

Reflections on 2030 U.S. Emissions Targets

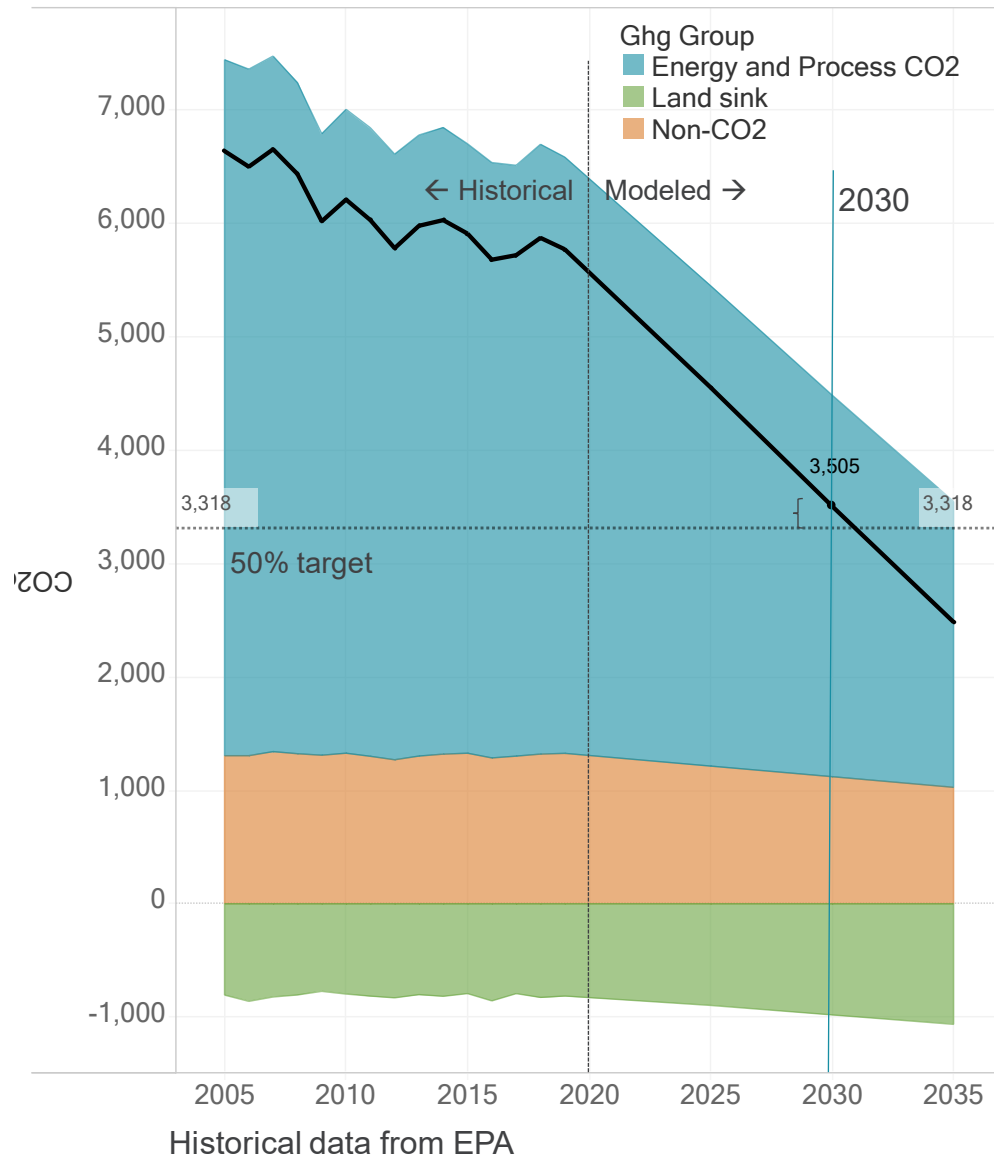


EVOLVED
ENERGY
RESEARCH

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What emissions reductions can be achieved by 2030, and at what cost?



- Achieving a 47% emissions reduction by 2030 is possible (~60B/year net annual cost) but requires everything to go right.
- Why might we not want to set a target that requires that last 3% abatement?

