



university of
groningen

faculty of behavioural
and social sciences

environmental psychology

12-Apr-18 | 1



Motives to engage in integrated energy systems

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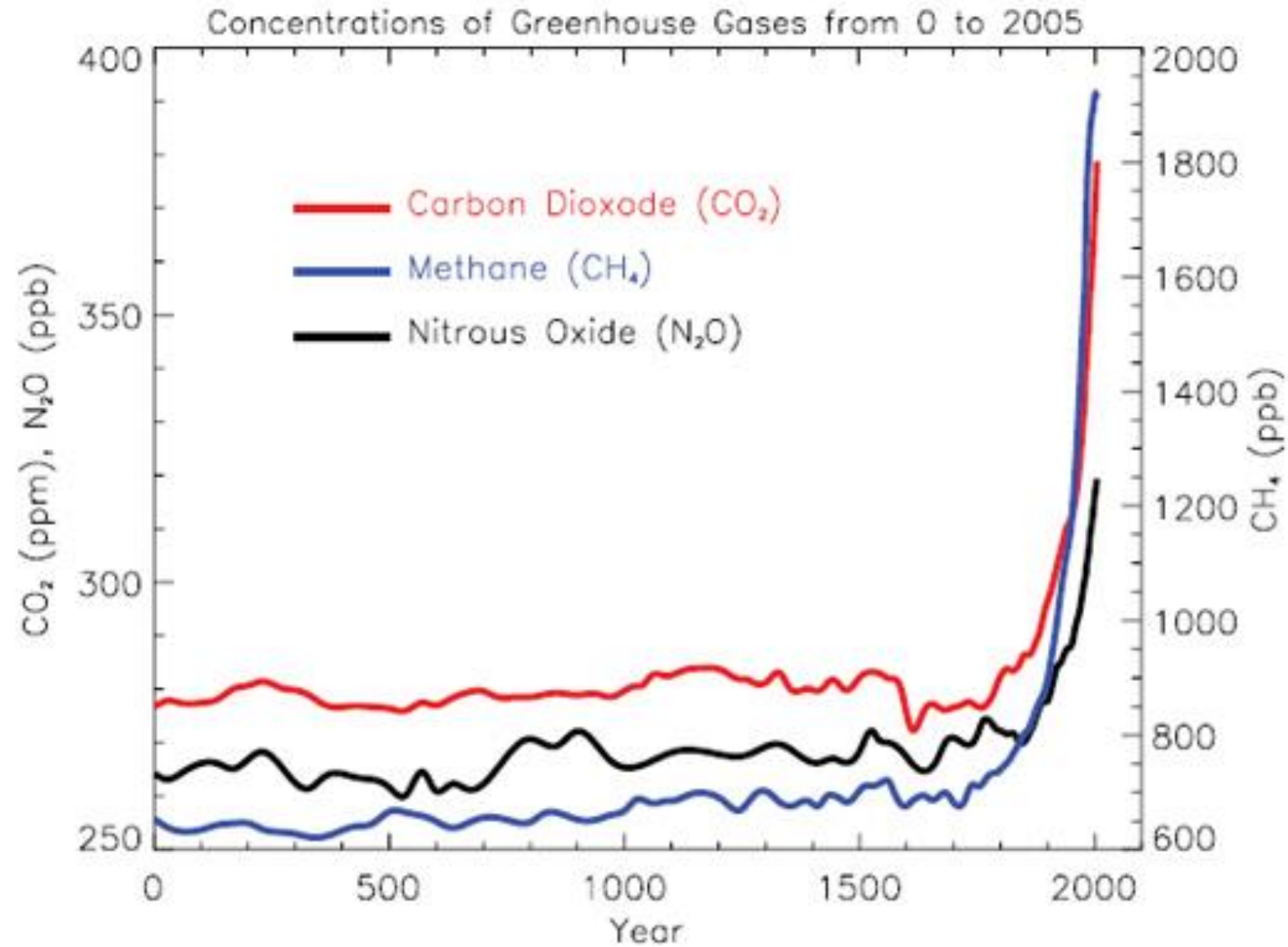
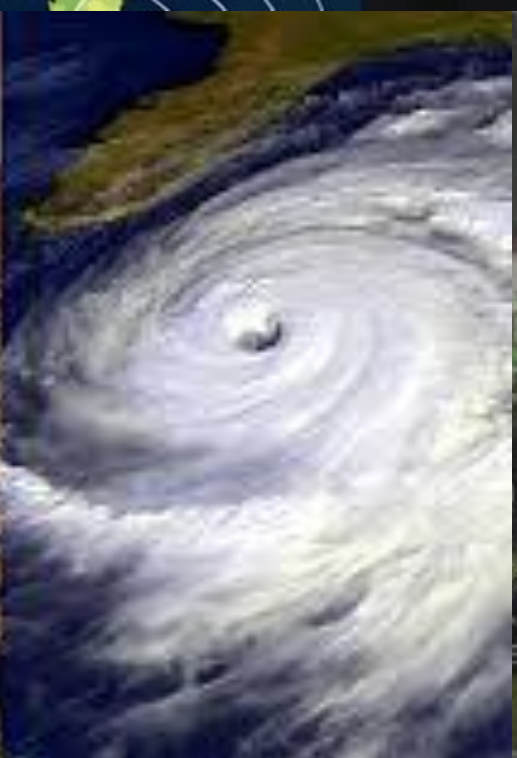
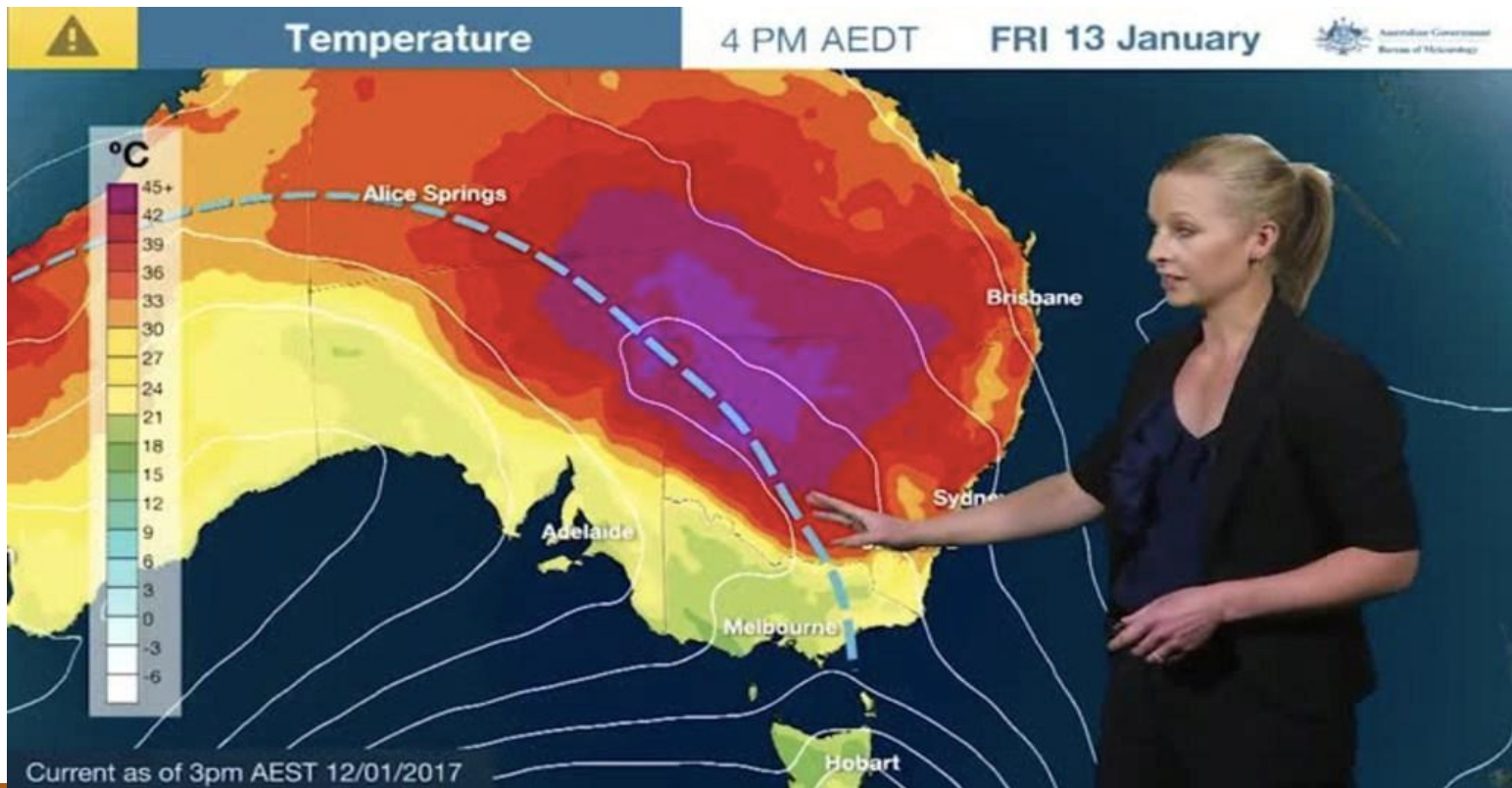


