ENERGY EFFICIENCY, SENIOR CITIZENS AND SOLAR PANELS

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Switch your thinking, WA

Switched on Homes

FAST FACTS

- This talk examines a sub-group of 127 senior citizens that participated in the larger Switched on Homes trial

- We examine the effects of two experimental treatments
  - SMS behaviour change tips
  - SMS behaviour change tips containing feedback with a voltage optimisation unit

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FAST FACTS

- All households received the same SMS tip at the same time
- Voltage optimisation reduces variable voltage to constant 222V
- We compared household electricity consumption in 2015 to 2014
- Experimental treatments were in-situ all 2015

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PARTICIPANTS

Our sample

- Seniors
- Below average electricity users
- Volunteers for a “trial”

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COMMONALITY

- Age (+65)
- Income (<$52k)
- Geographic location
- Climate
- Housing type (free standing house or unit)
- Building materials
- Appliance mix

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WHAT WAS DIFFERENT?

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RESULTS

- We looked percentage change in each household's electricity consumption over one year
- Initially we couldn't see differences between treatments
- When we split households based on presence/absence of solar-PV we started seeing differences

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RESULTS

- We predicted behaviour change tips would reduce electricity consumption…
- But only if they were enacted…
- And enacting a great number of tips would result in a bigger reduction in electricity consumption

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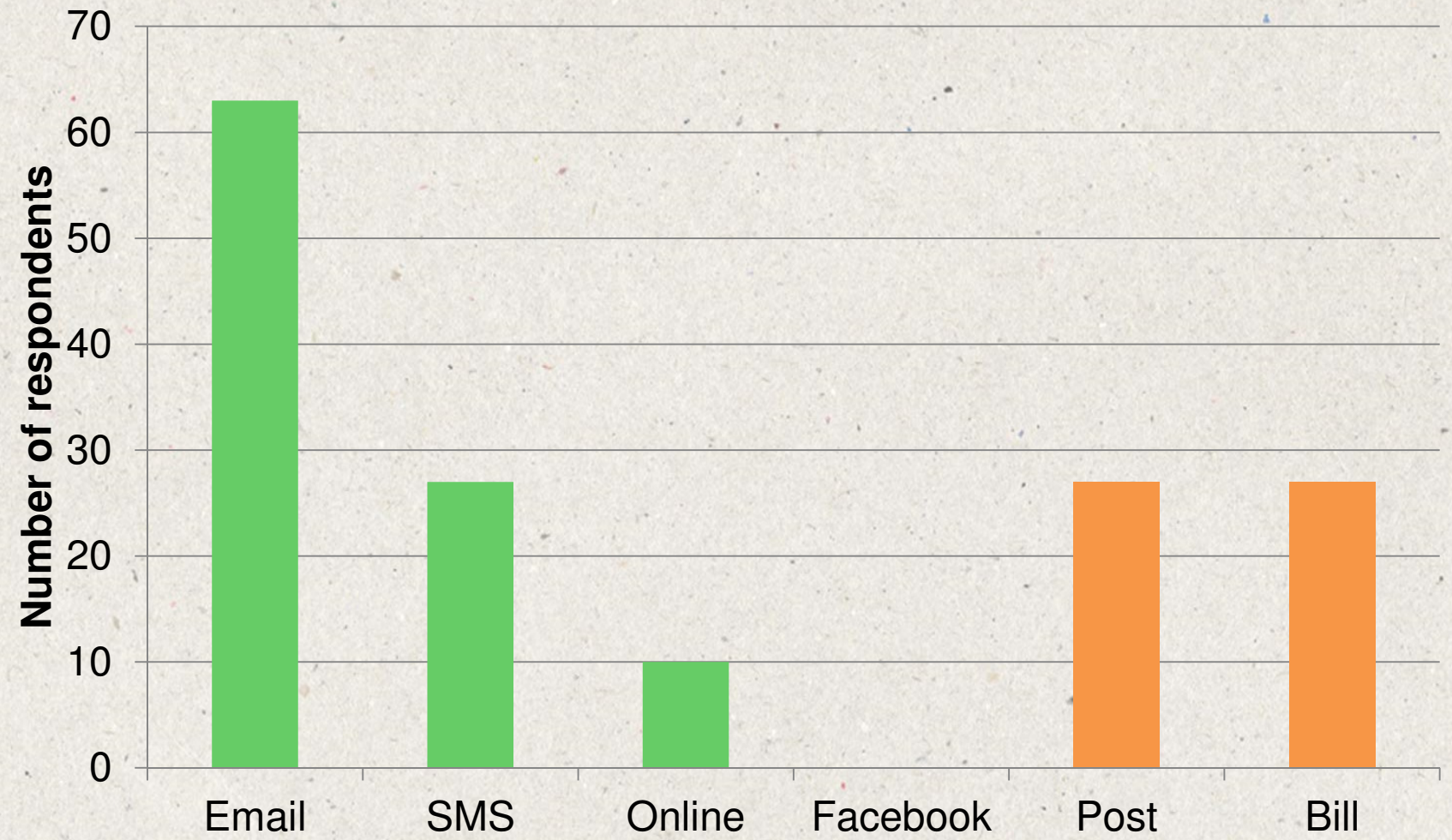
DID THEY WANT SMS TIPS?



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DID THEY USE SMS TIPS?

