

Curbing Emissions: Framing and Normative Messages Influence CO₂ Abatement Policy Preferences

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Anthropogenic Global Warming

- The average temperature of the Earth has been increasing since the Industrial Revolution
- The scientific consensus is that human greenhouse gas (GHG) emissions are the principal cause (Anderegg et al., 2010; Cook et al., 2013)
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Psychological barriers to reducing GHG emissions

- Loss aversion:
 - losses associated with reducing emissions loom larger than the respective gains (Kahneman & Tversky, 1979)
- Status quo bias:
 - loss aversion triggers a preference to remain at the status quo (Samuelson & Zeckhauser, 1988)
- Inflated estimation of costs:
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Framing: Losses vs. foregone-gains

- One solution may lie in how messages about the costs of reducing emissions are formulated
- The way a decision problem is framed influences people's preferences (Kahneman & Tversky, 1974; Tversky & Kahneman, 1981)
- Losses vs. Foregone-gains
 - loss: "out-of-pocket" costs
 - foregone-gain: a possible gain that is relinquished or attenuated
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Example: Kahneman et al. (1986)

Loss Frame:

A shortage has developed for a popular model of automobile, and customers must now wait two months for delivery. A dealer has been selling these cars at list price. Now the dealer prices this model at \$200 above list price.

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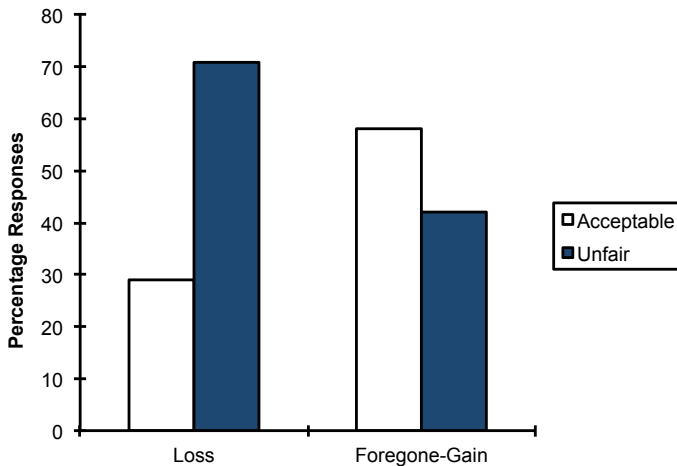
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- Messages about climate policy impacts typically frame costs as a “loss” (Hatfield-Dodds & Morrison, 2010)
- Such messages should be more effective when the costs are reframed as a “foregone-gain”:
 - **Conventional statement:** “reducing emissions will cost \$1,200 per person in 2020” (an actual loss)
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Persuasive messages: Social norms

- Social norms refer to people's perceptions of how others behave in the relevant social context
- Social norms influence intentions and behaviour (Cialdini et al., 1990; Manning, 2009; Ravis & Sheeran, 2003)
- Thus, people tend to behave based on what they *think others are doing*
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Social norms and pro-environmental behaviours

- Energy conservation (Allcott, 2011; Schultz et al., 2007):
 - a normative message vis-à-vis average neighbourhood energy consumption reduces energy use amongst households with above-average consumption
- Persuasive messages that activate social norms have also been shown to influence:
 - littering (Cialdini et al., 1990, 1991)
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Average- vs. rank-based social-norming messages

- In many social norming studies, the normative feedback pertains to the average behaviour of a peer group
- However, there are indications that people may be more sensitive to ordinal rank information:
 - rank of income within a comparison group predicts life satisfaction (Boyce et al., 2010; Brown et al., 2008)
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In two studies, participants were asked to indicate their policy preferences regarding how Australia should manage its CO₂ emissions

Q1:

