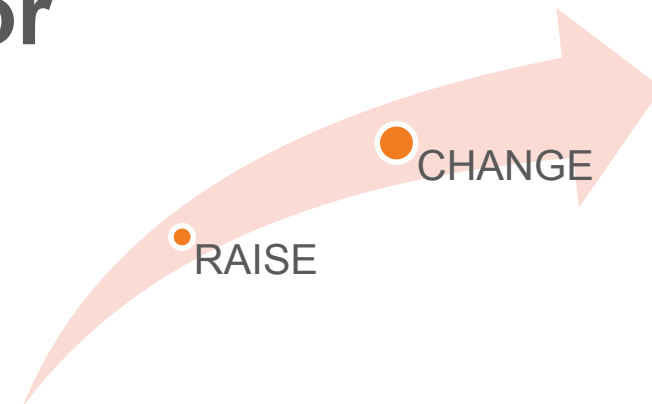


Using digital interventions for behavior change towards energy efficient behavior

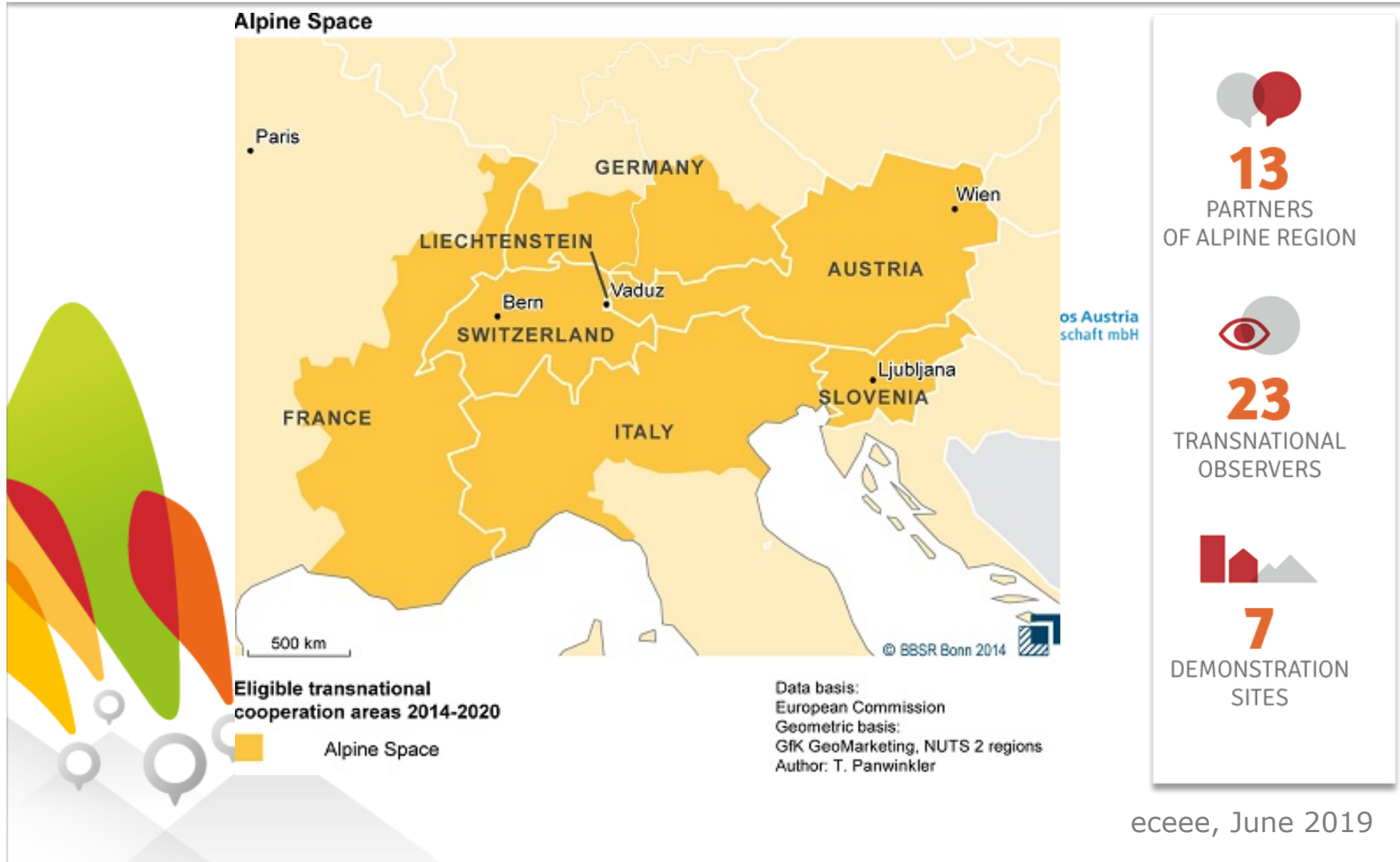


Dr. Annette Roser, Dr. Karin Schakib-Ekbatan, Edith Chassein | IREES

at the eceee summer study, 3–8 June 2019,
Belambra Presqu'île de Giens, France



THE4BEES: Transnational Holistic Ecosystem 4 Better Energy Efficiency through Social innovation



THE4BEES: Transnational Holistic Ecosystem 4 Better Energy Efficiency through Social innovation

■ Four settings – seven pilots

- Alpine huts: Piemont (IT)
- Social housing: Lombardy (IT)
- High schools: Rhône-Alpes (FR), Salzburg (AU), Velenje (SI)
