



# It's Not Easy Being Green

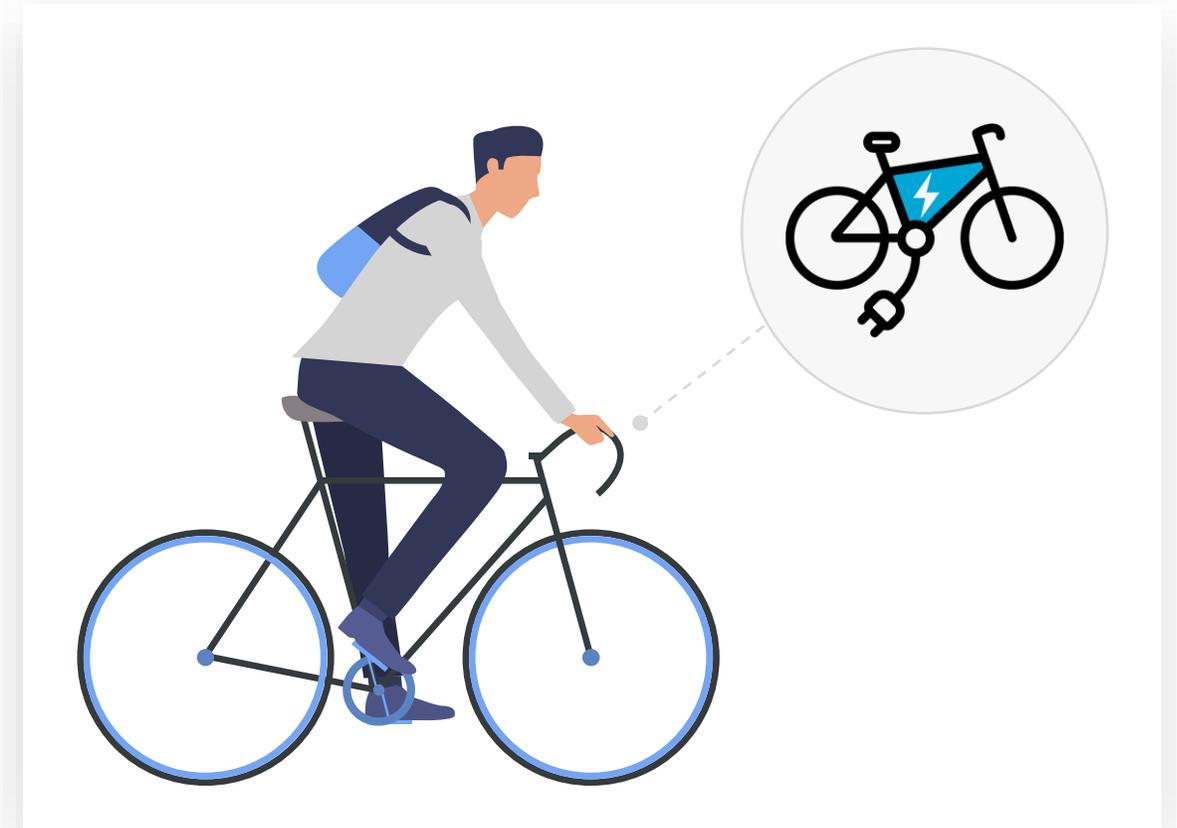
## Gerdien de Vries

Lunch Lecture Engineering and Policy Analysis TU Delft

9 October 2019



## Travel to campus the other way



**TOMORROW BY BIKE?**

# Participate or not?



Knowledge



Positive Attitude



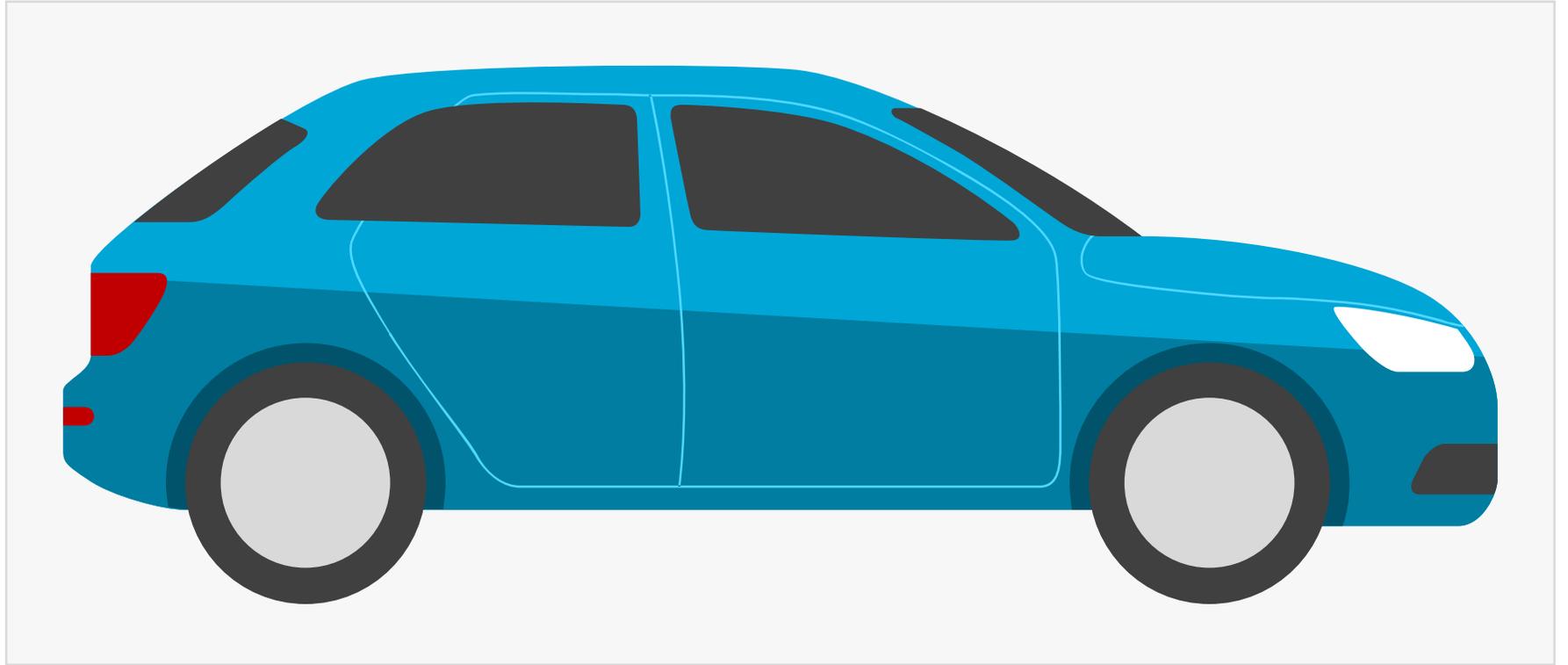
Behaviour!

HASSLE

+

HABIT

=



# COGNITIVE DISSONANCE...

(Festinger, 1957)

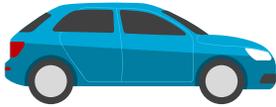
I am driving a car

But cars are bad for  
the environment!

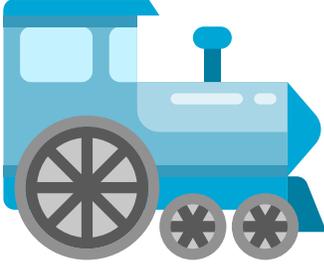




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In short....

# It's Not Easy Being Green



## Who am I?

- Assistant Professor Organization and Public Management  
Faculty of Technology, Policy, and Management  
Delft University of Technology
- Behavioural scientist
- Studying psychological mechanisms underlying complex, social behaviour
- Domains: climate change, (cyber)security, terrorism, humanitarian aid
- Designing (and testing) interventions that affect (choice) behaviour
- Car driver...

Why is being green important?

# Background



# Climate Change





# Goals of Environmental Policies

- Reduce carbon footprint
- Accept (new) energy technologies
- Adapt to climate change effects



Why is it hard to reduce, accept, and adapt?

# Barriers





# “Classic” barriers to green behaviour

## **Financial barriers**

- e.g., Solar panels are expensive to purchase

## **Technological barriers**

- e.g., Apartments lack a roof for solar panels

## **Institutional barriers**

- e.g., “Monument” homeowners may not place solar panels

## **Informational barriers**

- e.g., Homeowners do not know what solar panels suit them

# Lately, more attention to psychology...

- [EU report “Behavioural Insights applied to policy” \(2016\)](#)
- [WRR report “Met kennis van gedrag beleid maken” \(2014\)](#)
- The book “Nudge” (Sunstein & Thaler)
- Development of governmental Behavioural Insights Teams (“BIT or Nudge Teams”)
- Behavioural Public Administration (scientific field)



# Many Psychological Barriers

*...help explain why a person agrees that climate change and environmental sustainability are important problems, yet does not take enough action to effectively deal with those problems*

Robert Gifford, *Dragons of inaction* (2011)



# Irrational?

## **Economy:**

- “Humans are irrational!”

