Cdn Oil & Petroleum	34,95	+0	2
44,31	+4,73	557000	14,77	17,47	Cdn Tire Corp	39	+0	5
35,56	+2,89	527400	17,6	17,1	Cdn. Inter. bk comm	45,95	+0	5
26,88	+6,46	899500	32,51		Dofasco Inc	19,9	+0	
9,88	-1,79	972300			Dominar Inc	13	+0	9
60,38	+1,91	1520600	29,89	23,31	Echo Bay Mines Ltd	0,54	+0	15
8,75	-0,68	132900	9,11	8,1	Falconbridge	16,45	+0	1
15,69	-2,73	86400	9,63	8,01	Fletcher Chail -a	15,3	+0	
15,75	-3,43	435800	9,1	7,29	Gaz Metro Lp	15,75	+0	4
61,06	+1,97	1118700	32,65	27,75	Gulf Cda Res	6,95	+0	



<http://www.contemporaryartdaily.com/wp-content/uploads/2012/02/2.jpg>

<http://pinterest.com/kyrpersa/homo-economicus/>

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# Storytelling

**Narratives** = social science tool to analyse big events impact on small scale

quick, practical and useful understanding of complexity of interconnected factors









## *What can we learn from these retrofitting cases?*

### Benefits: do well within what they intend to do

- Relatively easy to evaluate quantitatively
- The retrofitting market can grow
- Subsidy often used to the max
- Many homes insulated
- Manage to nudge a certain percentage
- Sometimes even a new norm emerges...
- Participants often already decided to retrofit, but now retrofit more comprehensively

### Drawbacks:

- One-off programmes, no continuity after insulation
- Paradox: information + prefinancing required!
- Hardly no flexibility: Only financial and technological tailoring
- Not focused on changing use or habitual patterns: Danger of rebound
- And: will this really create mass demand for EE?

# *A Love Story: Sustainable Jarva*

Once upon a time.....

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## *Make it systemic.. combine*

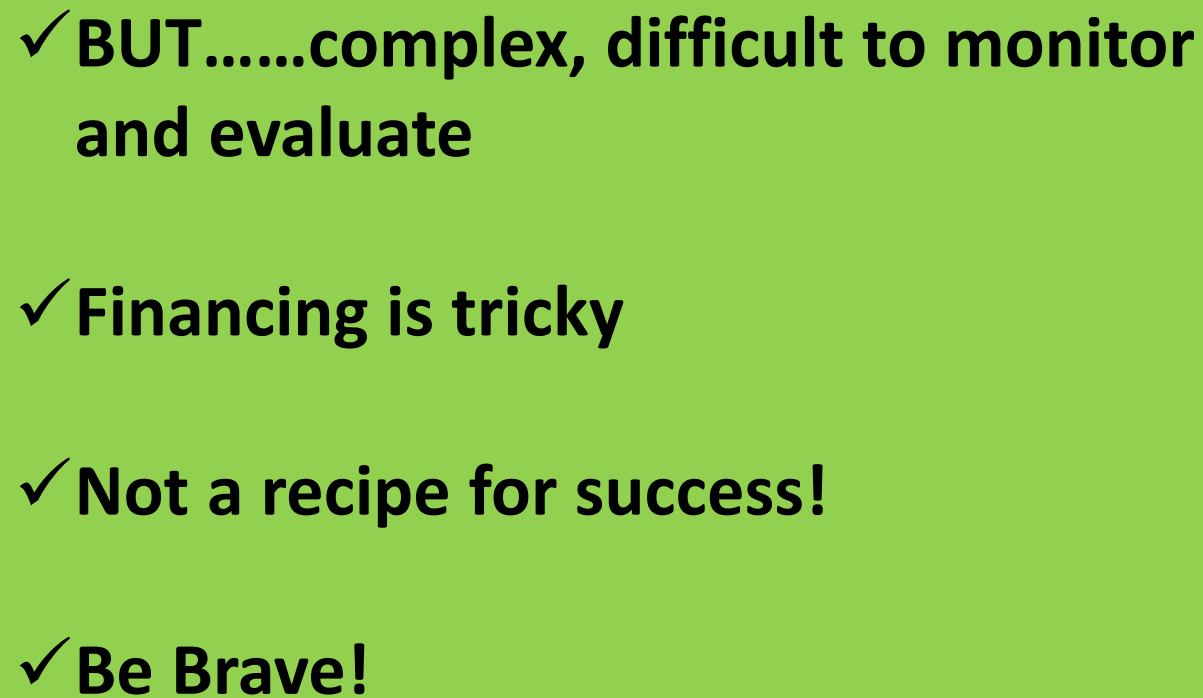


- ✓ Its not just what we buy, its what we do with it, focus on the WHY
- ✓ Change life or workstyles not lightbulbs
- ✓ Energy is a non-issue
- ✓ Retrofitting is a gateway: Think of the (non energy) benefits for end users as well
- ✓ Be aware leads users have a family or colleagues! Social context and norms are key
- ✓ Information needs more than a display, peer to peer is key!
  
- ✓ People do not live according to sectors or disciplines or governmental departments
- ✓ Partner Up! Use a toolbox of interventions and go Beyond kWh
- ✓ Focus on institutional capacity building, build up trust
- ✓ Distribution issues matter! be transparent

## *Make it systemic.. combine*

- ✓ Do not leave monitoring of performance up to the end-user!
- ✓ Pre-scope, benchmark your heart out, measure and model
- ✓ Participation is key: co-create and allow different definitions of success
- ✓ Learn from the unwilling, find out why
- ✓ Be flexible and responsive



- 
- ✓ **BUT.....complex, difficult to monitor and evaluate**
  - ✓ **Financing is tricky**
  - ✓ **Not a recipe for success!**
  - ✓ **Be Brave!**

## *A Learning Story: IEA DSM task 24*

Once upon a time....