- Companies: Fribourg (working space) (CH), Baden-Wuerttemberg (DE) (factories in BWCON)



**RAISING AWARENESS
ON BEHAVIOURS**



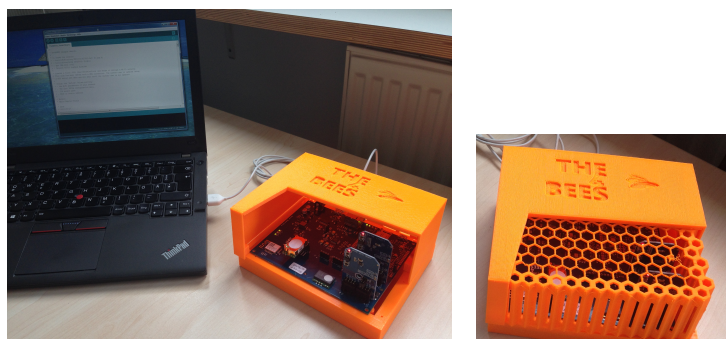
**REDUCING ENERGY
CONSUMPTION**



**IMPROVING
POLICIES**

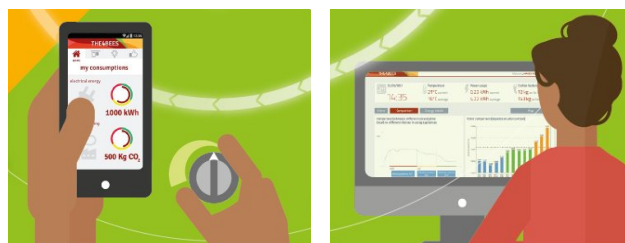
Many target groups:

Tourists, tenants, students, pupils, teachers, employees, decision makers, energy managers, technical experts, scientists, policy makers, disseminators, ...



Sensors and Arduino

(Light, Temperature, Humidity, CO₂, Dust, Radon)



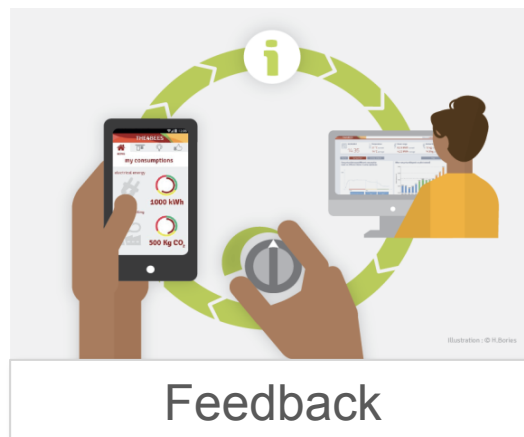
App and Dashboard

(app for students, dashboard for energy managers)