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 - loss vs. foregone-gain framing and social norming messages regarding Australia's CO₂ emissions
- Study 2
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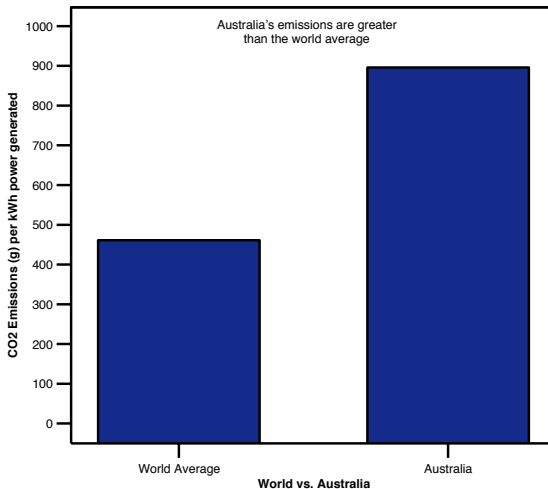
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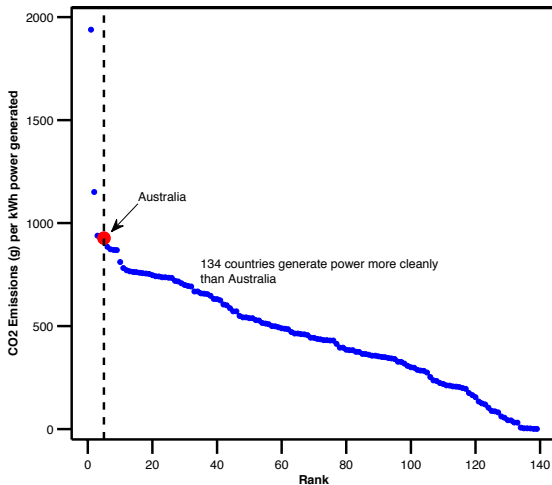
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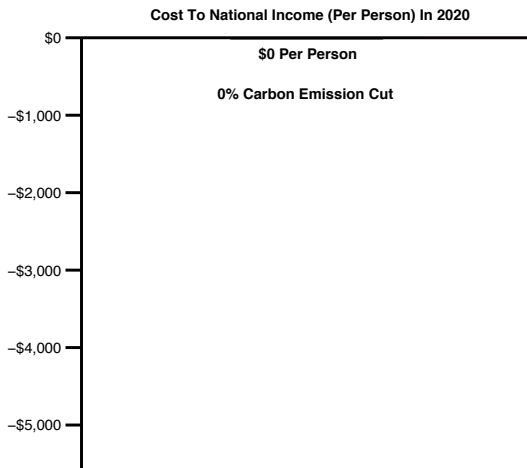
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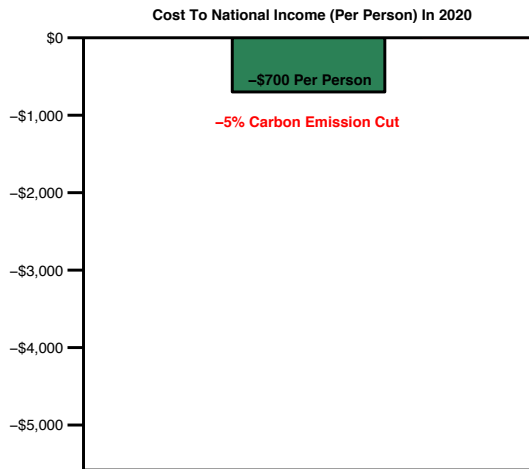
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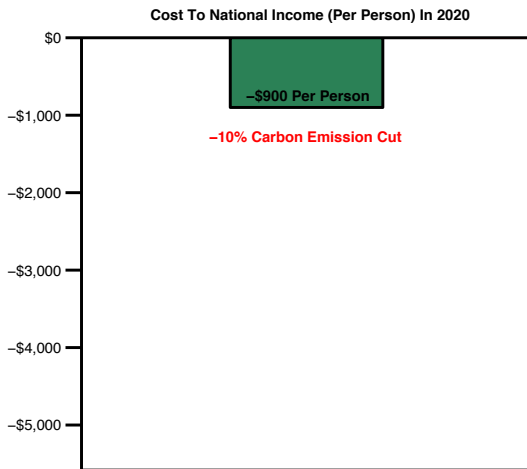
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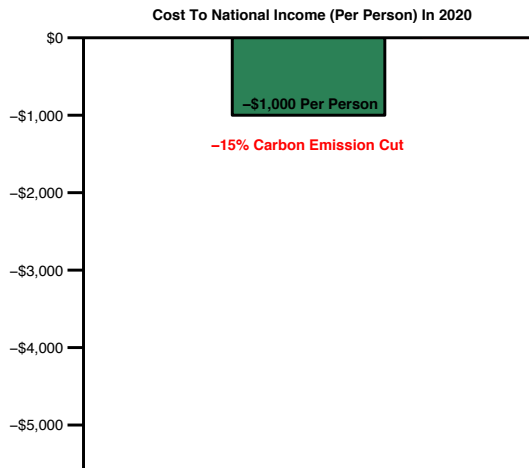
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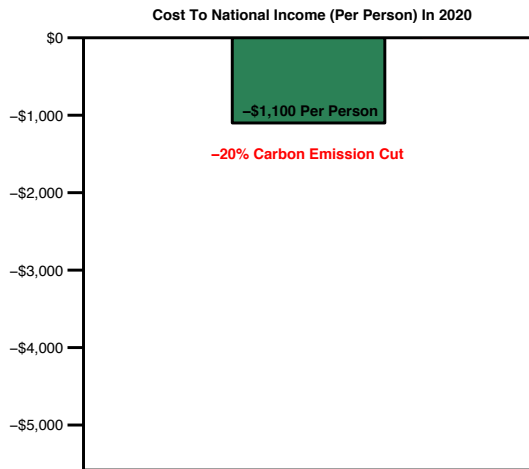
