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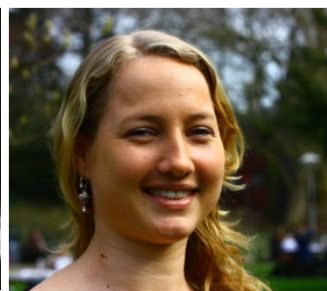


Psychological perspective on smart grids

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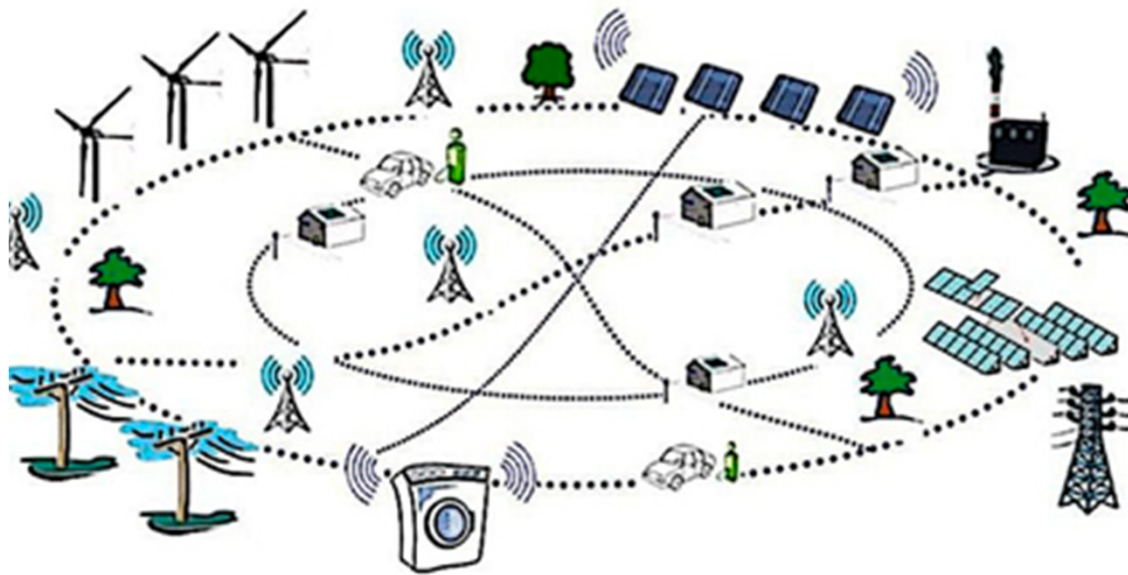


Environmental Psychology

- › Interaction human and environment
 - Environmental conditions influence human behaviour and well-being
 - Human behaviour affects environmental quality
 - how to reduce environmental problems via behaviour changes



Smart Grids need behavioural change





Psychology and smart grids

- › Behaviour changes needed in smart grids
 - Change user behaviour
 - use less or adapt demand to supply
 - Adopt and use of energy efficient technology
 - Adopt and use monitoring/control technology
 - Adopt and use renewable energy sources
- › Acceptability of smart grids and policies



Values

- › Values are guiding principles in life
 - affecting beliefs, attitudes and behaviours
 - colour perceptions and cognitions





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Values and behaviour

- › Values influence behaviour mainly indirectly
 - Influence beliefs
 - Influence information processing
 - Influence personal norms
 - Identity: link consequences to the self



Values and preferences

Egoistic and biospheric values:

- › Define what is important
 - consequences for self or environment.
- › Shape overall positive or negative views



Values and beliefs-nuclear power

- › Strong egoistic values
 - Nuclear power more acceptable
 - More positive egoistic *and* environmental consequences

- › Strong biospheric values
 - Nuclear power less acceptable
 - Risks more, environmental benefits less likely