Figure 1. Atmospheric concentrations of important long-lived greenhouse gases over the last 2,000 years. Increases since about 1750 are attributed to human activities in the industrial era. Concentration units are parts per million (ppm) or parts per billion (ppb), indicating the number of molecules of the greenhouse gas per million or billion air molecules, respectively, in an atmospheric sample.



Energy studies need social science

A broader pool of expertise is needed to understand how human behaviour affects energy demand and the uptake of technologies, says **Benjamin K. Sovacool**.

To secure a safe, reliable and low-carbon energy future, we must alter both technologies and human behaviour¹. The US Department of Energy notes² that supply and demand is “affected as much by individual choice, preference, and behavior, as by technical performance”.

Yet many researchers and policy-makers continue to focus on only one side of the energy dilemma. In the United States, for every dollar in research funds spent on behavioural and demand-side energy research, \$35 is spent on energy supply and infrastructure³. Social sciences, humanities, and the arts are marginalized in energy research, and major statistical agencies do not usually collect qualitative data about energy consumption. Similar problems are apparent in Europe⁴.

My analysis of the peer-reviewed energy-research literature shows how biases handicap the field⁵. Engineers and economists are ignoring people and miscasting decision-making and action. Academic researchers

frequently obsess over technical fixes rather than ways to alter lifestyles and social norms⁶. Interdisciplinary research remains stymied by institutional barriers in academia and government⁷. National and local energy bodies have conventionally had few social scientists on staff⁸. And most leading journals in the field focus on one discipline.

