



Progress through Feedback – An Internet-based Personalised Monitoring System of Consumption Induced Greenhouse Gas Emissions with Rewards for the Goodies

Kaarina Hyvönen (NCRC), Mika Saastamoinen (NCRC),
Adriaan Perrels (VATT), Arto Kallio (VTT),
Juha-Matti Katajajuuri (MTT), Magnus Melin (VTT) and
Ari Nissinen (SYKE)



Purpose of the pilot study

- **To assess the possibilities of the combined monitoring and feedback system to motivate consumers (households) to change their consumption behaviour in such a way that greenhouse gas emissions are reduced**
- **To study consumers' experiences and evaluations of the demo version of the system, especially of its attractiveness, usability, data content, usefulness and acceptability, as well as its effects on consumers' purchase and consumption behaviour**

Monitoring and feedback system for households (1)

- Internet-based system including a version for computers and a limited version for mobile phones
- Allows to monitor the development of the cumulative greenhouse gas emissions at various levels of aggregation of consumption
- Allows to compare the scores with those of a peer group
- Informs on acquired climate bonus points earned on the basis of a reduction of (calculated) embodied emissions
- Includes foodstuffs, home energy, transport fuels and transport services, as well as category 'other consumption'; with special focus on foodstuffs
- Because of lack of eligible emission data on most products/product groups it includes rather rough estimates on a product group level, especially for foodstuffs

Monitoring and feedback system for households (2)