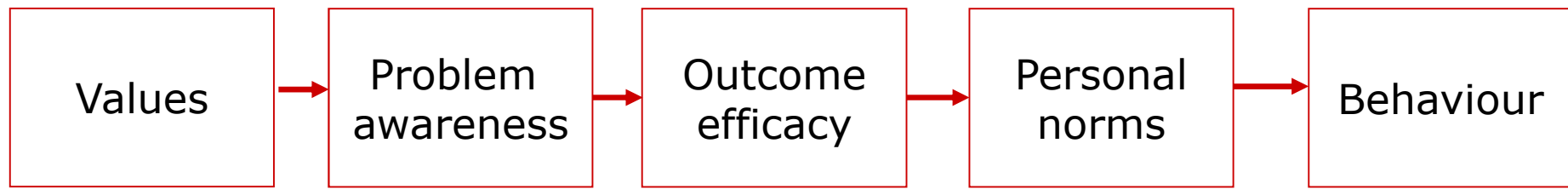
Values and preferences for local renewable energy systems

- › Strong egoistic values
 - renewable energy systems less acceptable
 - environmental benefits less likely

- › Strong biospheric values
 - renewable energy systems more acceptable
 - egoistic disadvantages less likely



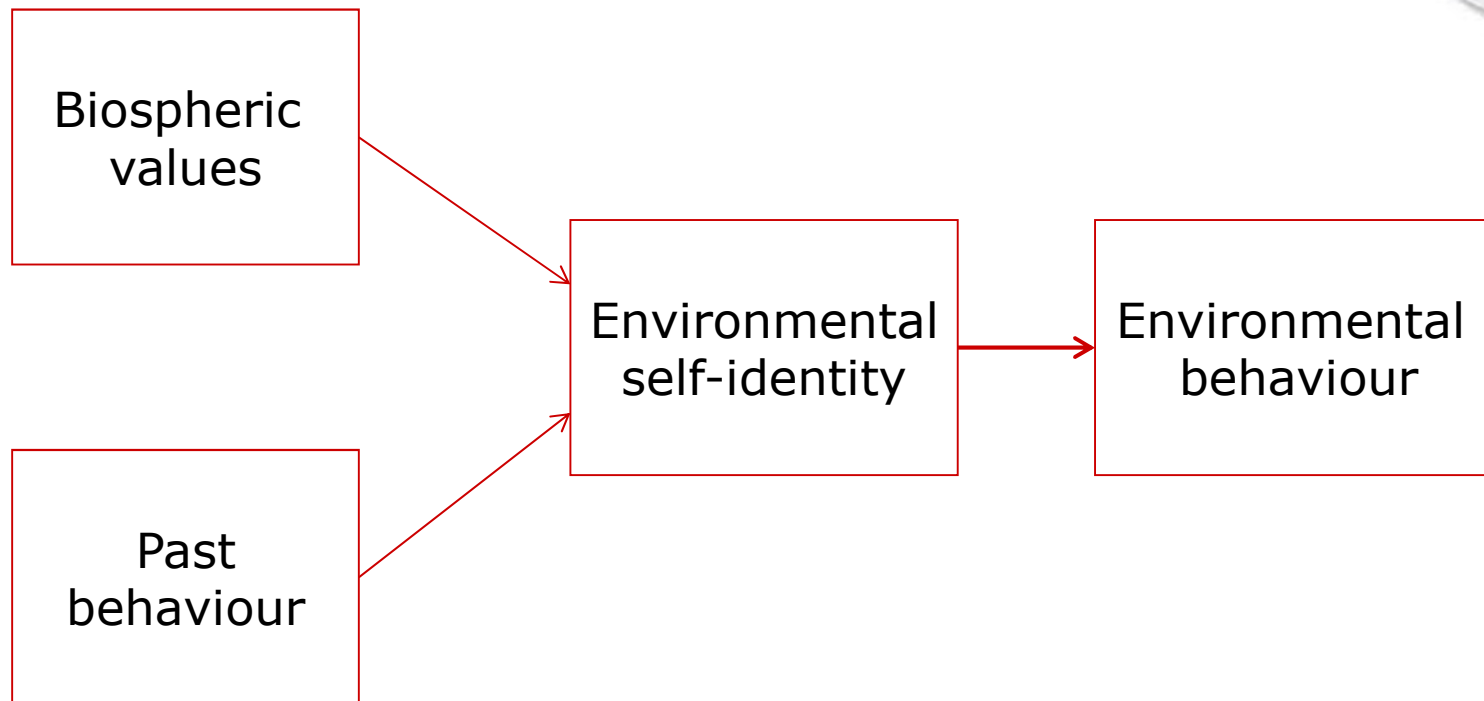
Values activate norms



- First need to be aware of the problem before thinking about one's own responsibility, and before feeling a moral obligation to do something about it
- Model explains evaluation and actual participation in smart energy systems



Values and Identity





Positive spill-over



- › Particularly, if the initial behaviour strongly signals your identity
 - Somewhat costly behaviour
 - Unique behaviour



