

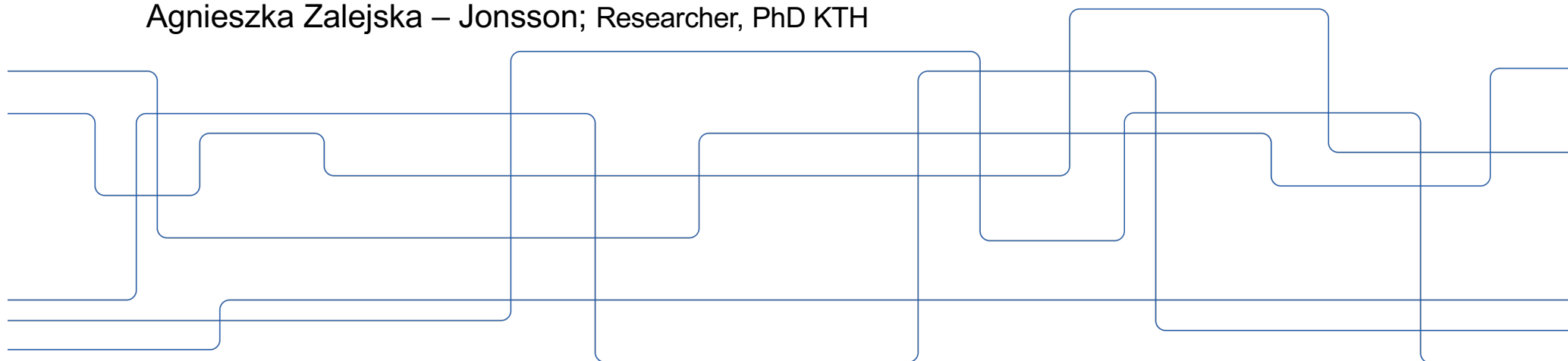


KTH live-in-Lab
Buildings and user behaviour

Consumer and occupant pro-environmental choice and behaviour

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Human needs, human role

- Total energy consumption is growing faster than global population (2.75% compared to 1.4%), (Allouhi et al, 2015)
- Predication of world energy consumption to grow even 56% from 2010 to 2040 with, (Sieminski, 2013)
- Green building
- Technological solutions and building progression
 - Sensors
 - IoT
 - ML
 - AI
- Resource optimisation
- The occupant (human) role



Human behaviour and environmental (in)action

Limited cognition	Perceived risk	Ideologies	Comparison	Sunk costs	Limited behaviour
<ul style="list-style-type: none">• Ancient brain• Ignorance• Environmental numbness• Uncertainty• Judgemental discounting• Optimism bias• Perceived behavioural control	<ul style="list-style-type: none">• Functional risk• Physical risk• Financial risk• Social risk• Psychological risk• Temporal risk	<ul style="list-style-type: none">• Worldviews• Suprahuman• Techno-salvation• System justification	<ul style="list-style-type: none">• Social comparison• Social norms and networks• Perceived inequity	<ul style="list-style-type: none">• Financial investment• Behavioural momentum• Conflicting values	<ul style="list-style-type: none">• Rebound• Tokenism
					Discredence
					<ul style="list-style-type: none">• Mistrust• Program inadequacy• Denial

(Gifford, 2011)