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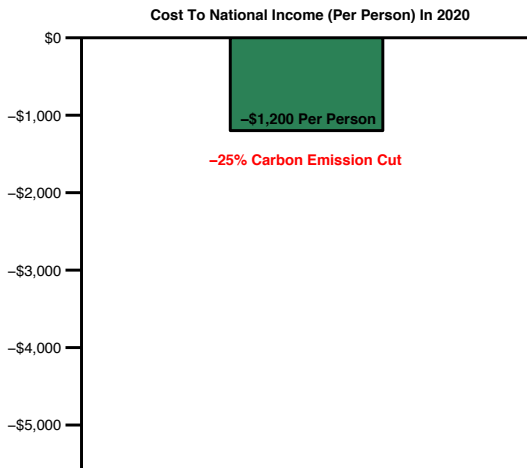
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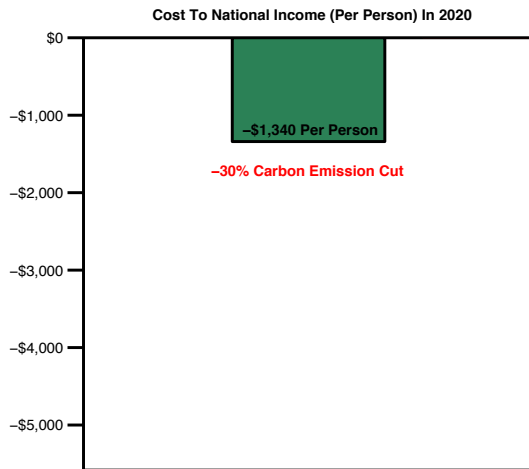
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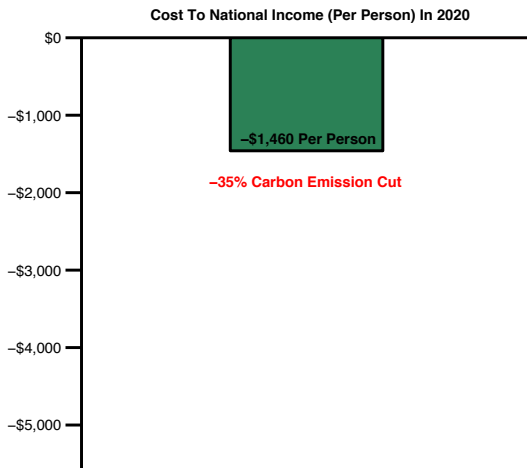
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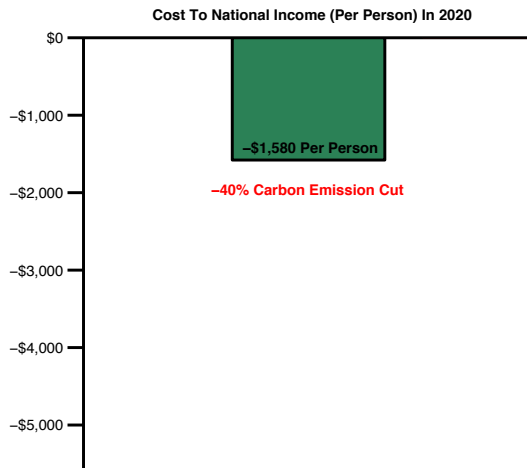
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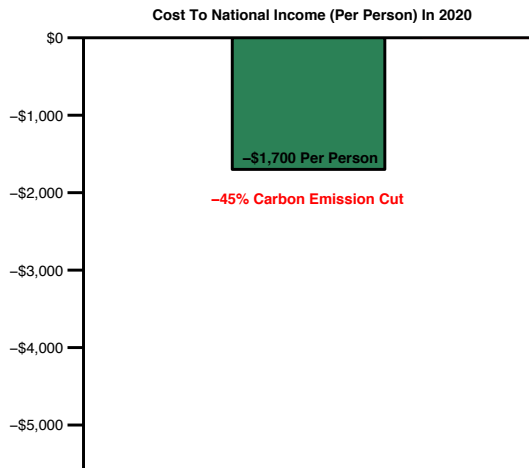
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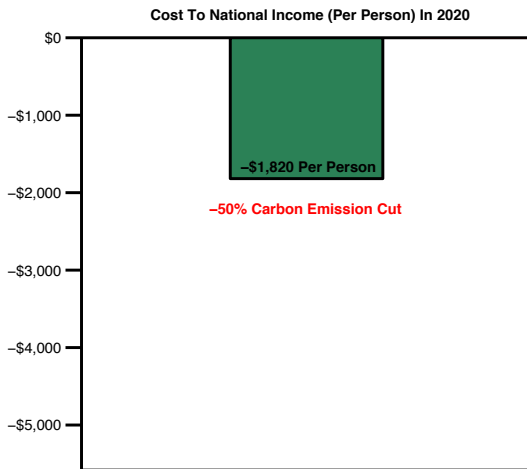
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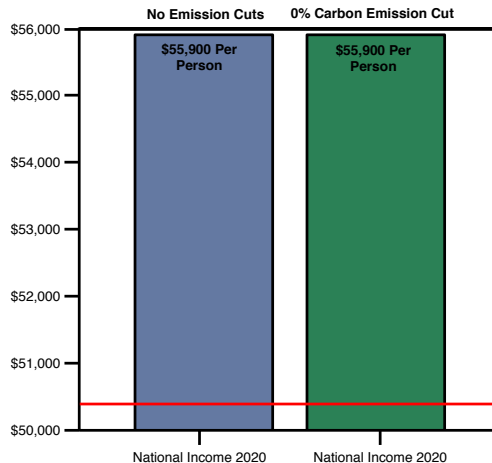
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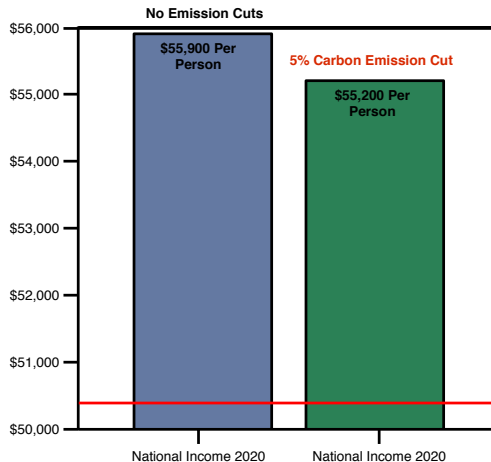
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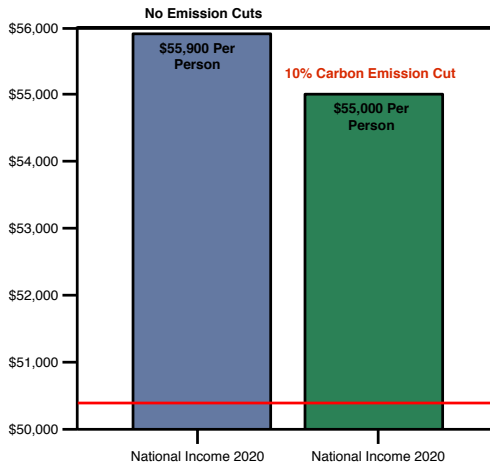
Foregone-gain framing



