

# Carbon footprint calculators for citizens

*opportunities and limitations in changing consumption practices*

Marja Salo<sup>a,b</sup>, Maija K. Mattinen<sup>a</sup>

<sup>a</sup> Finnish Environment Institute,

<sup>b</sup> University of Helsinki

6.6.2017 HopefulNESS

The presentation is based on a project funded by the Nordic Council of Ministers working group on sustainable consumption and production.

## Outline:

- Introduction: Consumption and related greenhouse gas emissions; practice theory approach
- Research questions, data & methods
- Preliminary findings & discussion

# Introduction

“On the global level, 72% of greenhouse gas emissions are related to household consumption, 10% to government consumption, and 18% to investments.”

Hertwich & Peters, 2009. Carbon Footprint of Nations: A Global. Trade-Linked Analysis, Environmental Science and Technology 43, 6414–6420.

# Calculators illustrate our footprint

**Ilmastodieetti.fi** Suomeksi



Find out the size and composition of your footprint. Then you know what to do to make it smaller.

It would be easy in the city BUT I depend on my car in the countryside.

## Measure your footprint and start a Climatediet!

is a tool to track and reduce your personal carbon footprint.

Calculate your carbon footprint now

I have no choice but to use the district heat in my home town. Things would be different if I had my own house in the countryside.

The calculator helps you recognise what contributes to your carbon footprint and how to reduce its size. The calculator is designed for Finnish conditions. Institute.