The international Energy Agency Demand Side Management programme decided to focus on behaviour...

# The Themes

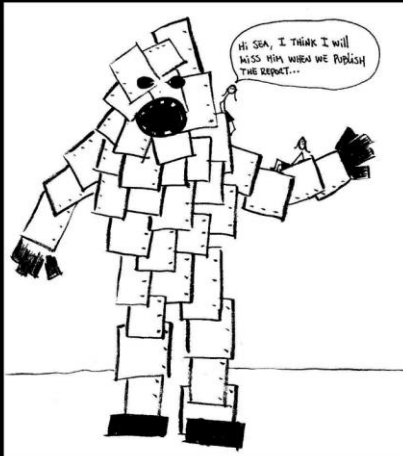


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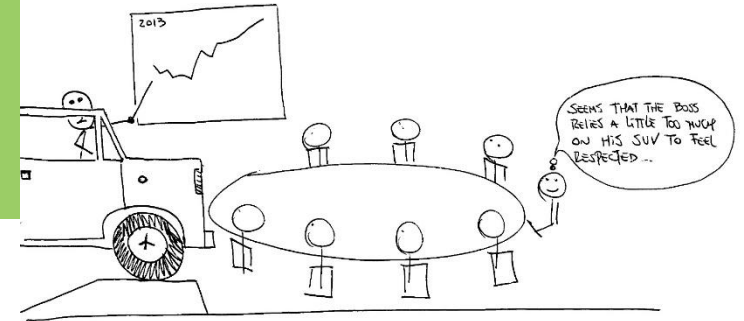
# The Monster

Subtask 1 analysis of IEA DSM Task 24:  
Closing the Loop: Behaviour Change in DSM - From  
Theory to Practice



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Dr Sea Rotmann

Read the full monster here: <http://bit.ly/task24monster>



**Once upon a time...** in a country full of speedsters called The Netherlands, there were no organic, whole-grain multi-eating animal rights activists - or hippies. 'If there's even the slightest bit of testosterone in your blood, you'll make your engine roar' they'd say.

**Every day...** these proud Dutchmen would spill way too much gasoline during their drives, so as to feel their freedom and protect their status as the alpha male in the concrete jungle.

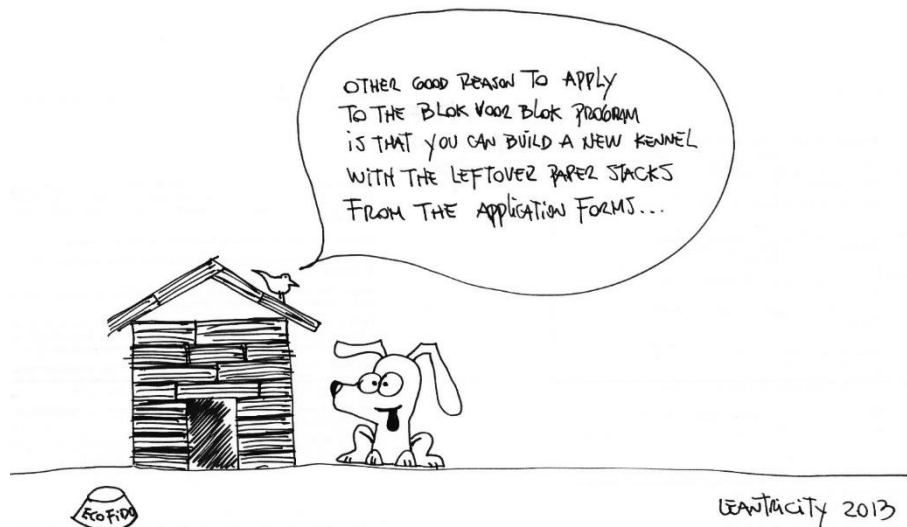
**But, one day...** the national government decided to start a campaign to promote more economical driving. After all, too much gas was spilled, too many greenhouse gasses were emitted and too many particles were set free to pollute the cities. The campaign basically showed that you can be a tough guy even when driving economically. A parody of The Dukes of Hazard was used in advertisements on eco-driving to support this message. Furthermore, training sessions were offered to learn the new way of driving, these techniques became a part of the driving school curriculum and fuel saving technology (such as feedback systems) and tire pressure controls were promoted.

**Because of that...** between 2,2 and 3,75 Mton of CO2 emission were avoided through HNR between 2000 and 2009. The costs for the campaign were below 10 €/ton CO2, which is a very cheap solution to the problem! 69% of all drivers in The Netherlands used one or more principles of eco-driving in 2009, and 84% were familiar with the concept. The campaign was a roaring success.

**But then...** due to a change in government after 2008, this success declined. This can be largely ascribed to the budget cuts and the changing course of the Dutch policy (technology instead of behaviour as a solution; increasing the speed limit from 120 km/h to 130 km/h which sends a very confusing message to drivers!).

**But still...** eco-driving is now embedded in the Dutch society. The implementation on different levels, such as the integration of the techniques in driving schools and the support of sector organisations such as ANWB (AA patrol) were a key factor of this change in social norm.

**And, ever since then...** you can be a tough guy whilst driving economically. And a nice addition: it will save you some money too. **The end.**



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Thank you very much for your attention!

**JOIN US?**

*Any comments or questions?*

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