Pros

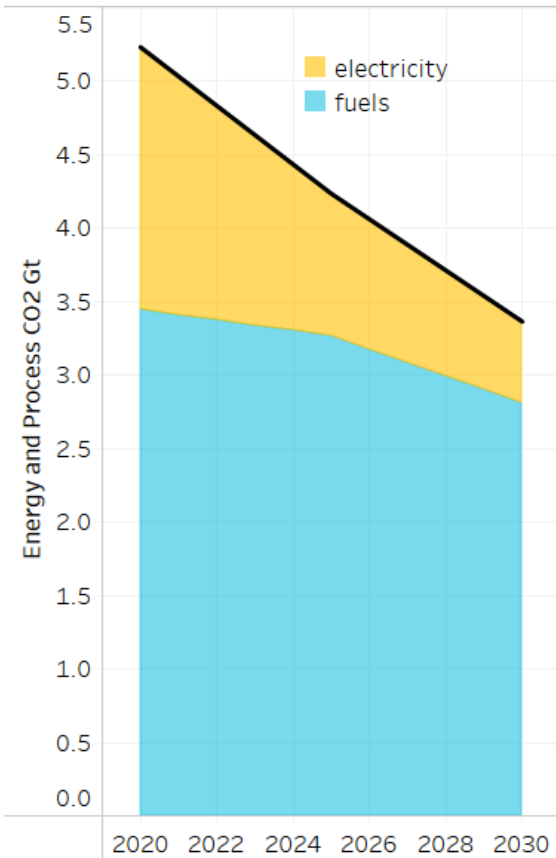
- Small reduction in cumulative emissions
- Aesthetics of the target

Cons

- Marginal energy abatement strategies in 2030 are expensive, may involve biomass, and are often regressive (involve fuels)
- Missteps on implementation risk societal backlash or disillusionment
- Near-termism may distract from steps necessary for larger reductions to come

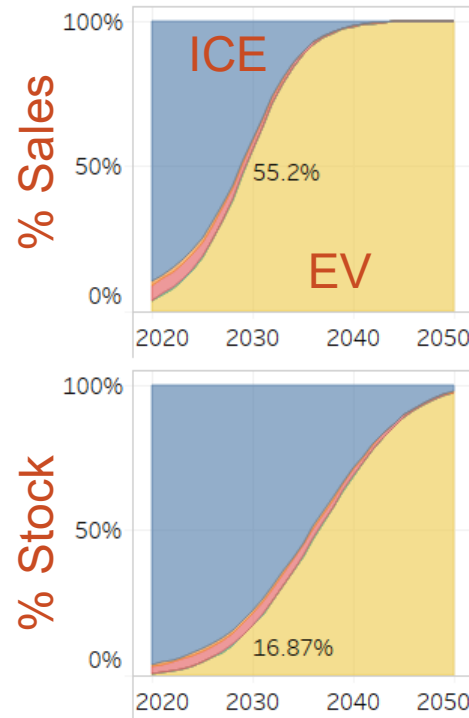
Where do the energy emissions reductions come from? How does the lifetime of infrastructure make further 2030 reductions challenging?

1. Most 2030 emissions reductions come from electricity



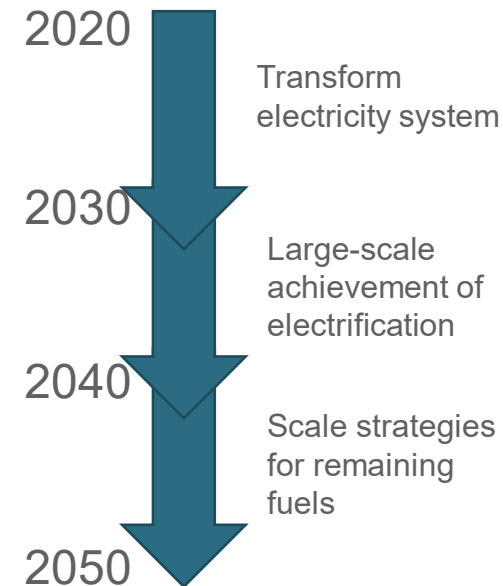
2. Due to infrastructure inertia, early retirements or extremely rapid increases in sales shares in the 2020s are necessary to materially impact 2030 electrification

Light-duty Vehicles



3. Why wouldn't we want to aggressively pursue drop-in fuels in the 2020s?

Dominant Strategy



- Involves infrastructure soon made obsolete by electrification
- Gasoline price increases have large impact on low-income consumers
- Biofuels have additional externalities

Getting to Net-Zero Carbon Emissions by 2050

8 actions needed by 2030

<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2020AV000284>