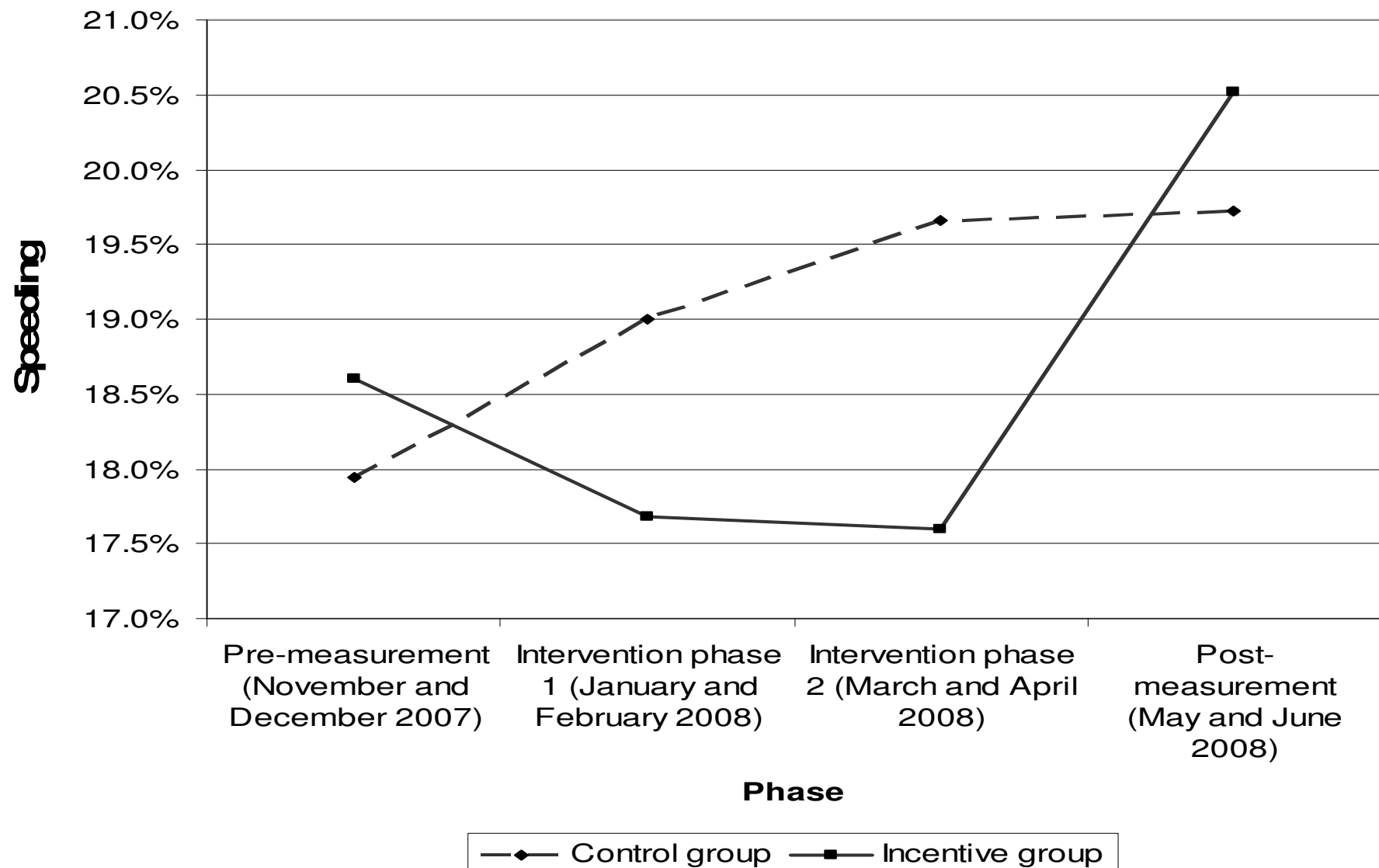
Value conflict

- › Pro-environmental actions are often costly, effortful or inconvenient
- › Reduce value conflict
 - Make pro-environmental actions beneficial or fun
 - Strengthen or activate biospheric values



Effects of PAYD

- › PAYD: discount on insurance fee when driving safe and environmentally sound
 - e.g., not speeding
- › Monitor driving behaviour via GPS before, during and after the trial
- › Experimental and control group





Environment

Do You Care About the Environment?

Take a coupon for a FREE
professional tire check!



Source: www.fueleconomy.gov

- Like balloons, your tires lose pressure over time.
- Improper tire pressure increases fuel consumption which *harms our environment*.
- Properly inflating tires cuts back vehicle emissions.

Participating stations:



Snappy Lube #23
1402 N. Main Street
Blacksburg, VA 24060

Snappy Lube #24
2405 Market Street
Christiansburg, VA 24073

Money

Do You Care About your Finances?

Take a coupon for a FREE
professional tire check!



Source: www.fueleconomy.gov

- Like balloons, your tires lose pressure over time.