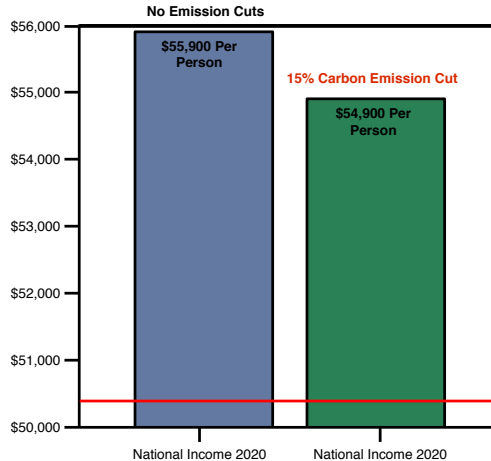
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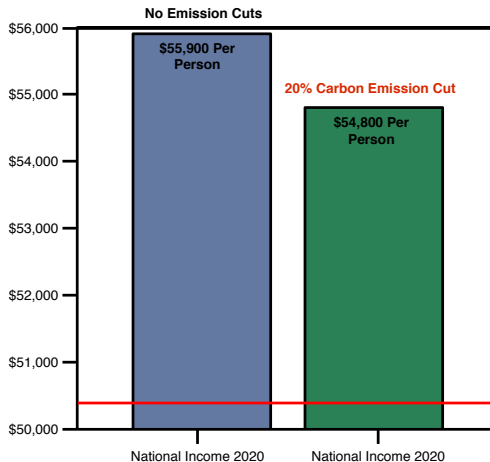
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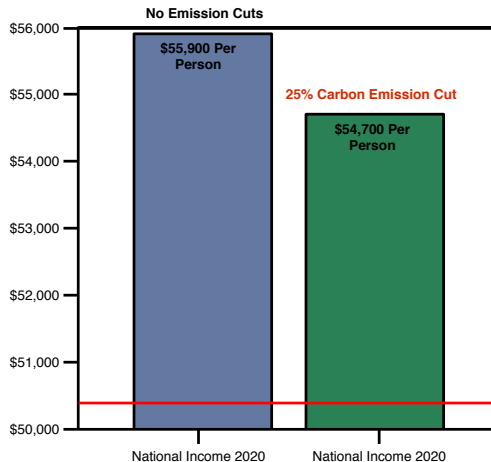
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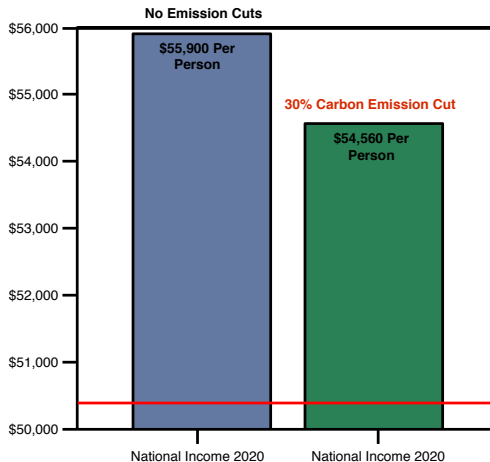
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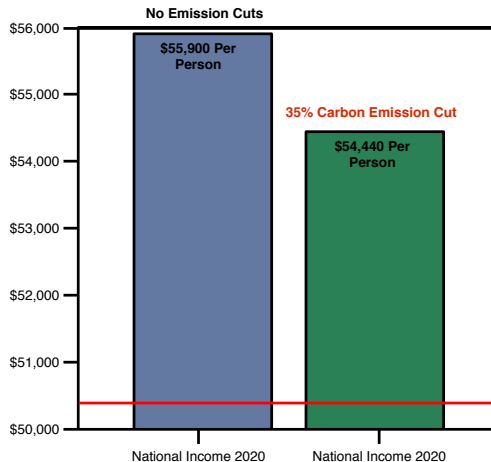
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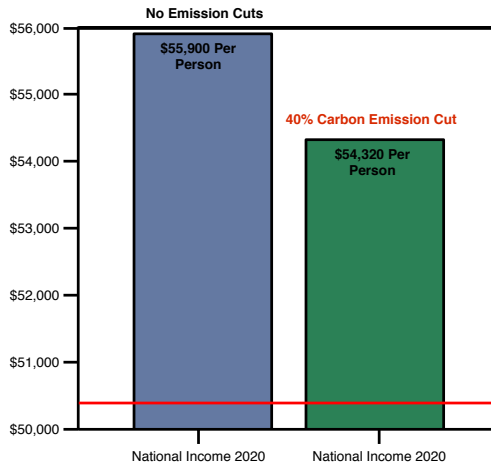
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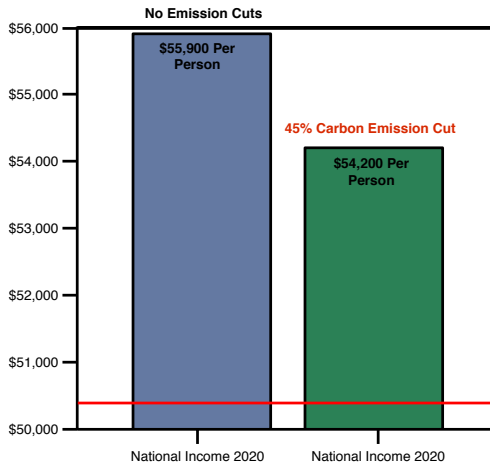
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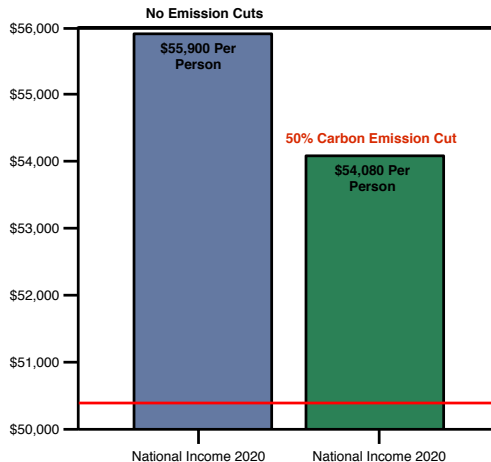
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Predictions