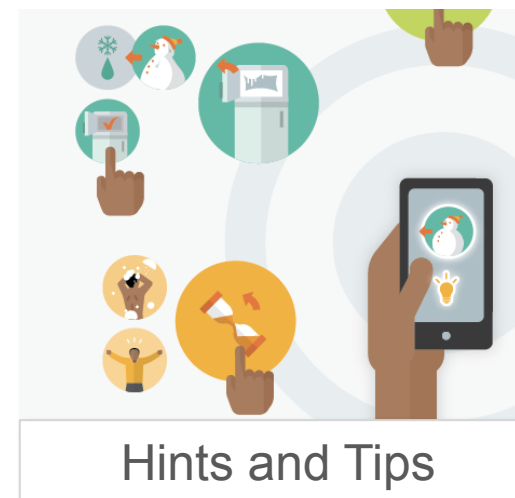
Types of Interventions used

Interreg
Alpine Space



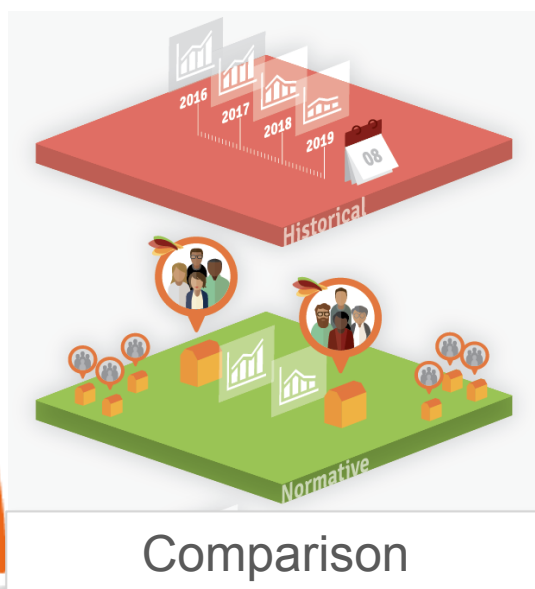
Feedback

Information:
Feedback is essential. *I have spent 250 kWh this month.*



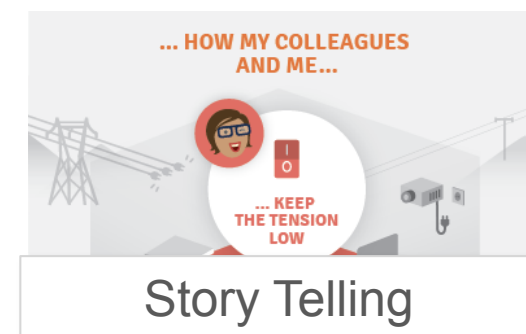
Hints and Tips

Action: behave in a different way, take part in a challenge, share your experience with others etc.