Now the energy field needs to learn from health, agriculture and business, and bring together social and physical scientists. Universities should develop courses focused on solving energy problems, granting agencies should prioritize and direct more money to behavioural work, and energy journals should broaden their scope. Already, there are promising examples of how inclusive and interdisciplinary energy research can encourage energy efficiency, and so address global environmental challenges such as climate change⁹.

I examined the authorship and scope of 4,444 full-length articles over 15 years (1999 to 2013) in three leading energy technology

mental sociology, psychology and political-science journals that few energy researchers read.

SOCIAL OUTCASTS

Social-science authorship and citations are also relatively low (see ‘Publishing trends’). Science, engineering, economics and statistics account for more than half (67%) of institutional affiliations as reported by authors; non-economic social science for less than 20%. Sociology, geography, history, psychology, communication studies and philosophy each constituted less than 0.3% of author affiliations.

References to social-science and humanities journals, with their insights into how consumers and politicians behave, were less than 4.3% of 90,097 citations across the sample. Little research took place in the ‘real world’. Most studies are the result of work undertaken at the bench or desk using computer models and experiments, rather than field research, interviews and surveys.

Another trend is that the scientists and engineers writing in these journals rarely collaborate beyond their fields. About half of published authors in the sample wrote alone and one-quarter published with colleagues within their discipline. Less than 23% of articles involved interdisciplinary collaborations between authors.

Furthermore, the vast majority of authors hail from affluent Western institutions and countries where research money is abundant. They focus on problems facing the industrialized world. Of the 9,549 authors who listed their country of residence, 87%

European commission proposes new rules for consumer centred clean energy transition

Consumers are active and central players on future energy markets



Psychology and ESI

- › Behaviour changes needed:
 - renewable energy sources
 - energy efficient technology
 - monitoring/control technology
 - storage facilities
 - user behaviour
 - use less or adapt demand to supply
- › Acceptability of new energy systems and policies



Approaches to encourage sustainable actions

- › Information: if people would know, they would change their behaviour
- › Extrinsic motivation: make sustainable behaviour more attractive
- › Intrinsic motivation

10 Worst Environmental Issues Facing Our Planet

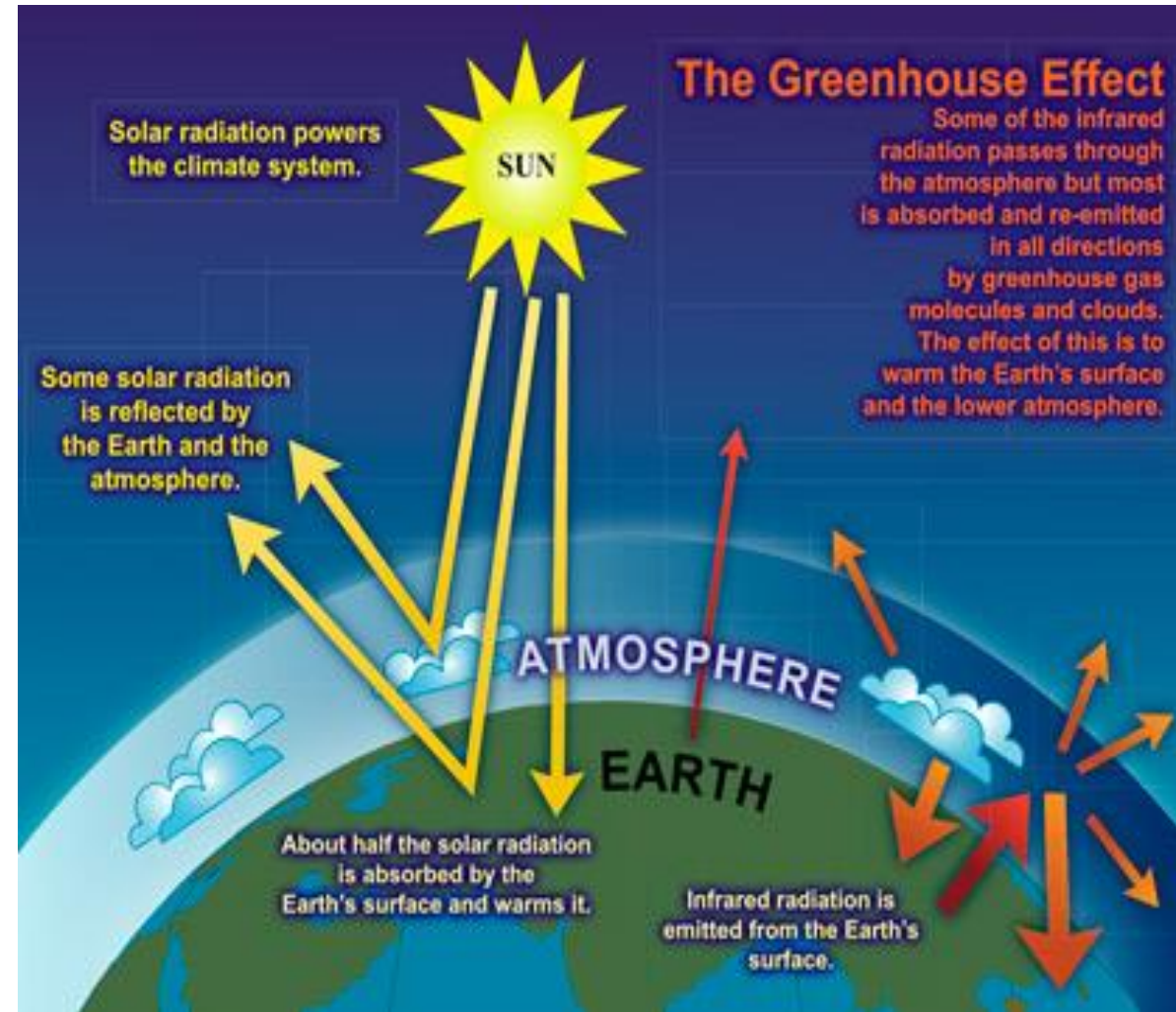


Where does the metal you recycle end up?