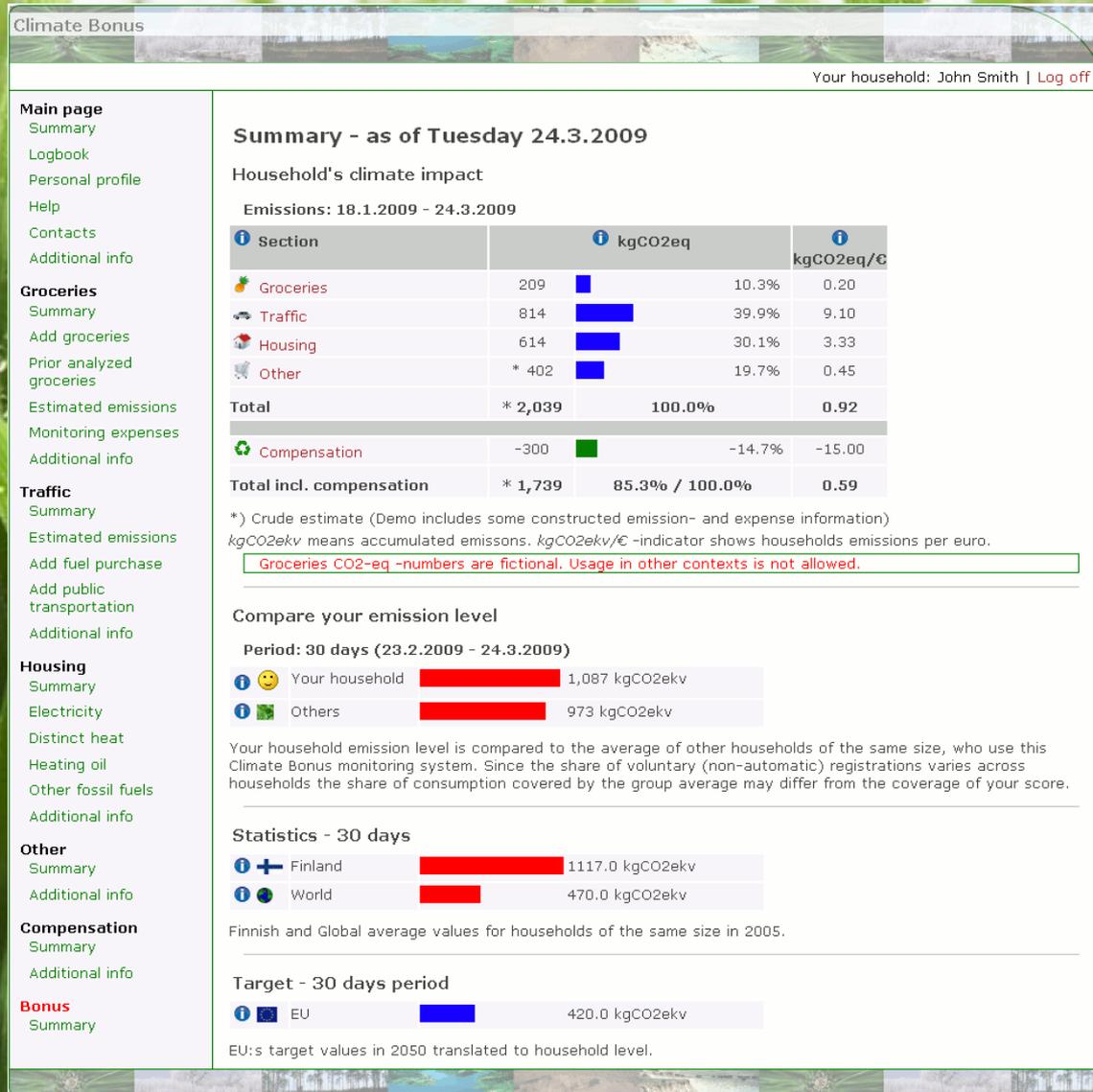


Figure 1. Screen dump of the monitoring and feedback interface – the summary page (NB! the original version operated in Finnish)



Pilot study design

- 35 consumers (households) from three areas participated in the pilot
- An online questionnaire concerning participants' characteristics
- A trial of the demo version of the monitoring and feedback system for a period of four weeks (19.1.–15.2.2009)
 - Participants were asked to concentrate their purchase of foodstuffs on the selected ten supermarkets; product data was automatically registered into the system by using a key card at the cash desk
 - Data of the other purchases and consumption participants had to enter into the system themselves
- Two online questionnaires concerning participants' experiences of and views on the system (after the first experiences/after the whole trial)
- Five focus group discussions: data on user experiences and views, and arguments underlying these viewpoints; interaction with system developers



Interest in the idea of the system

- Participants found the idea of the monitoring and feedback system interesting
 - An innovative and thought-provoking idea
 - An interesting concrete tool for monitoring emissions
 - The only way for the individual to affect his/her consumption behaviour
- Some had doubts about the idea
 - Concern about the practical realisation of the system, e.g. about the role of trade and industry
 - Information of the climate impacts of products should be available at the store before making purchase decisions
 - The project is "greenwashing"



Usefulness of the system

- Most participants thought that the monitoring and feedback system would be useful for their households
 - Provided information for evaluating consumption as regards the climate impacts
 - Motivated to change behaviour into a more climate-friendly direction, and helped to make better choices by making the consequences of the choices visible
 - Made to realise that every consumer can affect the climate change with his/her own choices
- Some participants aired doubts about the usefulness of the system
 - Using the system is too laborious and demanding
 - The information the system offers does not meet the users' needs
 - The system would be useful only for a while, until the user has learned the emission amounts of the products
 - The emission information should be accessible before the purchase decisions are made



Prerequisites for acceptance of future monitoring and feedback systems

- Free of charge
- Easy to use
- Understanding the information and relevance in the everyday context
- Positive experiences, fun, interaction
- Personalised system
- Including commerce and service providers into the development work
- Rewarding for reduction of the emissions



Conclusions

- The results of the pilot show that the participating consumers were interested in the monitoring and feedback system of greenhouse gas emissions, and they regarded it as potentially useful to their households
- Consumers' interest to use the system more intensively, however, does require the development and improvement of the system, especially its usability, reliability and credibility, as well as attractiveness
- It seems that the complete monitoring and feedback system together with a reward system have potential to motivate consumers to change their purchase and consumption behaviour – and to reduce greenhouse gas emissions of their consumption
- The participating consumers stressed that simultaneously the supply of low emission product alternatives at the stores have to be increased, and that the monitoring and feedback system should be adopted by as many retail and service chains as possible
- The pilot study has some limitations, e.g. results of the study cannot be generalized to all Finnish people



Thank you!