- Improper tire pressure increases fuel consumption, which is expensive.
- Properly inflating cuts back fuel costs.

Participating stations:



Snappy Lube #23
1402 N. Main Street
Blacksburg, VA 24060

Snappy Lube #24
2405 Market Street
Christiansburg, VA 24073

Control

Take a coupon for a FREE
professional tire check!



Source: www.fueleconomy.gov

- Like balloons, your tires lose pressure over time.
- The average U.S. driver travels 12,000 miles yearly.
- Not everyone checks their tires regularly.

Participating stations:



Snappy Lube #23
1402 N. Main Street
Blacksburg, VA 24060

Snappy Lube #24
2405 Market Street



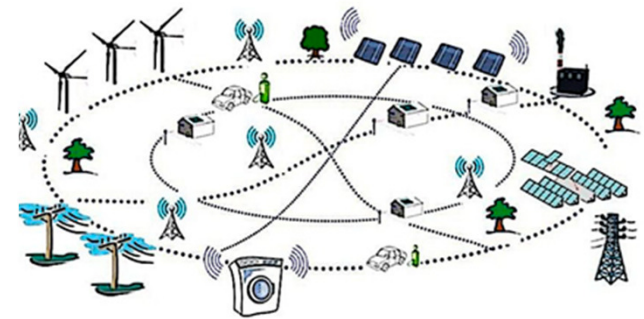
Money or environment

- › Financial feedback more meaningful than environmental (CO₂) feedback, but not more motivating
- › **Act upon environmental feedback** because it makes us feel good
 - Meaningful contribution.



Conclusions

- › Reduce conflict between biospheric values and other values
- › Strengthen or activate biospheric values
- › Target situational cues that activate and support biospheric values





Thank you!
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