Recycle your cans, tins, foil and aerosols and make your metals matter!

You can recycle metal packaging in your red recycling bin along with lots of other things.

www.warwickdc.gmx.uk/recycling







Donald J. Trump 

@realDonaldTrump



In the East, it could be the COLDEST New Year's Eve on record. Perhaps we could use a little bit of that good old Global Warming that our Country, but not other countries, was going to pay TRILLIONS OF DOLLARS to protect against. Bundle up!

1:01 AM - Dec 29, 2017



137,515

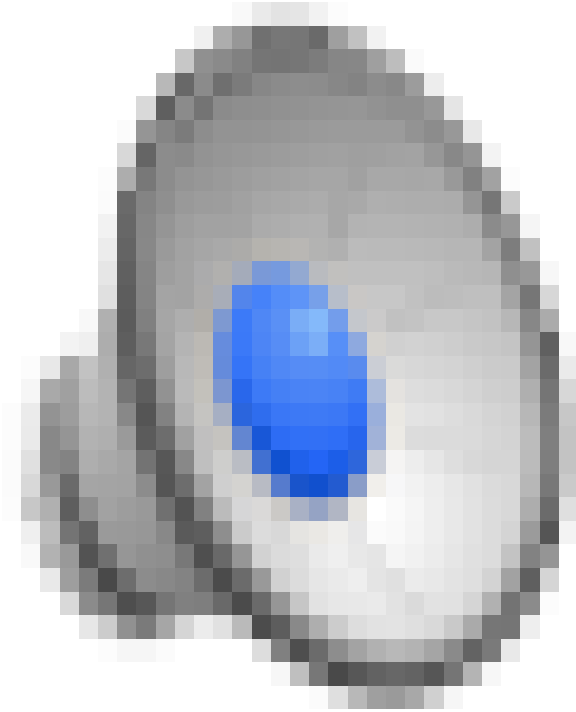


66,670



208,732





Values and persuasion



Values and persuasion



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.



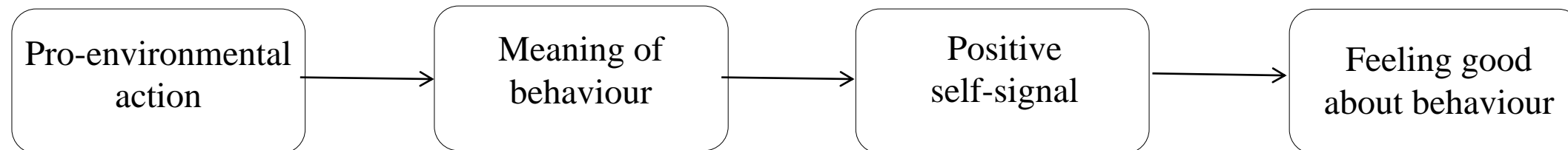
Participating stations:

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

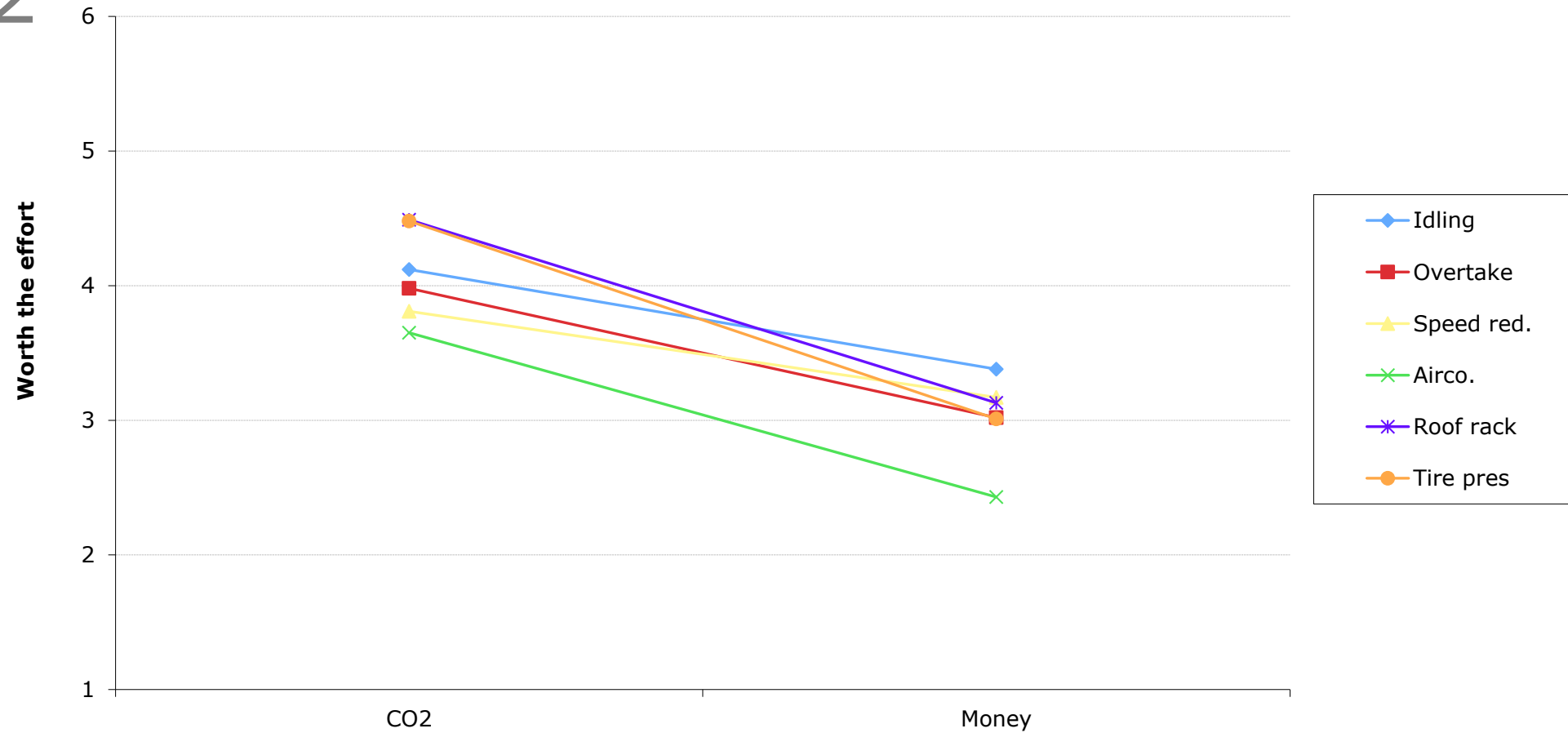
Snappy Lube #24
 2405 Market Street

Eudaimonia

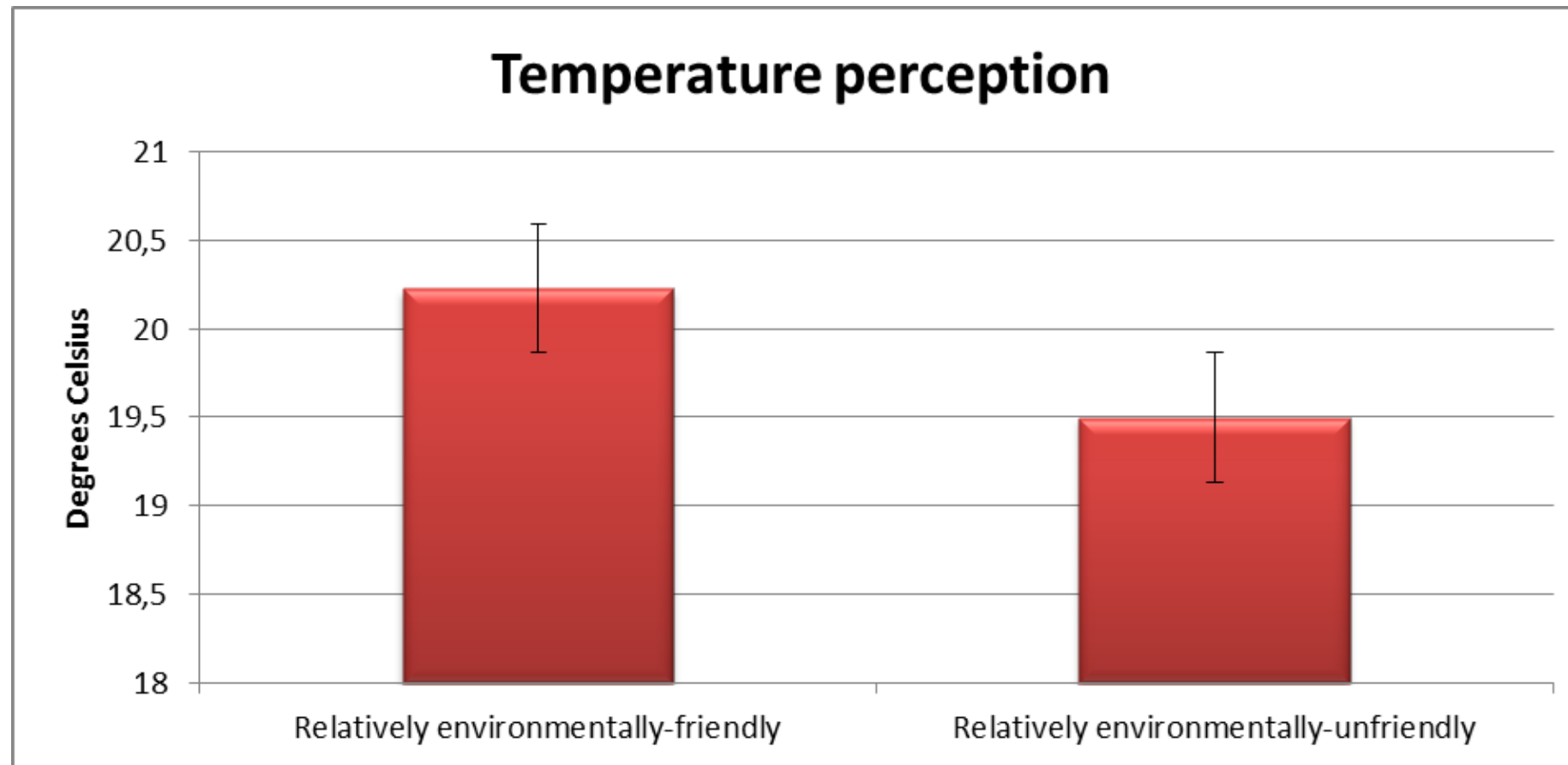
- > Acting sustainably feels good because it is meaningful
- > Positive self signal
- > Encourages sustainable energy behaviour