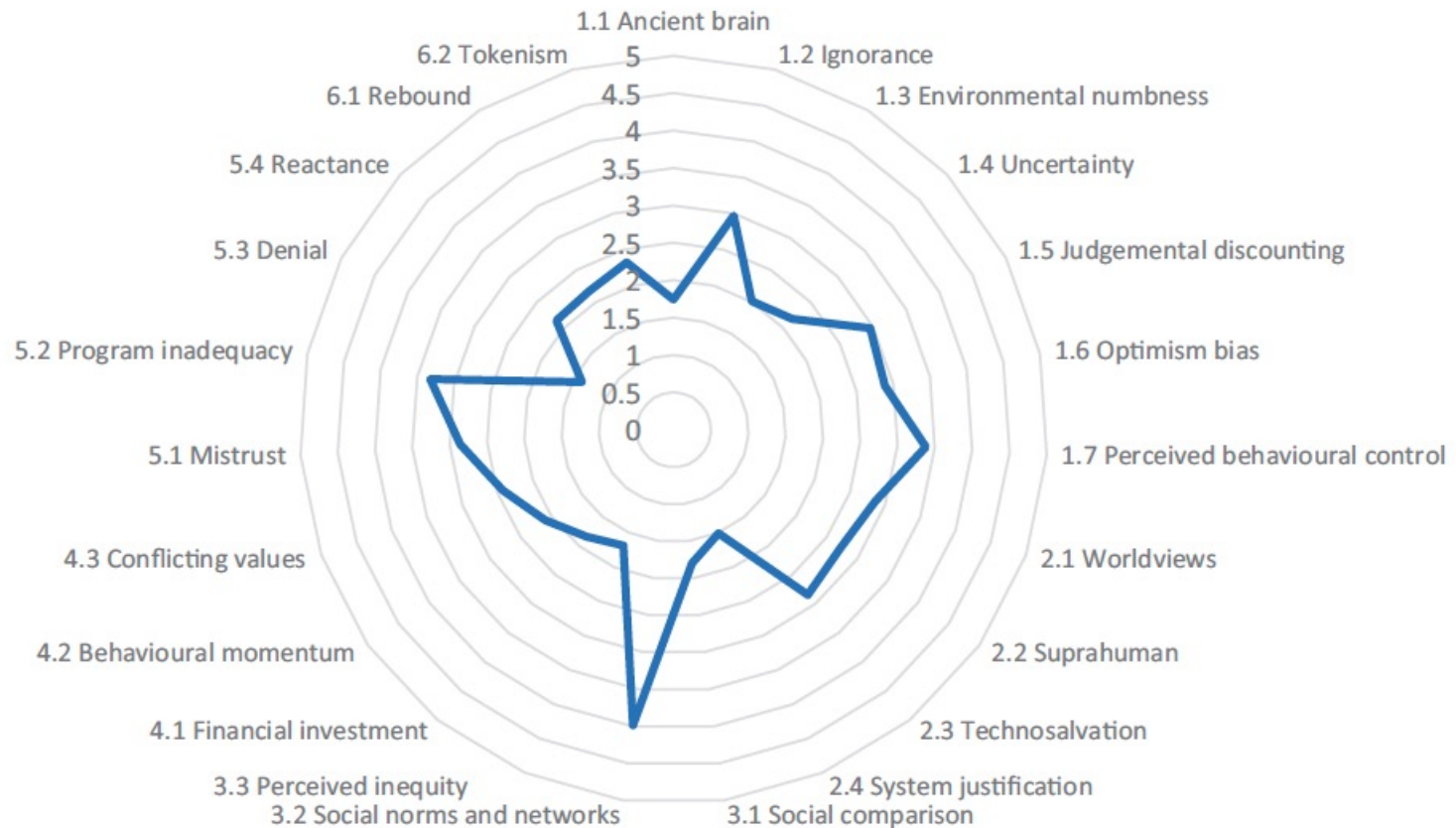
a + House



- **Best Property Innovation and Sustainability Award 2018**
- Ground source heat pumps connected to 12 boreholes with a total length of 3600m
- 1150 sqm of photovoltaic panels on the roof
- 64 wastewater heat exchangers installed both vertical and horizontal
- Supply and return air can be adjusted in all apartments
- Hot water, electricity, CO2 and temperature are measured in all apartments



Did students pass the test?



Wilkinson, S. and Zalejska Jonsson, A. (2021), "Student accommodation, environmental behaviour and lessons for property managers", *Property Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/PM-09-2020-0055>



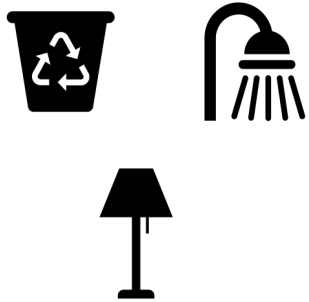
Lessons learned

- Ignorance
 - need for more knowledge
 - insufficient (not fast enough) feedback on consequences
 - difficult to comprehend and to visualise
- Optimism bias & judgemental discounting
 - people under estimate the effects of climate change in respect of spatial and time distances
- Perceived behavioural control & Perceived program inadequacy
 - Internal responsibility versus external responsibility (blame)
 - Justification of not acting
- Social norms and networks
 - Fitting the norm

- Relevant knowledge
- Increasing knowledge and individual responsibility
- Engaging tenants in social exchange



The next chapter



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