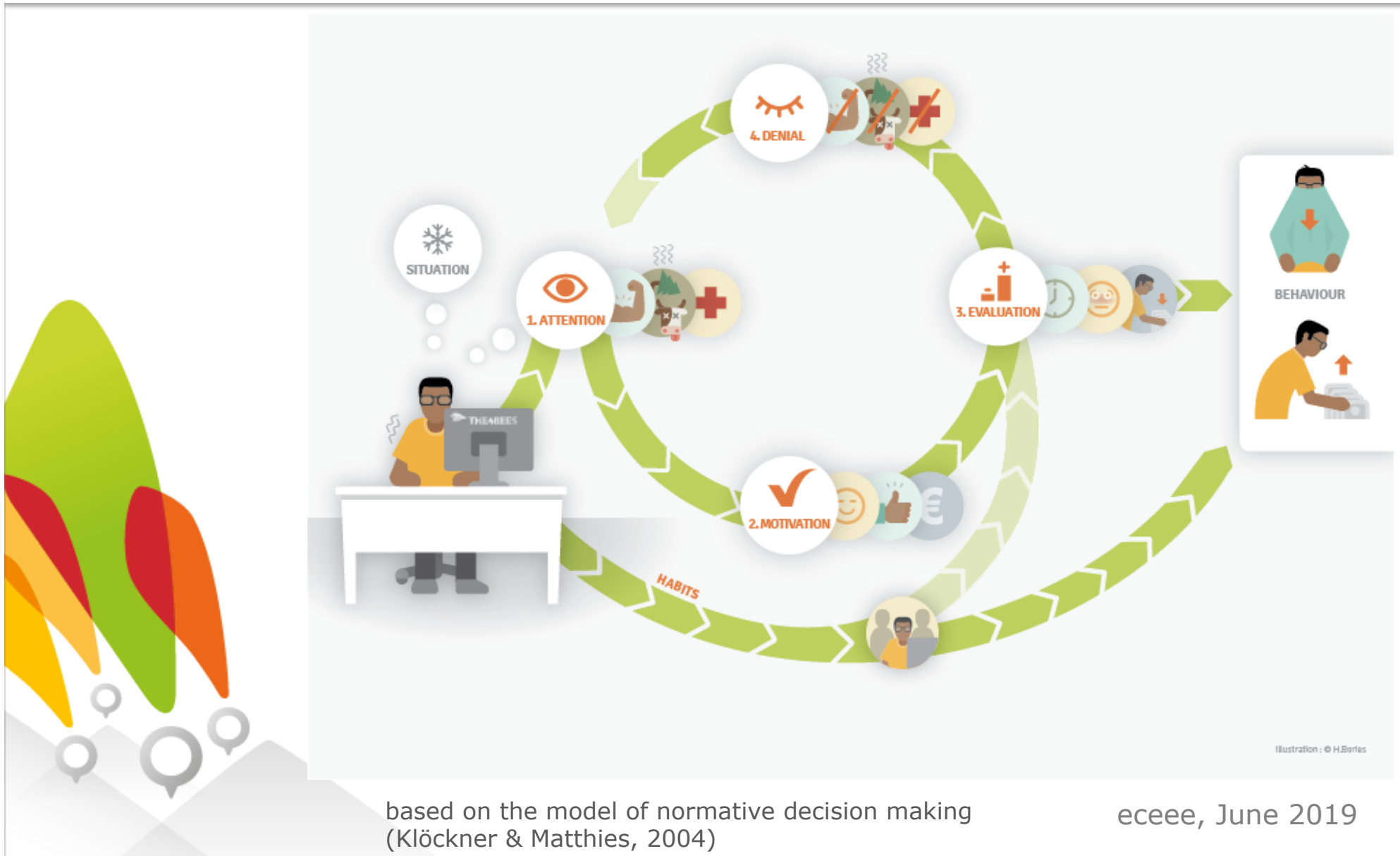
Comparison

Interpretation
by setting a benchmark: *The benchmark of comparable households is 200 kWh.*



Story Telling

Psychological principles regarding behaviour change



TRIAL PHASE OF FRIBOURG: RESULTS

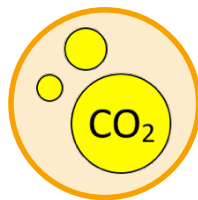
Co-creative approach: 3 CC-Labs carried out



- Decrease of **2.5 kWh/day** in office A (-56%)
- Decrease of **1.3 kWh/day** in office B (-23%)



- Decrease of **600 Wh/day** in office A (-37%)
- Decrease of **200 Wh/day** in office B (-12%)



- Decrease of worktime over 1000 ppm CO₂
- User satisfaction

ENERGY

IS CONSUMED BY PEOPLE
RATHER THAN BY BUILDINGS

- ⇒ In the end it is the behaviour of students, workers, tourists and residents that will create the impact
- ⇒ But: No action without energy managers and responsible stakeholders for the building
- ⇒ All of them have been involved in the co-creation process

What we have done for communication to engage the user

- We had a strong, coherent and recognizable **visual identity** for the project.
- We used web, social media, events, press and local communication for **dissemination**.
- We created intuitive tools, interactive formats and illustrations for **memorisation and interaction**.
- We began to think “users” and integrated **social-psychological principles** on communication.





THE USER MAKES THE DIFFERENCE.



Interreg
Alpine Space



THANK YOU FOR YOUR ATTENTION!

<https://www.alpine-space.eu/projects/thefourbees/en/home>

RESPONSIBLE	
NAME	CONTACT
Dr. Annette ROSER	IREES / a.roser@irees.de / 0049 721 9152636 33
Edith CHASSEIN	IREES / e.chassein@irees.de / 0049 721 9152636 25
Dr. Karin SCHAKIB-EKBATAN	IREES / k.schakib@irees.de / 0049 721 9152636 32

eceee, June 2019