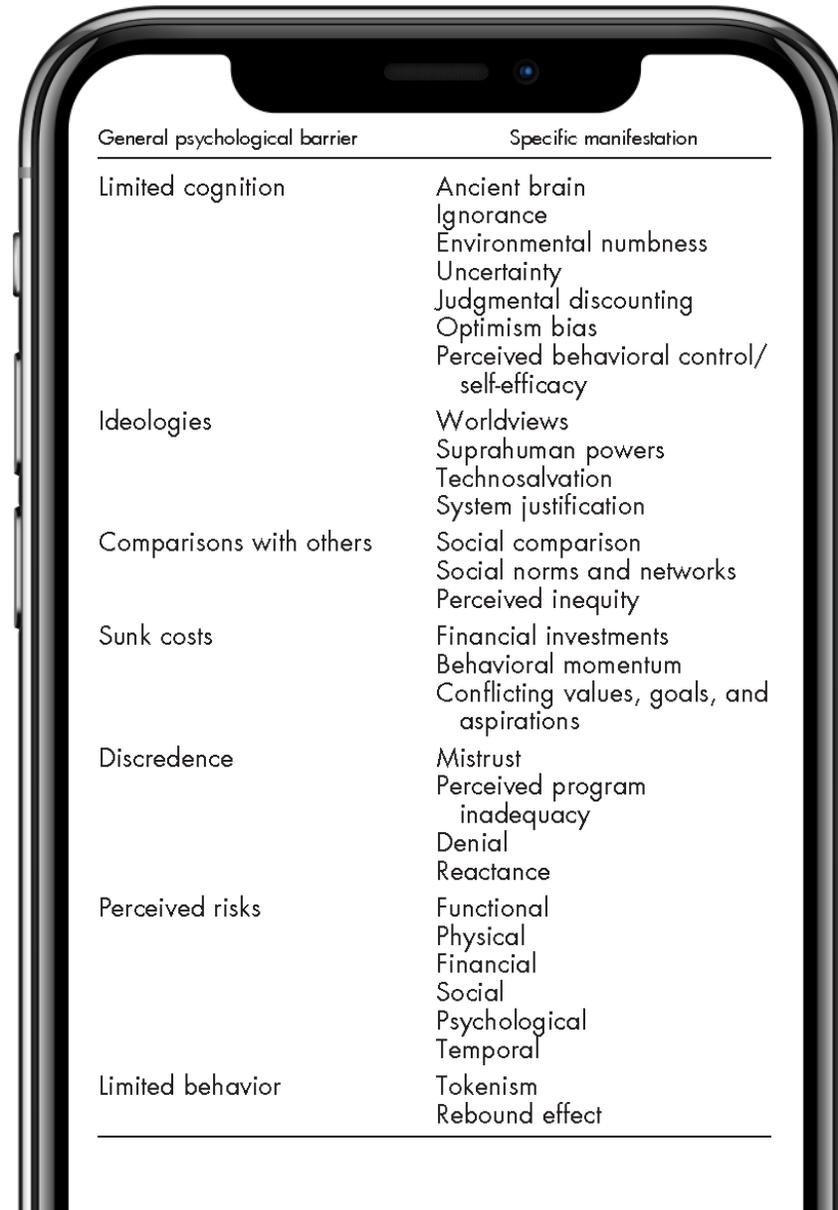
## **Psychology:**

- “Humans are functional!”

## **Public Administration:**

- “Humans have a bounded rationality!”

# Dragons Of Inaction



General psychological barrier	Specific manifestation
Limited cognition	Ancient brain Ignorance Environmental numbness Uncertainty Judgmental discounting Optimism bias Perceived behavioral control/ self-efficacy
Ideologies	Worldviews Suprahuman powers Technosalvation System justification
Comparisons with others	Social comparison Social norms and networks Perceived inequity
Sunk costs	Financial investments Behavioral momentum Conflicting values, goals, and aspirations
Discredence	Mistrust Perceived program inadequacy Denial Reactance
Perceived risks	Functional Physical Financial Social Psychological Temporal
Limited behavior	Tokenism Rebound effect

Source: <https://www.dragonsofinaction.com/>



In short....