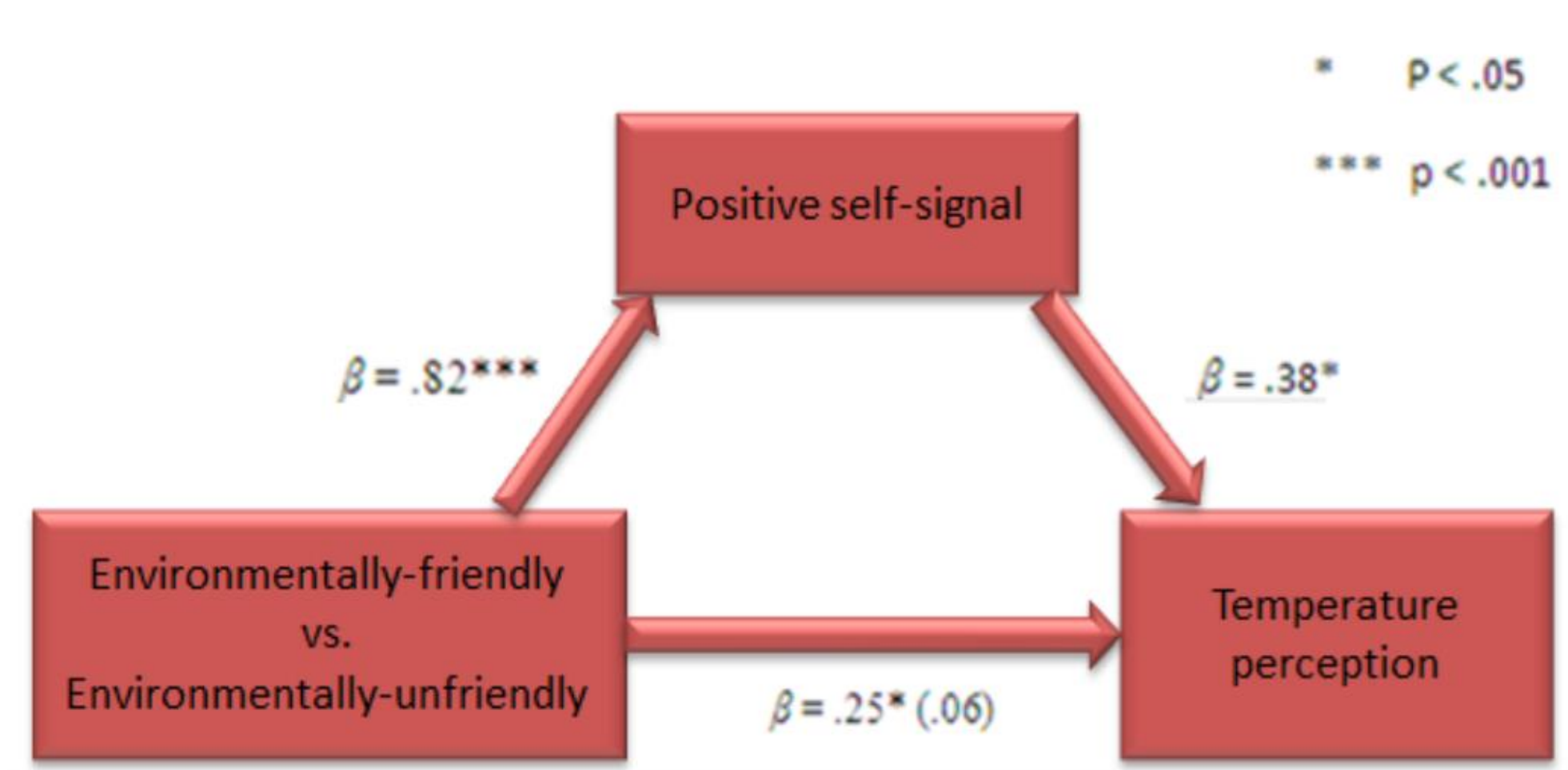
Worthiness savings € or CO₂



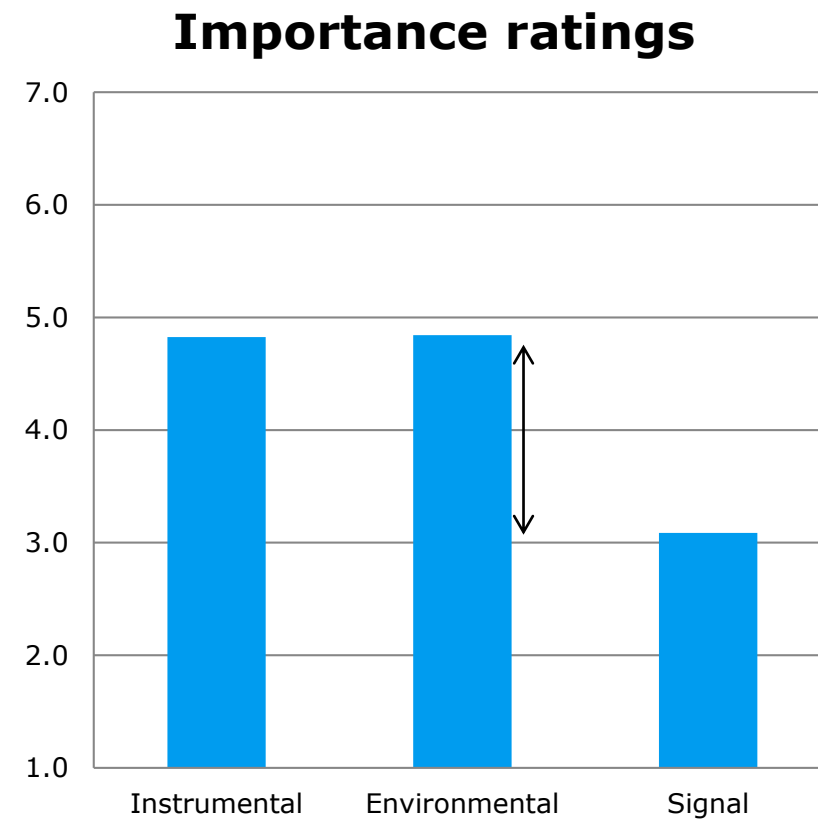
