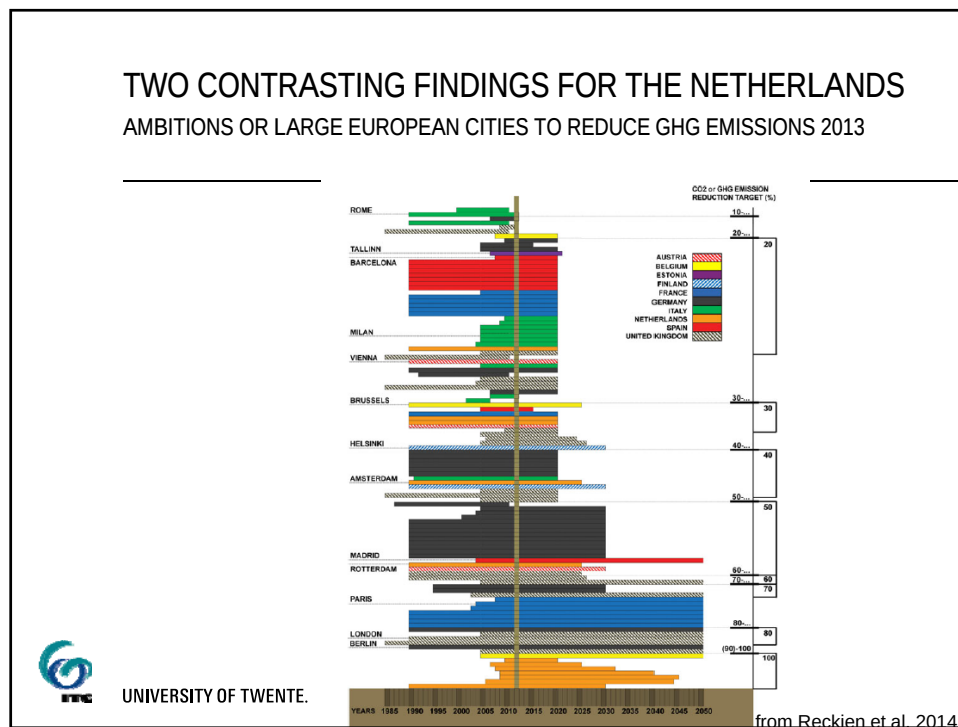


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CITIZEN PARTICIPATION IN LOCAL
RENEWABLE ENERGY SYSTEMS PLANNING:
A SERIOUS GAMING APPROACH

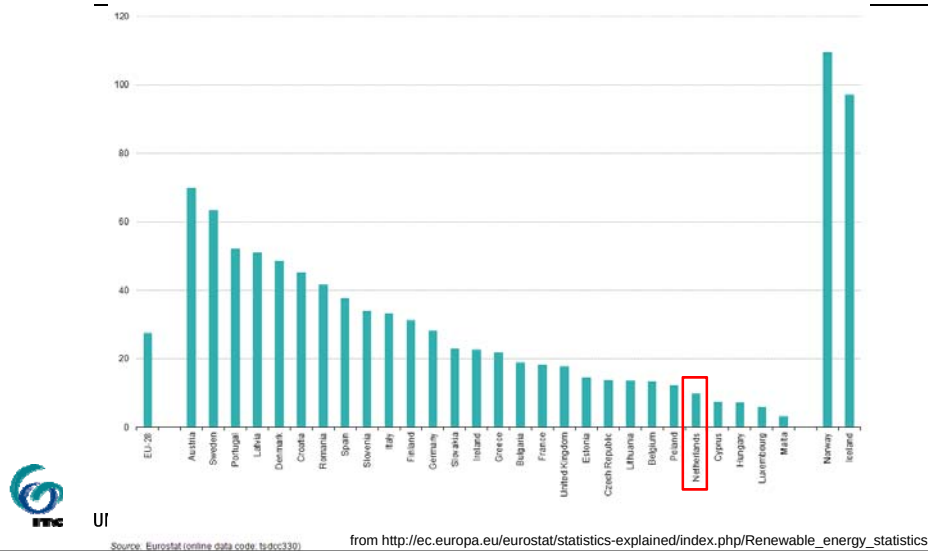
Johannes Flacke & Cheryl de Boer
DEPARTMENT OF URBAN AND REGIONAL PLANNING
AND GEO-INFORMATION MANAGEMENT (PGM)
21 April 2017