Independent and additive effects of framing and social norm manipulations:

Main effect of framing:

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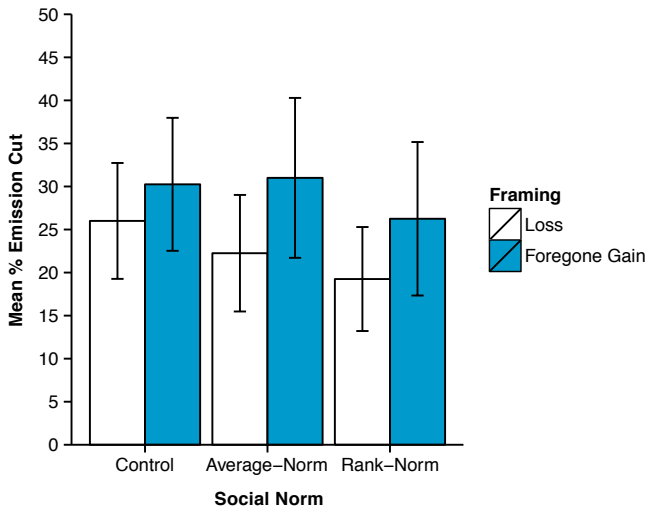
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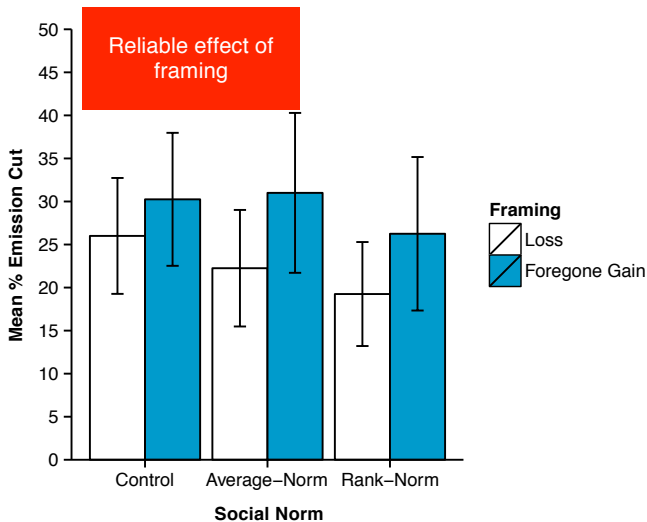
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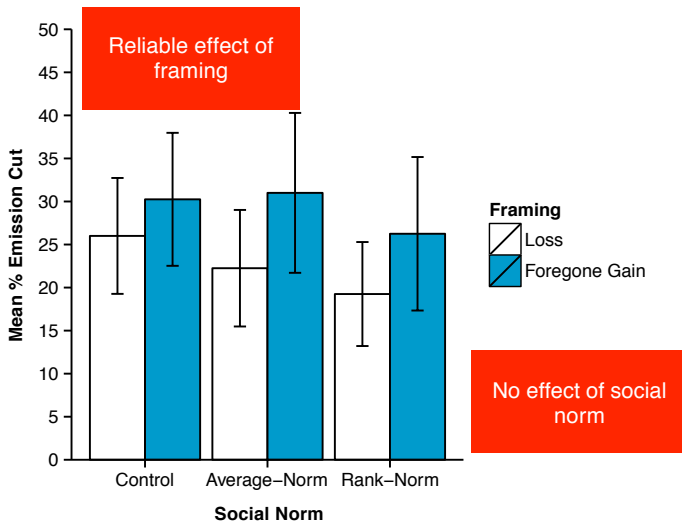
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Study 1: Summary

