Overcoming Present Bias to Increase the Adoption of Electric Vehicles

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URGENT NEED TO REDUCE CARBON EMISSIONS

4.25%

of total world population is the US population

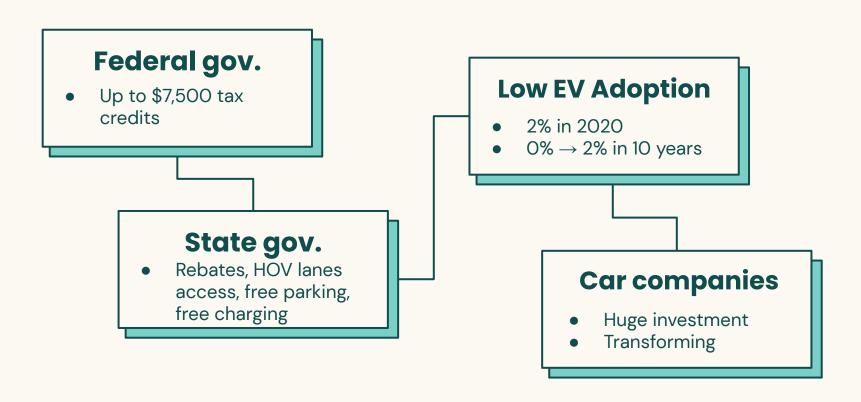
15%

of global CO2 emissions in 2020 come from the US

28%

of GHG emissions in the US comes from the **Transportation** sector

ELECTRIC VEHICLES (EVs)



BEHAVIORAL BARRIER, BEHAVIORAL SOLUTION

High Front Cost

 Savings in long-term operational costs can offset the price premium

Present Bias

- Anchor the high cost premium
- Ignore the long-term savings

5-Year Fuel Cost Savings

- "5-year" → **time frame**?
- "Savings" → message framing?

Time Frame

 People like rewards issued with less delay

Message Framing

 Loss-framed messaging can make people less present-biased

HYPOTHESES

H1: Using loss-framed messaging can increase people's intention to

purchase an EV more than using gain-framed messaging.

H2: Describing rewards in a shorter time frame can increase people's

intention to purchase an EV more than in a longer time frame.

- 1. Recruiting participants offline
 - a. Why partner with Nissan and run the experiment in CA? Check the paper!
- 2. Online experiments
 - a. Preferred car type: a car or a SUV?
 - b. Read a scenario of Joe
 - i. CV Rogue vs. EV Ariya (SUV)
 - ii. CV Altima vs. EV Leaf (car)
 - c. Answer the question: "On a scale of 1 to 5, how likely do you think Joe will purchase the electric vehicle?"
 - d. Complete questionnaires
 - i. Pro-environmental attitudes, time preference, risk preference
 - ii. Age, gender, income, education, transportation habit

		Message	Message Framing	
		Gain Frame "Driving an EV will"	Loss Frame "Diving a CV will"	
Time Frame	Monthly	"make Joe save \$x every month"	"make Joe lose \$x every month"	
	Annually	"make Joe save \$x every year"	"make Joe lose \$x every year"	
	Five-Year	"make Joe save \$x every five years"	"make Joe lose \$x every five years"	
	Ten-Year	"make Joe save \$x every ten years"	"make Joe lose \$x every ten years"	

This study is valuable.

- Limitations? Go check the paper!
- Implication 1
 - contribute to the lacking research in studying solutions to present bias in the context of EV adoption
- Implication 2
 - stronger external validity than past studies
- Implication 3
 - provide valuable insights to Nissan and other automaking companies
 - explore the use of cheap and easy-to-implement message techniques