	Number of tips enacted				
	0 (none)	1-10	11-20	21-40	52 (all)
No solar-PV	8%	19%	27%	8%	31%
Solar PV	0%	22%	0%	33%	11%

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BUT WHY?

We suggest a moral licensing effect

- Hybrid cars are more likely to run ignore pedestrian crossings
- Could solar-PV be the same? Have these people decided they're already helping the environment and removed expectations from themselves to do more?
- Does this apply to any first piece of tech, or is it specific to solar-PV?

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SMS + TECHNOLOGY

Can we change the result with another piece of technology?

	Number of SMS enacted				
	0 (none)	1-10	11-20	21-40	52 (all)
No solar-PV	10%	25%	35%	15%	10%
Solar PV	12%	20%	12%	20%	28%

The results suggest that technology may first be used to increase comfort and amenity, then to save electricity

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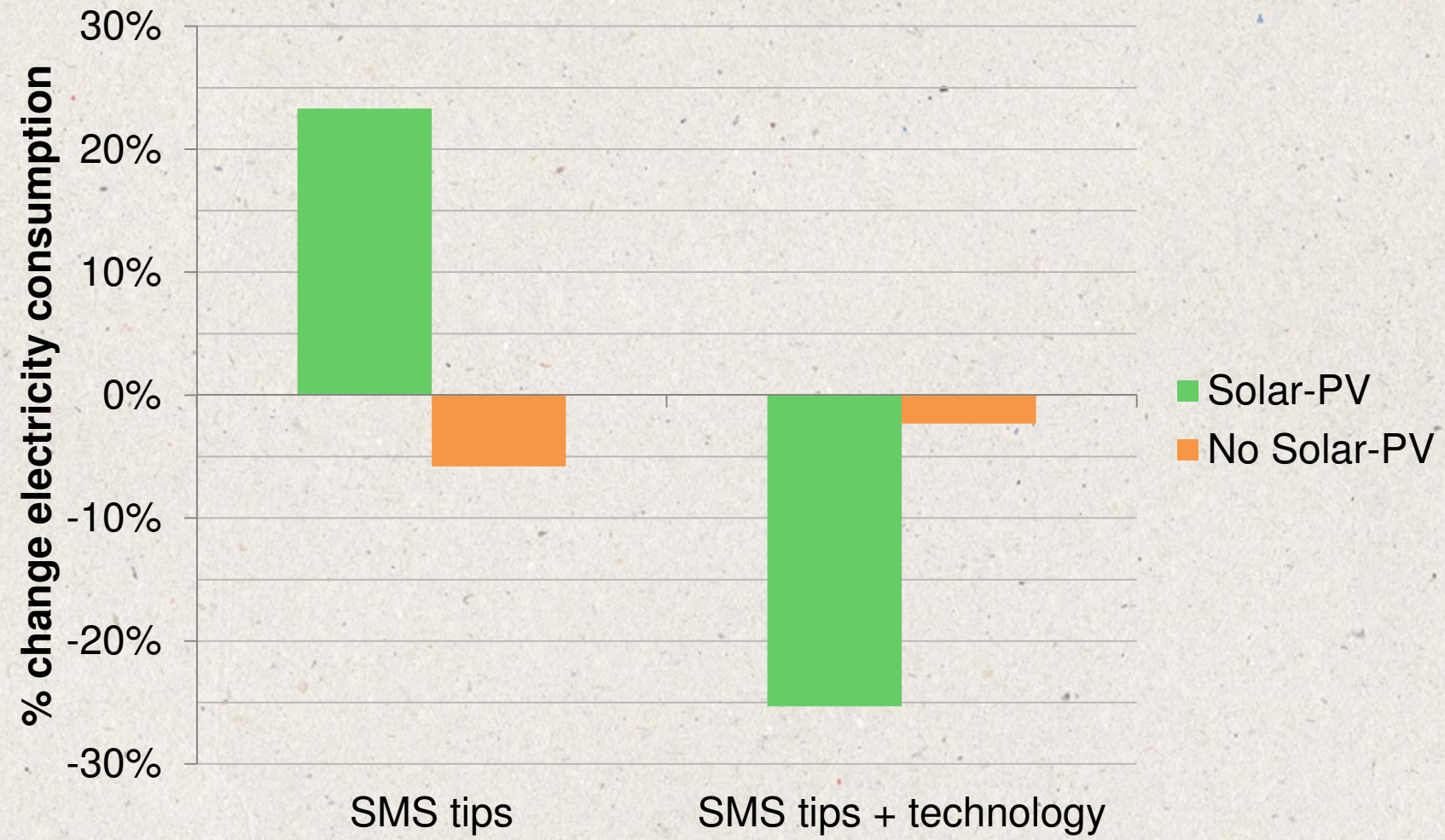
ELECTRICITY CONSUMPTION



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WHAT HAPPENED?

- For households with solar-PV it seems that technology re-engages them

- For households without solar-PV it seems they overestimate the role technology might play and rely on it, abandoning behaviour change

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WHAT WAS THIS TECH?

- No display
- No interaction
- Low market penetration (low expectations and no prior experience)
- No evidence that it would affect the productivity of solar-PV

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WHAT NEXT?

- Roll out small scale trials before providing big incentives
  - Do you want to increase comfort and amenity (no solar-PV)
  - Reduce electricity consumption (solar-PV)

- Message differently – adjust for moral licencing and overestimation of technology

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