- Framing costs as a foregone-gain increases emission cuts
- Presumably because:
 - foregone-gains are perceived as “fairer” than objectively equivalent losses (Kahneman et al., 1986)
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Outline

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 - loss vs. foregone-gain framing and social norming messages regarding Australia's CO₂ emissions
- Study 2
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- 2 (framing: loss vs. foregone-gain) \times 2 (social norm: no-norm vs. with-norm) between-subjects design
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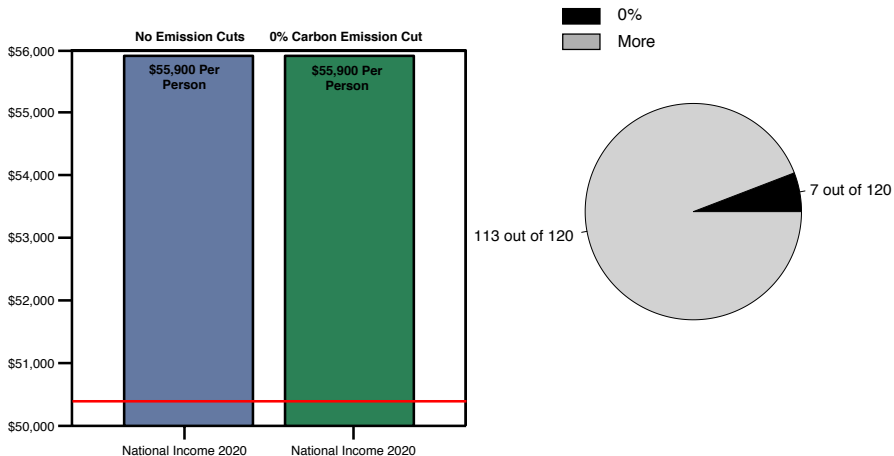
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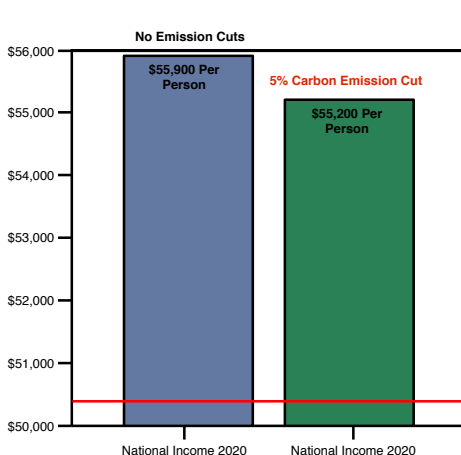
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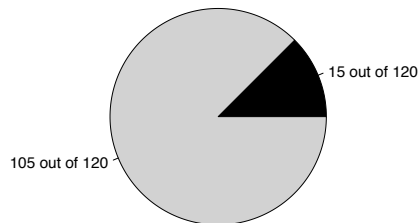
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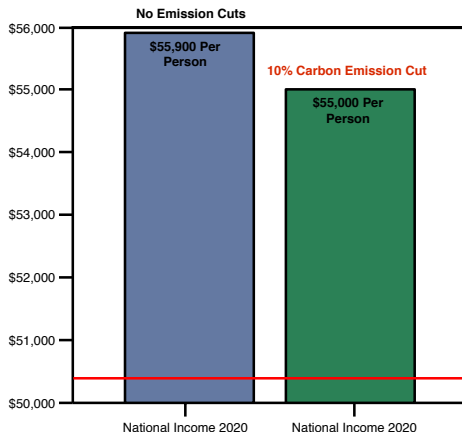
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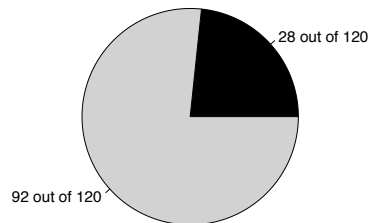
5% or less
More