ITC FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION



TWO CONTRASTING FINDINGS FOR THE NETHERLANDS

PROPORTION OF ELECTRICITY GENERATED FROM RENEWABLE SOURCES, 2014 (% OF GROSS ELECTRICITY CONSUMPTION)

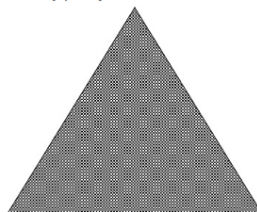


MAIN REASONS FOR LIMITED IMPLEMENTATION OF RENEWABLE ENERGY SYSTEMS

- limited institutional capacities of local decision makers (Breukers and Wolsink 2007)
- Low level of social acceptance of renewable energy (Devine Wright 2011).

Socio-political acceptance

- Of technologies and policies
- By the public
- By key stakeholders
- By policy makers



Community acceptance

Market acceptance (Wuestenhagen et al. 2007).

COLLAGE

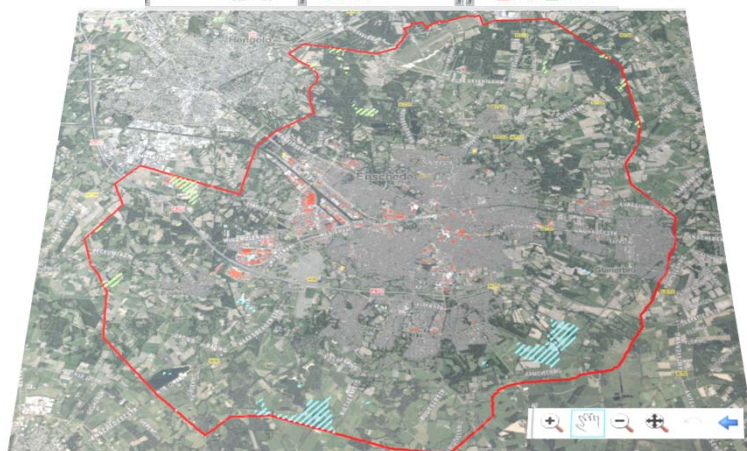
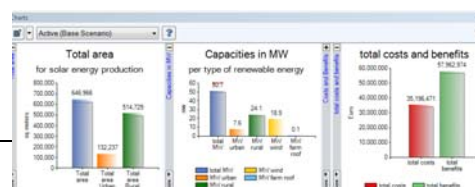
STAKEHOLDER COLLABORATION
FOR RENEWABLE ENERGY PLANNING