# Looking calculators and their use through the practice lens

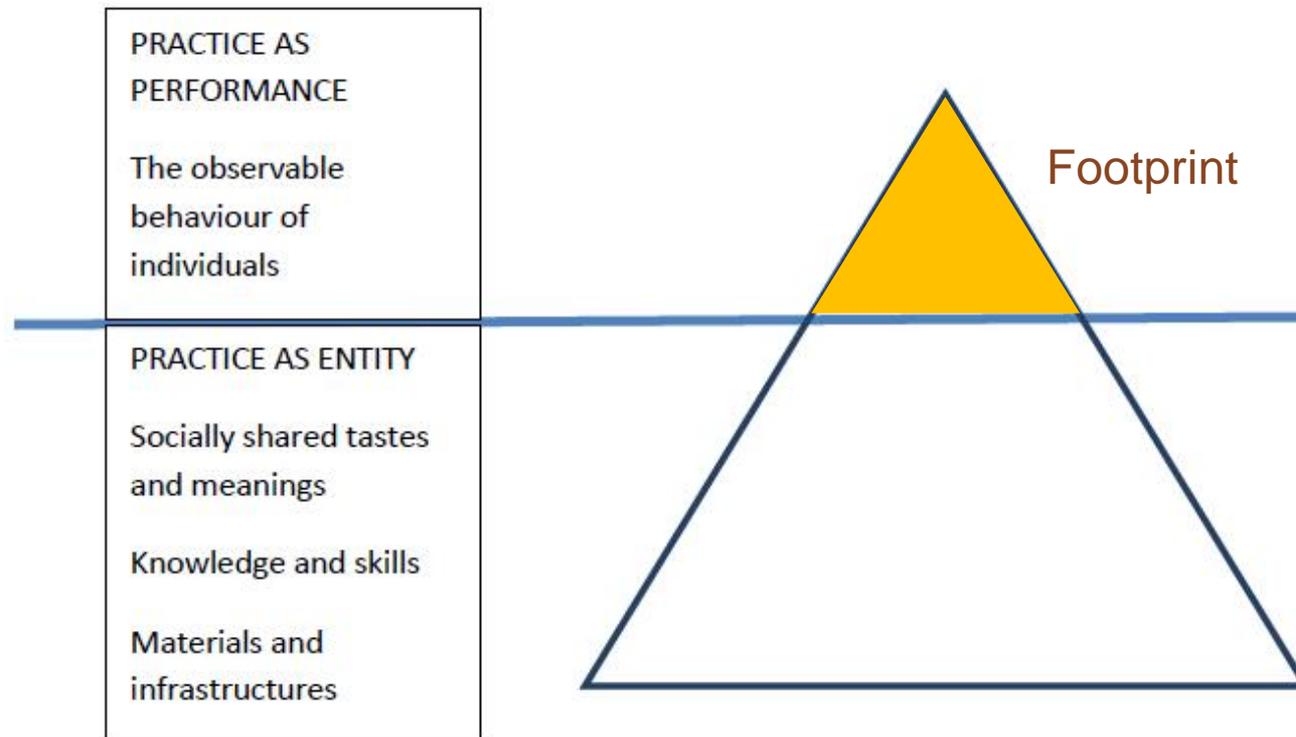


Figure 1: Observable behaviour is just the tip of the iceberg.

# Research questions, data & methods

- RQ1: What is the expected link of calculator use and the GHG emissions from household consumption?
- RQ2: What kinds of challenges have the calculator hosts experienced in using the calculators in campaigns and interventions?
- Data & methods:
  - Systematic examination of 10 GHG emission web calculators for citizen + documentation and research publications if available. Focus is on the Nordic calculators.
  - Interview of calculator developers/hosts (n=6)

# Examined calculators

Name of the calculator	Host	Country	Calculator website	Documentation	Interview	Peer reviewed article
Car comparison calculator	Orkusetur (Energy Agency Iceland)	Iceland	x		x	
Climate Neutral Now	UNFCCC United Nations Framework Convention on Climate Change	Global	x	x	x	
Ducky	Ducky as	Norway	x	x	x	
Ilmastodieetti	The Finnish Environment Institute SYKE	Finland	x	x	x*	x
Klimatkontot	IVL Swedish Environmental Research Institute	Sweden	x	x	x	
Min klimatpåverkan (REAP Petite in UK)	SEI Stockholm Environment Institute	Sweden (+ UK)	x	x	x	x
WWF UK environmental carbon footprint	WWF UK	UK	x	x		
Kolvidur calculator	Kolvidur Fund	Iceland	x			
The Baltic Sea Card	Ålands Bank	Åland / Finland / Sweden	x			
CO2-beregneren	Energi Tjensten (Energy Agency Denmark)	Denmark	x			

\*The first author of this paper is the representative of the Ilmastodieetti calculator and has been involved in the development since the calculator launch in 2010.

# Findings, expected link

**SEI** STOCKHOLM ENVIRONMENT INSTITUTE

**REAP Petite**

Pledges [Overview](#) [Questions](#) [Pledges](#) [Groups](#)

Fin [Groups](#)

**Power** **Food** **Travel** **Shopping** **Activities**

Pledges let you plan your plans.

Print (A4)

Pledge		→		→		→	
Change my b							
Replace all m efficient ones							
Switch to a g							
Make sure m							
Replace my b							
Generate my							
Generate my heat pump							
Install a bion							
Install a community combined heat and power system		✓					

Card and Mobile Payment system  
The Aland-index  
Footprint calculation

€

Footprint

**CHANGE OF BEHAVIOUR**  
**LOCAL INITIATIVES**  
**GLOBAL INITIATIVES**

The Baltic Sea Card

[Back](#) [Next](#)

© Stockholm Environment Institute

# Findings and discussion, expected links

- Calculators used in campaigns and interventions:
  - Group and individual meetings about sustainable consumption
  - Online community of users seeing actions and progress of others
  - As a tool to visualise the current footprint or impact of certain choices and actions
- Discussion:
  - Visualising and tailoring of footprint for already motivated citizens
  - Professional adviser as an intermediary: interpreter of results and their use

# Findings and discussion, challenges

- Recruiting users, especially returning users
  - How to measure the impact on consumption and related emissions?
- Media campaigns and visibility increase use, at least temporarily
  - Campaignings were also mentioned as a means to increase calculator use in cases focusing on local research oriented initiatives.