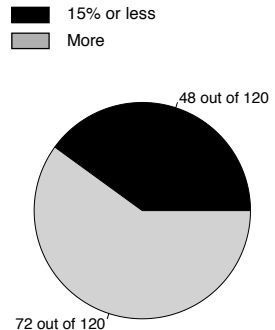
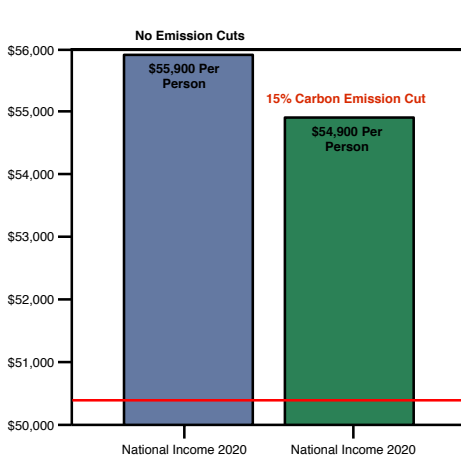
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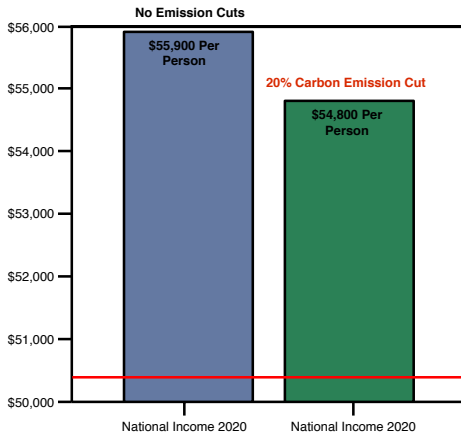
10% or less
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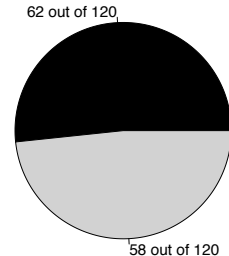
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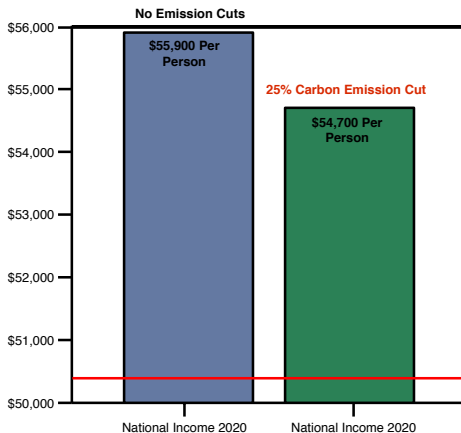
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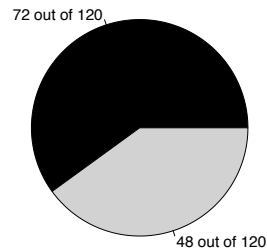
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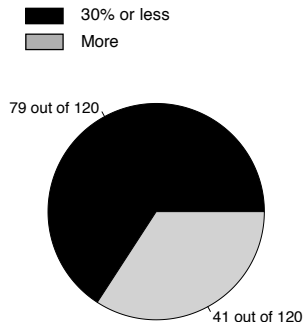
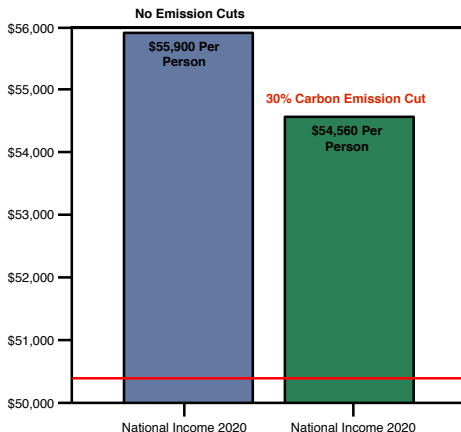
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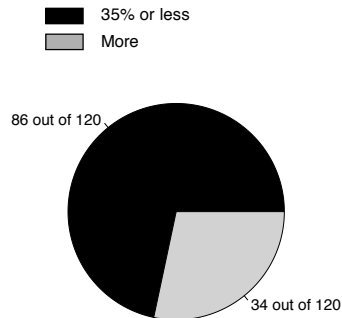
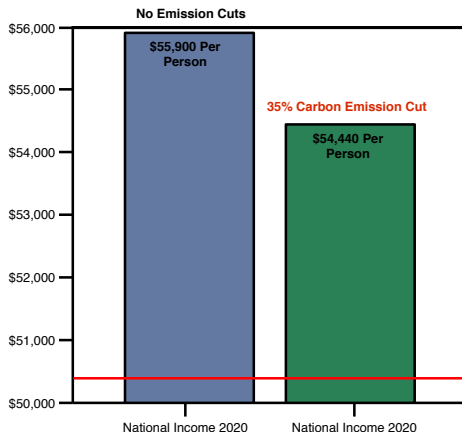
25% or less
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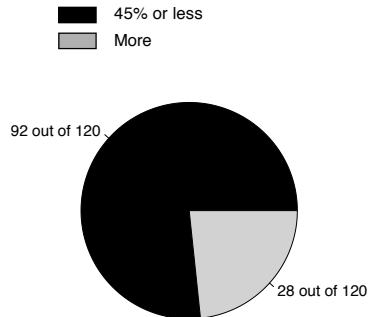
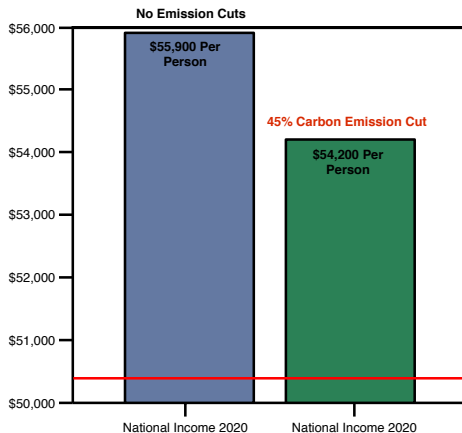
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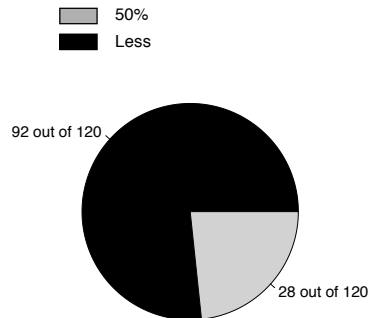
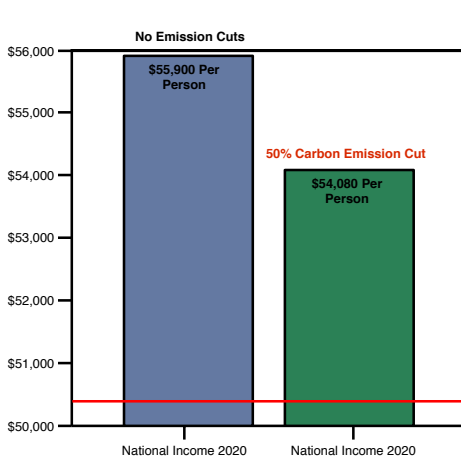
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Independent and additive effects of framing and social norm manipulations:

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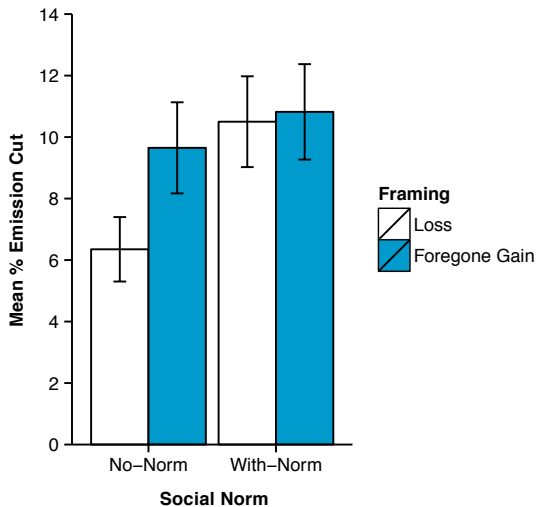
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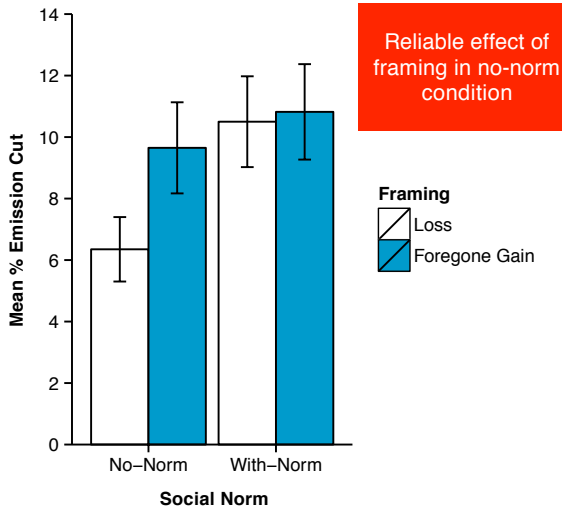
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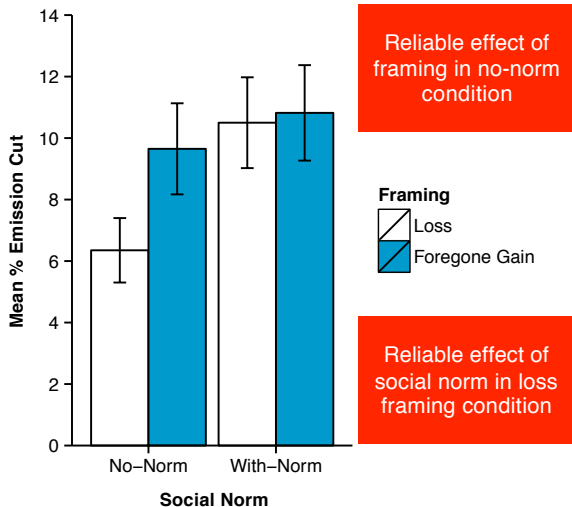
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 - but this time only in the absence of normative information
- The novel finding was that a normative message—this time about the policy preferences of others—increased emission cuts
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- Raises the question of whether it is possible to shift the reference point?
- One solution is to institute a new objective reference point in place of the subjective fair reference point
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Thanks for listening!



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