COLLAGE – COLLABORATIVE LOCATION ALLOCATION GAMING ENVIRONMENT

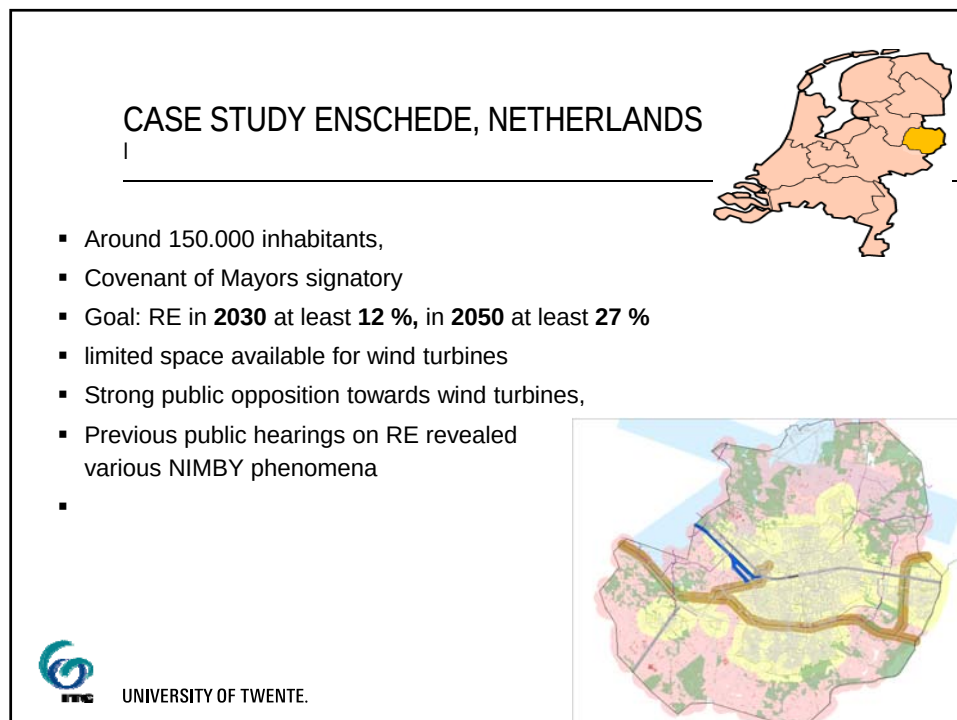
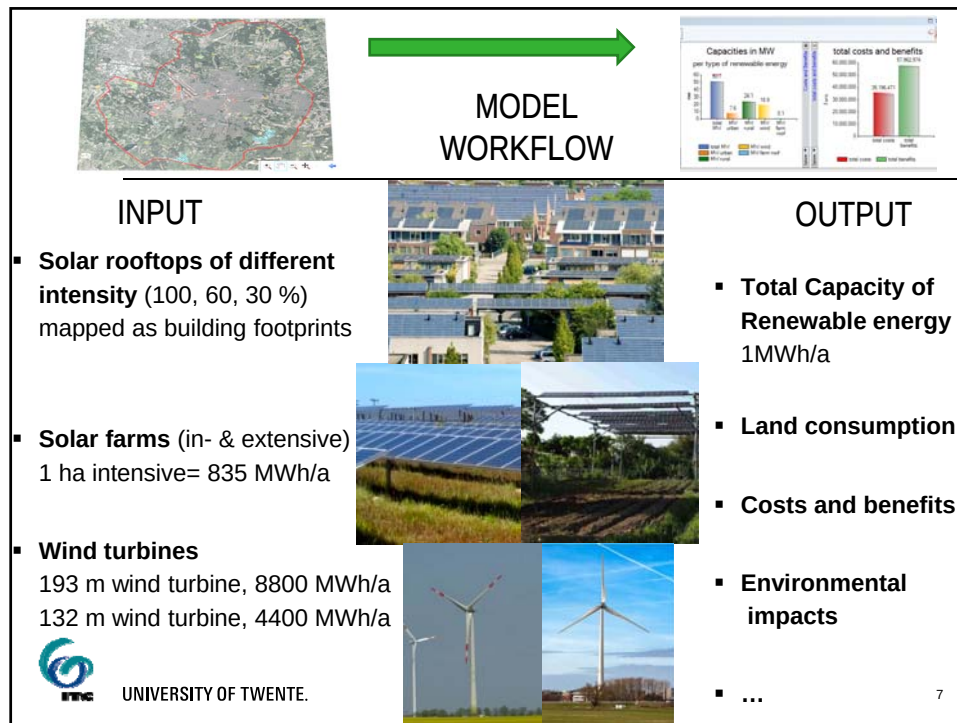
- Interactive planning support tool for participatory allocation of renewable energy systems within cities/regions
- Implemented on a maptable
- Small group face2face interaction
- Gaming approach
- Awareness raising, social learning