# Psychological Barriers Hinder Climate Action

Studying green behaviour

# Research



## Societal relevance

*Understanding human decision-making can provide insights on how to design more effective policies on sustainable consumption and production*

UN Environment, 2017

**Ultimate goal:**  
Mitigate (impact) of climate change



## Scientific Relevance

- Psychologists have expertise on human brain, reflexes, cognition, emotions, perceptions, expectations, personality, values etc)
- Psychologists have a specific tool box of research instruments (largely quantitative, surveys, experiments)
- Psychologists are well-trained in statistical analyses



## What do we investigate then?

- Reduction of carbon footprint
- Acceptance of energy/sustainable technologies and policies
- Adaptation to climate change effects

**Research level:  
BSc, MSc, PhD and up**



## Research Projects: Reduce

- The hassle factor as a psychological barrier to a green home
- Schools as energy-hubs in neighbourhoods
- Role of knowledge in reducing vampire power
- Investigating the purchase of ugly foods
- Factors in renting sustainable student housing
- Identity framing effects on sustainability
- Design tricks for green framing
- Separating garbage in work and public spaces
- Sustainable buildings and construction in Suriname
- Sustainable renovations at schools

# Schools As Energyhubs





## Research Projects: Accept

- Facts or feelings? Communication about high-voltage power lines
- Pitfalls in communication about CO2 capture/transport/storage
- Public acceptability of hydrogen fuel stations
- Studying geothermal energy in Indonesia
- Acceptance of sustainable technologies at the work floor
- Adoption of electric bicycles for daily commute
- Public support for Tradable Peak Credits to reduce congestion



Over Baptiste Oil & Gas

Technologie

**CO2 Opslag**

Innovatie

Media

Vacatures

Producten & Diensten



BO&G investeert in de ontwikkeling van CO2 afvang- en opslagtechnologie omdat dit past in ons beleid van maatschappelijk verantwoord ondernemen. Als we nu namelijk niet investeren in deze technologie, dan zal de hoeveelheid CO2 in de atmosfeer blijven toenemen, waardoor de gemiddelde temperatuur op aarde steeds hoger wordt. Dit heeft allerlei negatieve gevolgen voor mens en natuur, zoals verstoring van huidige ecosystemen, sterfte van sommige plant- en diersoorten, en stijging van de zeespiegel met alle gevolgen van dien. Door het op grote schaal in zetten van CO2 afvang- en opslagtechnologie komt er veel minder CO2 in de lucht, waardoor deze milieuproblemen voorkomen kunnen worden.

Kortom, wij investeren in de ontwikkeling van CO2 afvang- en opslagtechnologie vanwege het milieu (maatschappelijk verantwoord ondernemen).





## Research Projects: Adapt

- Reducing the hassle-factor in green home investments
- Not in my backyard: Bridging the intention-behavior gap of greening domestic gardens with science-based nudges



**Doe mee met de andere buurtbewoners om het Noorderkwartier groener te maken**

Win een groene tuin.  
Stuur voor **dinsdag 19 juni 12:00** via de website [gagoed.nl](https://gagoed.nl) een foto van uw huidige tuin en deel je motivatie om de rest van de buurt te inspireren. Kijk op de site voor meer informatie.



**Doe mee en vergroen je tuin. Op deze manier maak jij Leiden groener & gezonder.**

Win een groene tuin.  
Stuur voor **dinsdag 19 juni 12:00** via de website [gagoed.nl](https://gagoed.nl) een foto van uw huidige tuin en deel je motivatie om de rest van de buurt te inspireren. Kijk op de site voor meer informatie.



**Doe mee met de tuinen wedstrijd en maak kans op een tuin metamorphose**

Win een groene tuin.  
Stuur voor **dinsdag 19 juni 12:00** via de website [gagoed.nl](https://gagoed.nl) een foto van uw huidige tuin en deel je motivatie om de rest van de buurt te inspireren. Kijk op de site voor meer informatie.



Can behavioural insights enhance success of environmental policies?