## Findings and discussion, challenges

- How do the calculator hosts see the role of calculators in changing consumption. A quote from the interviews:

“A great tool to make people aware and understand....what impact their lifestyle has on the environment. But, obviously, it is just one part of the process. ... But then to have people actually change their meat consumption ... it’s about norms, cultures, behaviour etc.”

# Looking calculators and their use through the practice lens

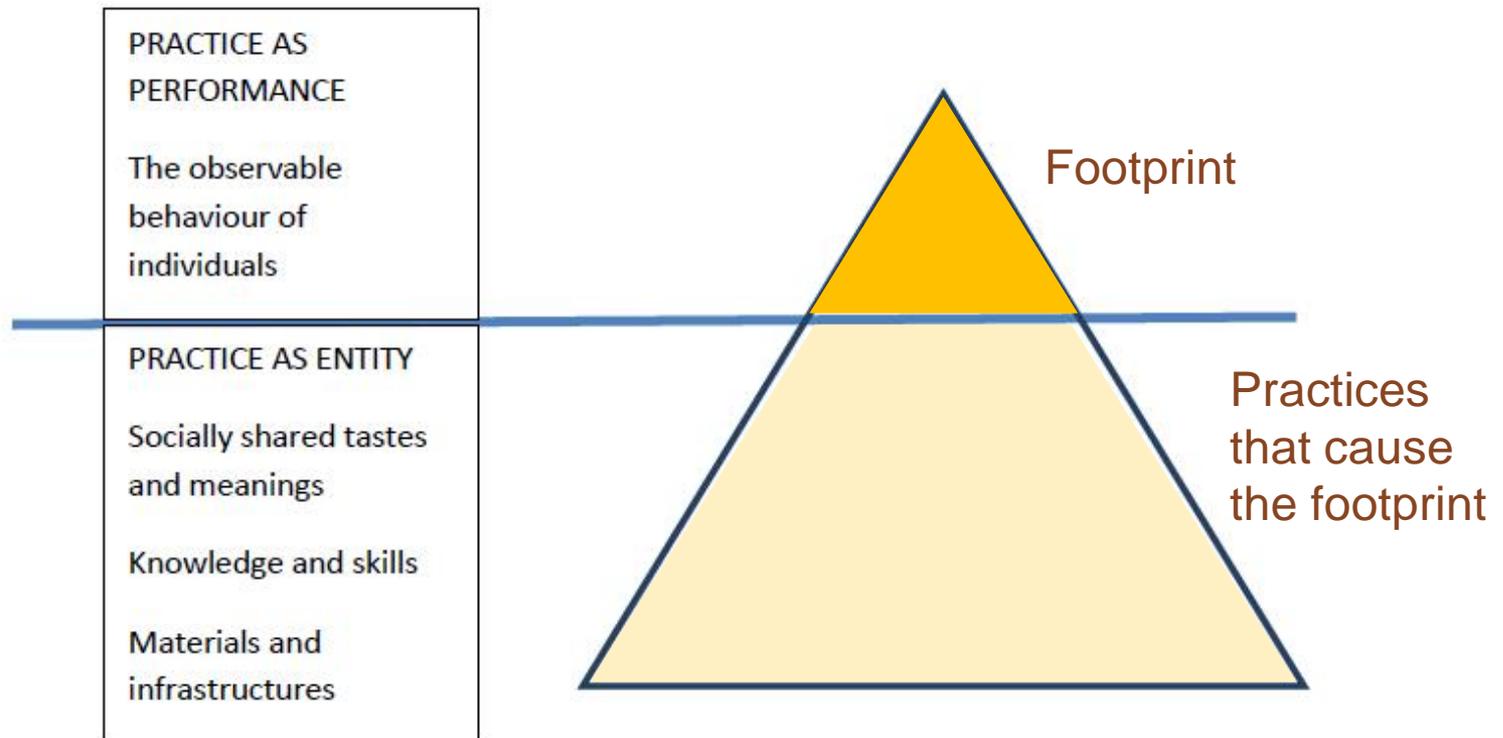


Figure 1: Observable behaviour is just the tip of the iceberg.