COLLAGE –
MODEL INTERFACE

Intuitively to use



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STAKEHOLDER WORKSHOPS

Workshops

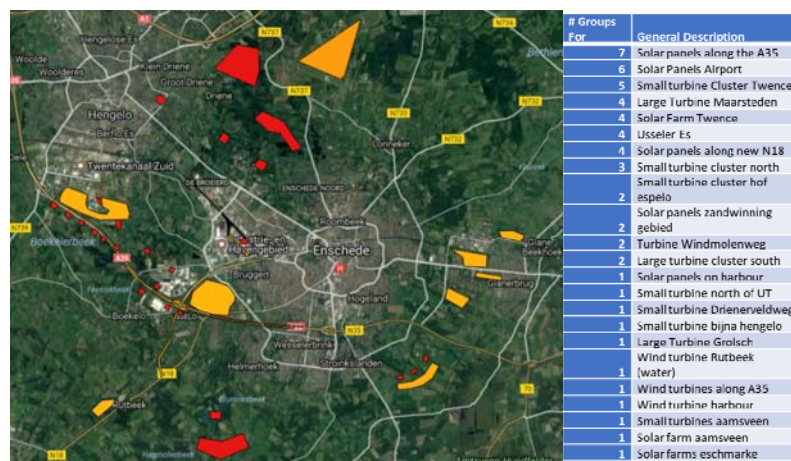
- In total 5 workshop, each about 15 local participants, 5 per maptable
- Each workshop 2.5 hours,
 - Introduction to topic, goal and tool (10 minutes of practice)
 - Goal setting for each mapping session
 - 1 round: neighbourhood level, goal: 20 % of
 - 2 round: city wide, wind and solar farms
 - wrap up, summary in plenary
- Stakeholder discussion recorded
- Questionnaire: participants perception of RE usability of the tool, lessons learned, etc.



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WORKSHOPS RESULTS

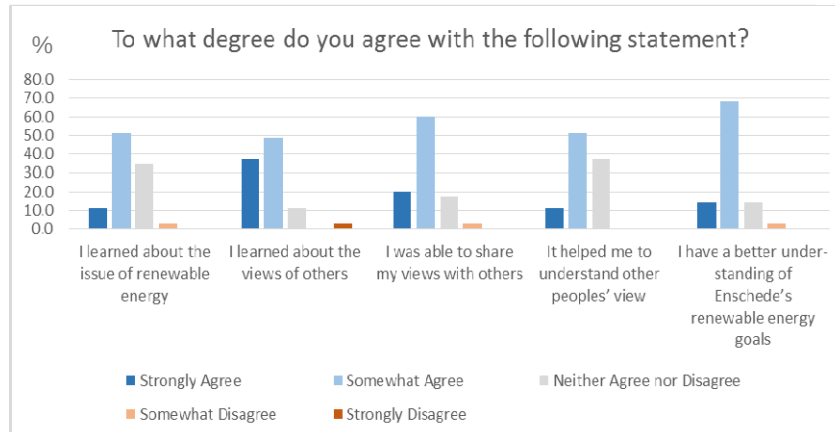


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Red = Wind turbines, Orange = Solar farms

WORKSHOPS RESULTS

A TOOL FOR SOCIAL LEARNING



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CONCLUSIONS

- A tool for learning: for Whom?
- Citizens: a better understanding about implications of RE
- Municipality: better understanding of citizens perceptions and ideas
 - An additional layer of information in the process of RE planning
- We, the researchers: usability of the tool, e-planning tools that work
- Mappable useful to stimulate interaction, (age dependent)
- Problems: participants taking the word gaming too literally
- Next steps: regional level, adding more RE sources, open source



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**The end.
Thank you!**

Dr. Johannes Flacke



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