

The Greenhouse Gas Emissions Reductions Arising Provisions Targeting Individual Actions in the IRA

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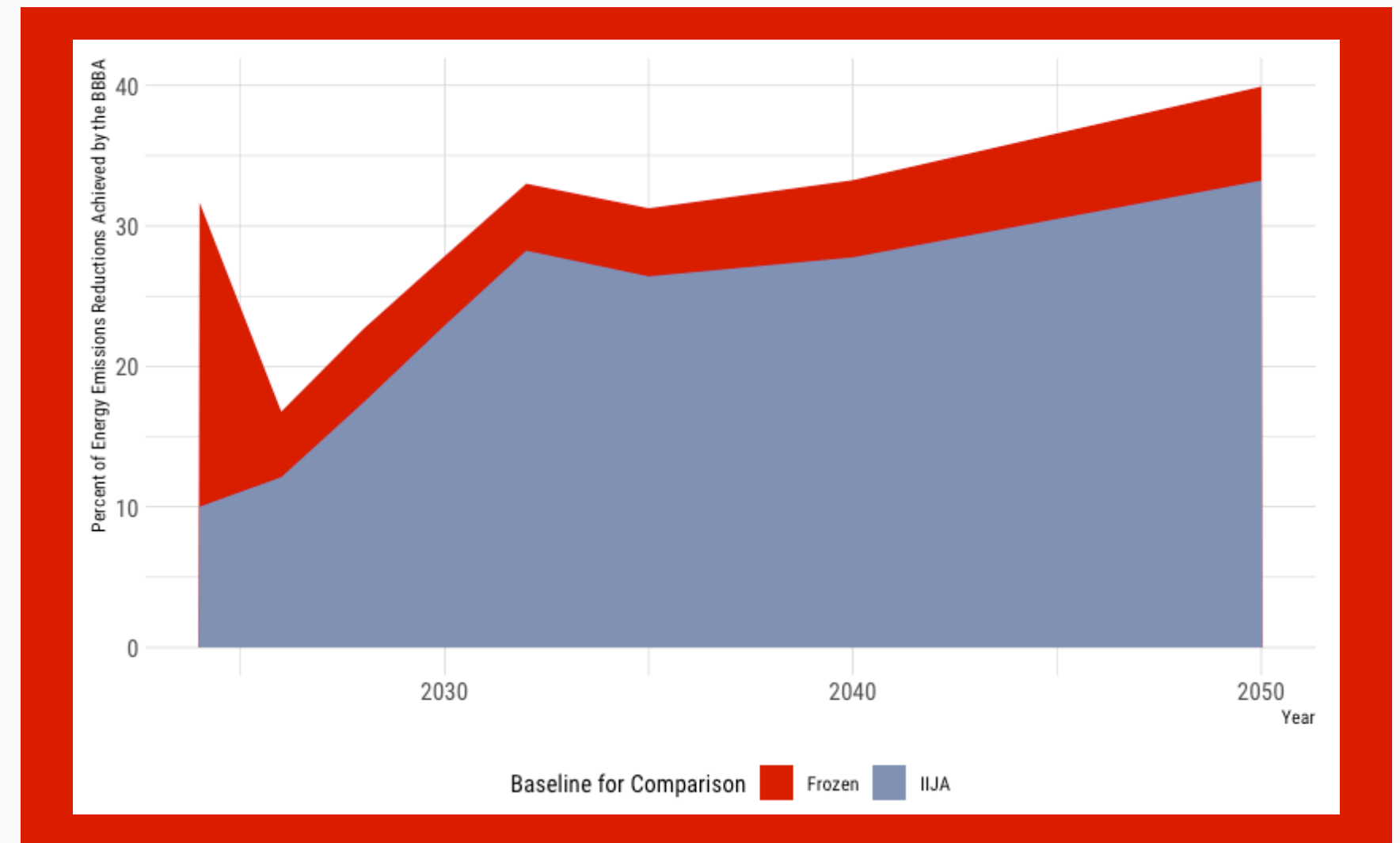
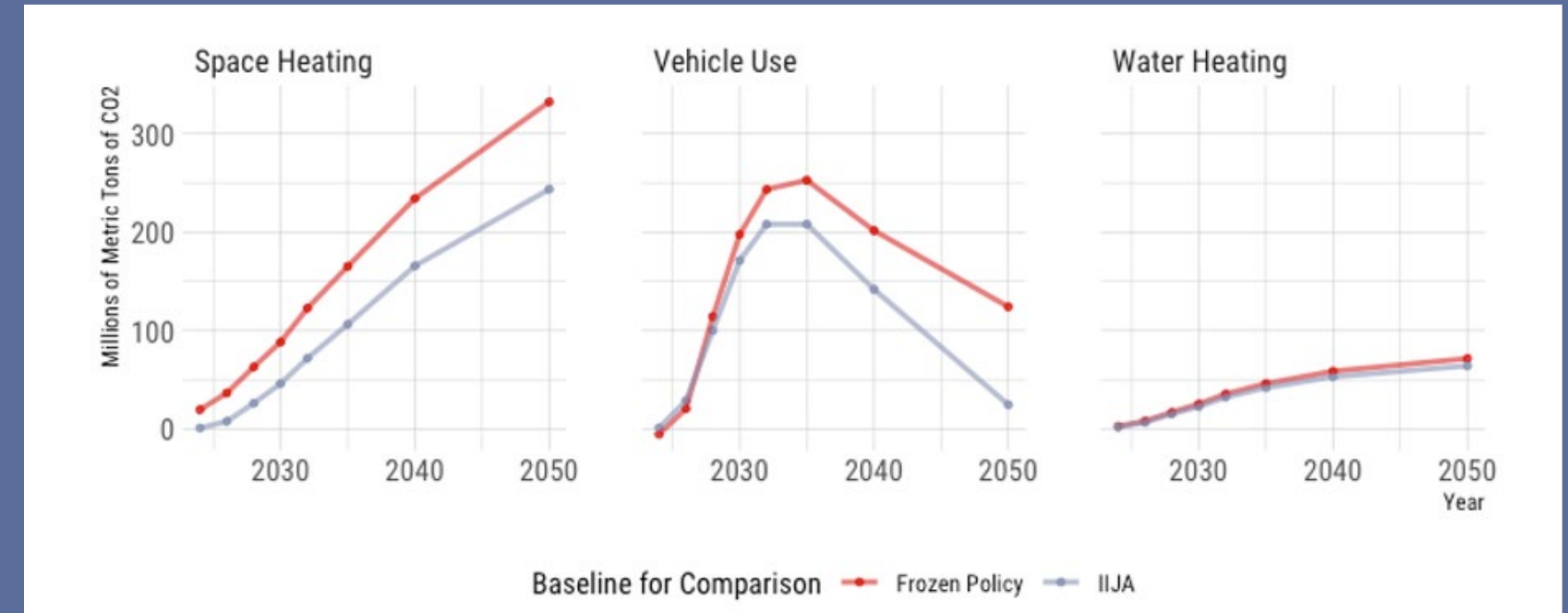
Inflation Reduction Act