Warm glow



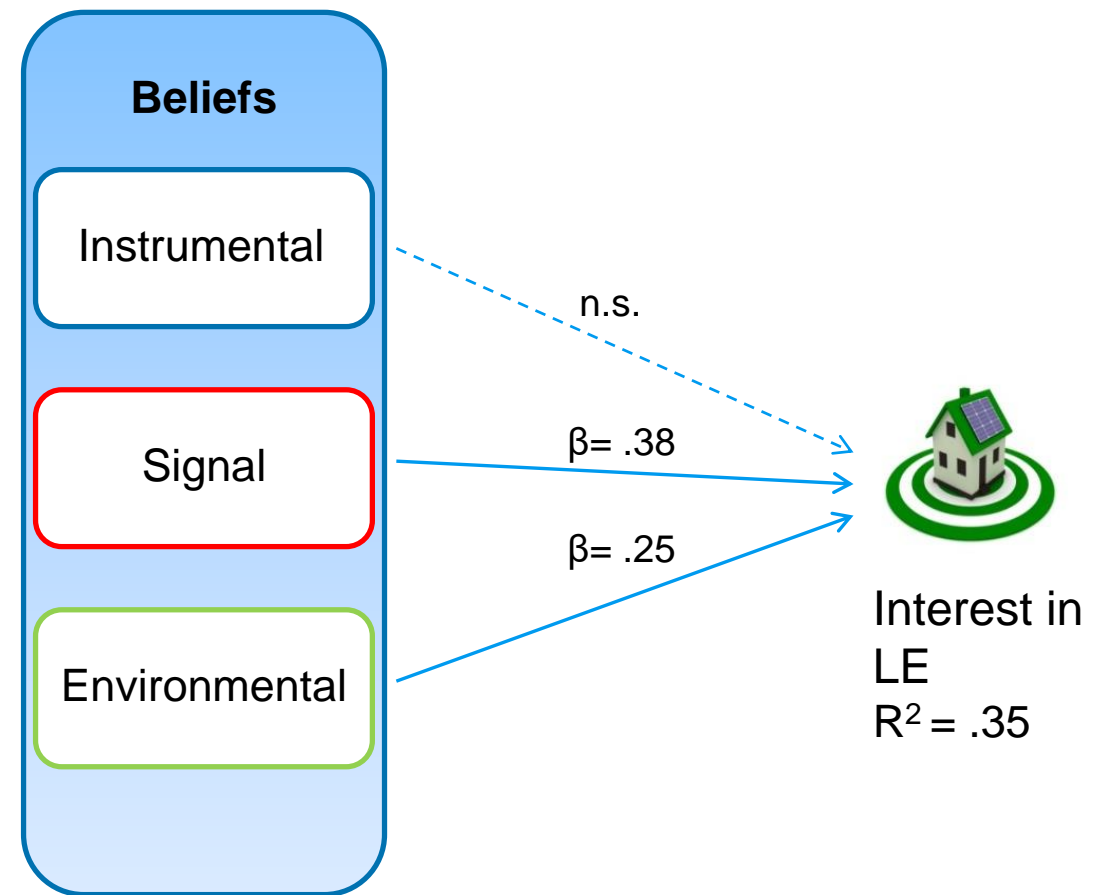
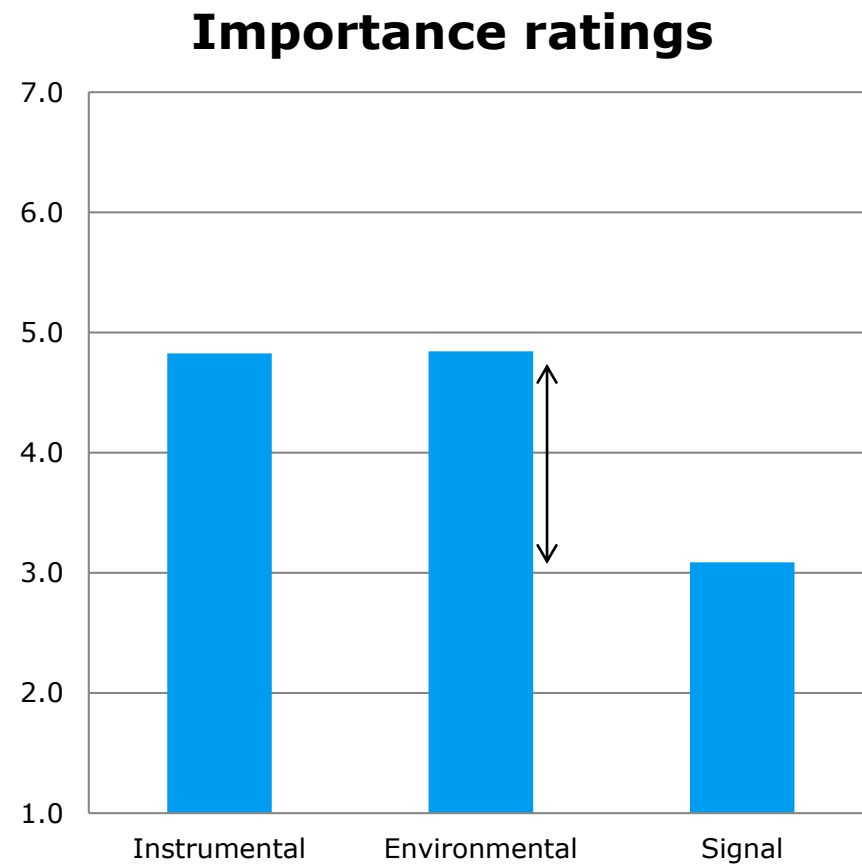
Positive self-signal