# Recommendations



# Policy Formation

**Behaviourally-  
aligned**

*(hindsight)*

**Behaviourally-  
informed**

*(theoretical)*

**Behaviourally-  
tested**

*(assessed)*

EU report “Behavioral Insights 2016”



## Policy Implementation

- Subsidies (subsidies are difficult to apply, ease it up)
- Education (simple, relevant, balanced message, social norms)
- Facilitation (remove hassle-factor)

**All benefit from behavioural insights!**

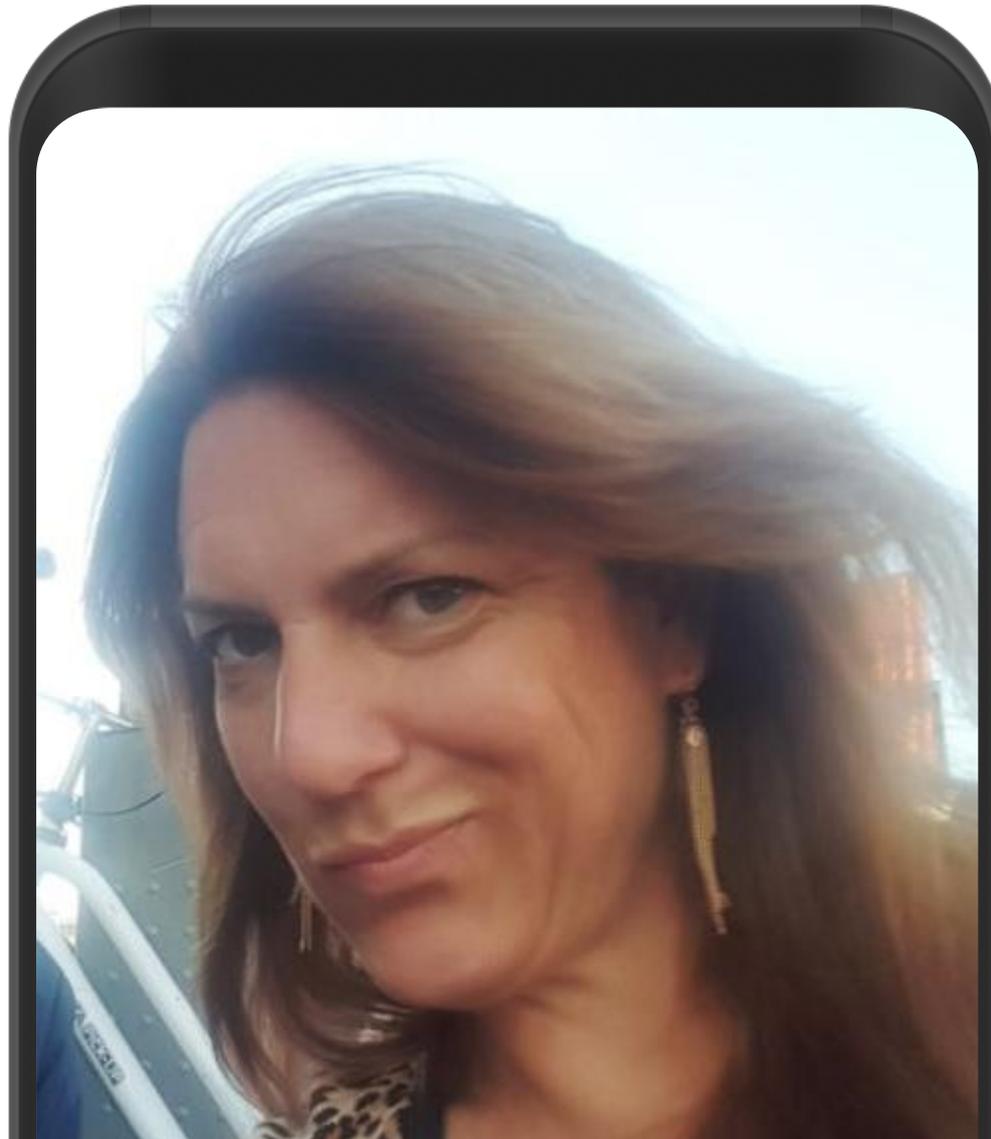
## Whatever you do: Give a clear, simple action perspective!

**Not** : *“Reduce! Accept! Adapt!”*

**But** : *“Turn of your lights when you leave”*

*“Read this simple brochure about the pros and cons of wind energy”*

*“Remove one paving stone from your garden and replace it by a plant”*



# Questions? Ask them now...

## or later...



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Gerdien de Vries, PhD



Gerdien de Vries



<https://www.tudelft.nl/en/socialinnovation>

Just to be sure...