- Party-line vote (50-50 + VP)
- Emissions regulation off the table:
 - Byrd rule (only budgetary items allowed)
 - Manchin & Sinema opposed to regulations
- Contents:
 - \$331 billion in new spending on climate and energy
 - Potential to reduce emissions 42% below 2005 levels, by 2030 (Jenkins et al., REPEAT)

- Individual & Household sector
 - Responsible for ~40% of US CO₂ emissions from energy use
 - Potential for significant (~20%) reductions through voluntary actions (Dietz et al. 2009)
- IRA funds to incentivize voluntary actions by individuals & households:
 - Three categories:
 - Residential HVAC/Building shell
 - Residential water heating
 - Light-duty electric vehicles
 - \$38.8 billion (12% of total funds)
 - Expenditures, not counting tax credits
 - 17-40% of emissions reductions

Emissions Reduction

- Jenkins et al. analyzed IRA using REPEAT model
 - IRA, together with IIJA and other current policies reduces emissions 37-41% below 2005 by 2030 (4.0-4.2 billion tons CO₂-e)
 - Detailed data not yet available
- Full REPEAT analysis of Nov. 2022 proposed Build Back Better Act (BBBA)
 - BBBA + IIJA reduce emissions 1.5 billion tons, of which 1.35 billion are due to BBBA
 - IRA is similar, but has ~15% lower spending
 - Our analysis of REPEAT BBBA/IIJA analysis finds 17-40% of BBBA emissions reductions come from household actions
 - Uncertainty arises from projected economic/technological futures, behavioral plasticity, policy effectiveness, etc.



Examples of Promising Behavioral Wedge Actions

High Behavioral Plasticity

- Weatherization upgrades such as insulation, sealing, dynamic glass, and doors
- HVAC upgrades such as high-efficiency heat pumps, efficient water heating, improved breaker boxes
- Purchasing an Electric or Hybrid Vehicle
- Shifts in diet including emphasizing local and in-season produce, swapping chicken, pork, or fish for beef, and limiting food waste

Low Behavioral Plasticity

- Routine small changes such as thermostat setbacks, line drying clothing
- Living car-free or significantly changing driving/travel habits
- Large shifts in diet such as opting for complete vegetarianism and/or plant-based diet

Challenges

- Behavioral Plasticity:
 - Best practices for individual/household incentives are known (Stern et al. 2010, Vandenberg et al. 2010)
 - Provide financing
 - Provide clear, credible information at point of decision-making (e.g., point of sale)
 - Keep it simple, convenient
 - Marketing: let the public know
 - Provide quality assurance
 - IRA does not follow these practices
 - EV credits are very confusing (who qualifies?, what cars qualify?), inconvenient (buy now, apply for credits on tax day)
 - Compare to 2009 “cash-for-clunkers”: Clear criteria, car dealer responsible for paperwork, customer gets rebate at point of sale.