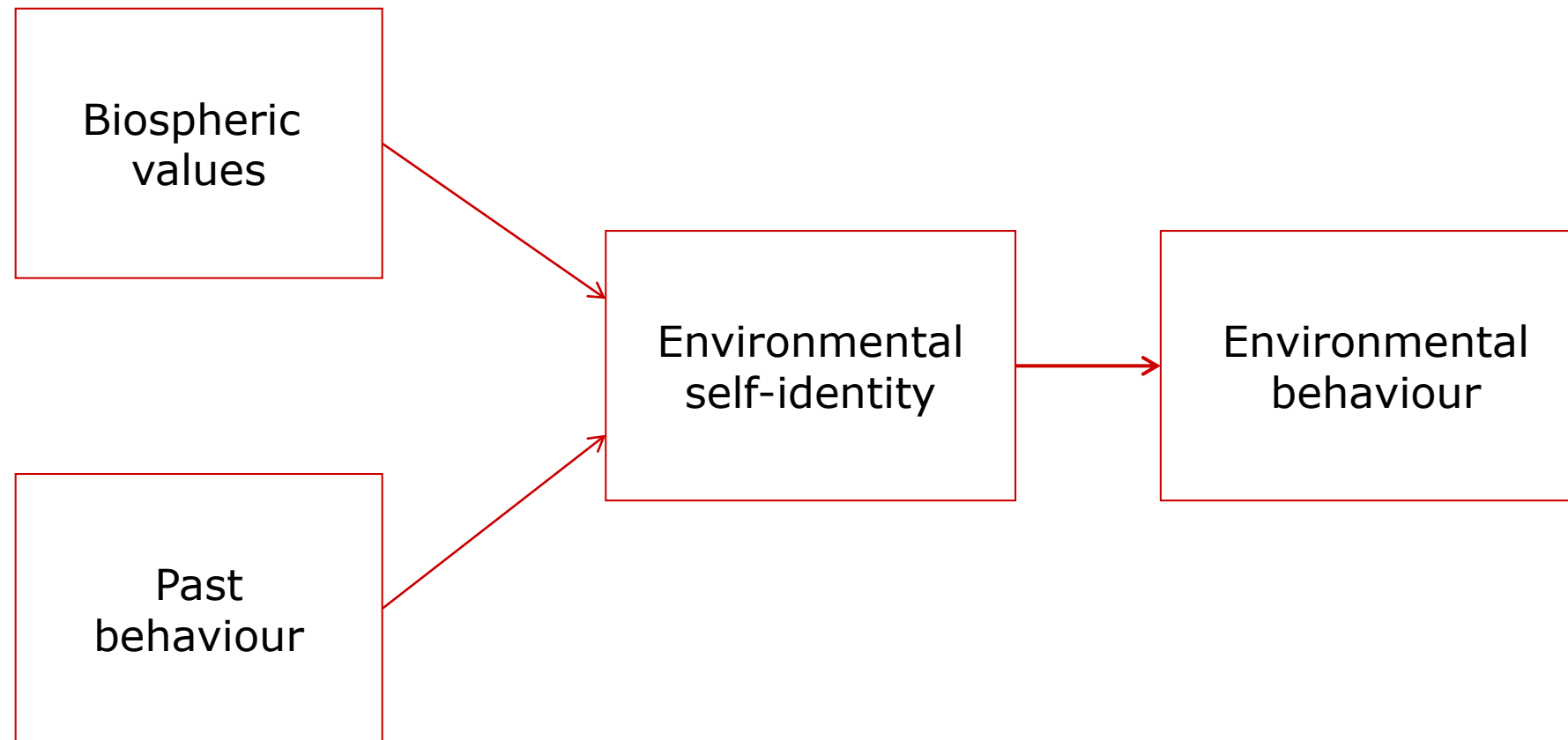
Symbolic value



Symbolic value



Environmental self-identity



Corporate Environmental Sustainability

More sustainable energy behaviour:

- > when employees strongly endorse biospheric values
- > when they believe their organisation is committed to CER
- > CER particularly encourages sustainable energy behaviour when employees do not strongly endorse biospheric values



Conclusions

- › Motivations play a key role in energy behaviours and effects energy policy
- › Intrinsic motivation is a solid base for consistent sustainable energy behaviour

Thank you!

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