# Extra Slides

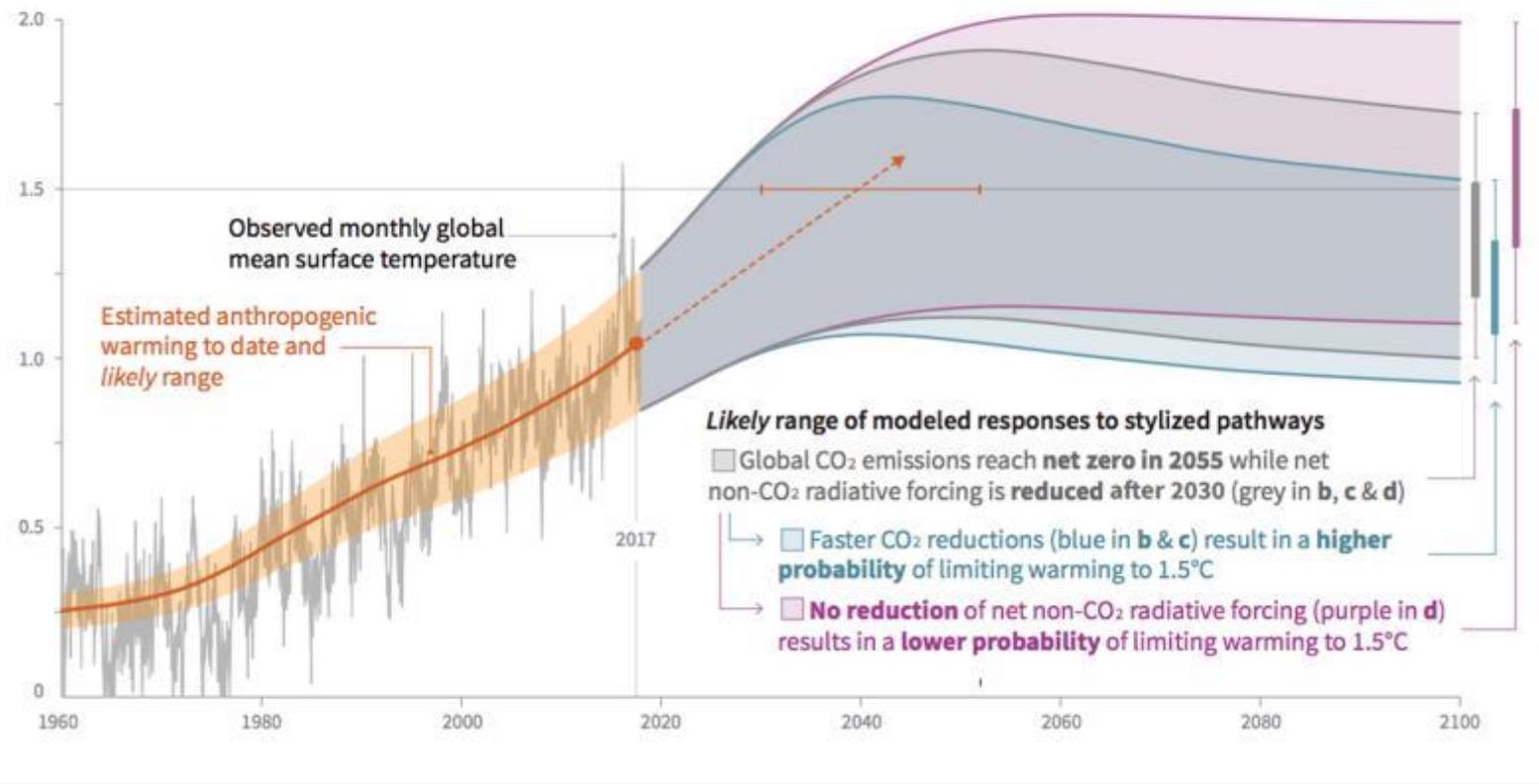




## Ethical Research Questions

- Are behavioural interventions perceived as manipulation or facilitation?
- What is the role of the “intervener” (e.g., Shell, Greenpeace or national government)
- Should interventions be transparent or are they less effective then?
- Should there always be an opt-out?
- What is well-being? Who decides about that?

Global warming relative to 1850-1900 (°C)



# False Balance

