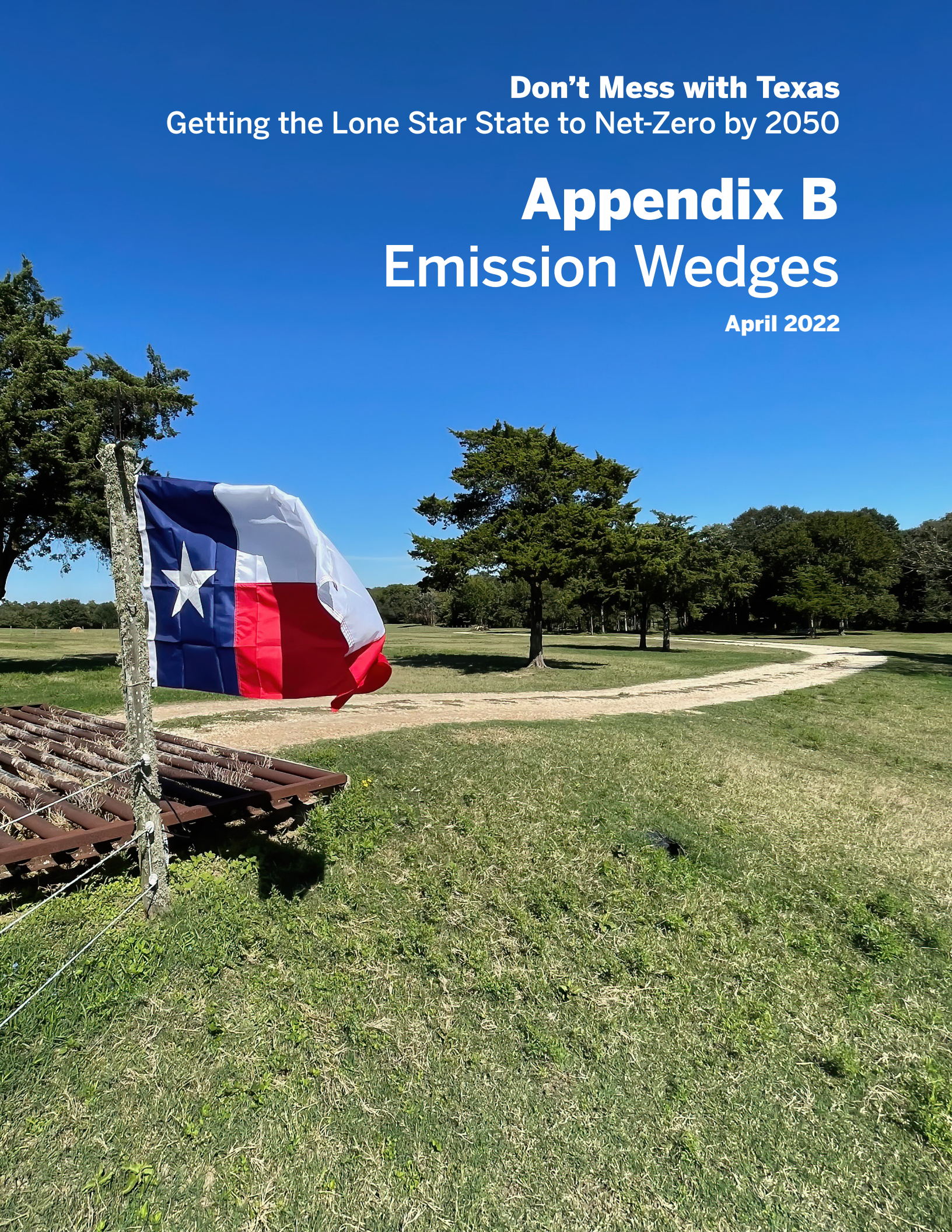
Don’t Mess with Texas

Getting the Lone Star State to Net-Zero by 2050

Appendix B
Emission Wedges

April 2022



Appendix B: Emission Wedges

This section presents the portion of BAU level emissions abated by policy levers within the TX-EPS. The amount of emissions captured by DACS and CCS were determined by the WIS:dom-P model and calculated as a percent of BAU-level emissions.

Table B1: Portion of emission reductions in 2050 attributable to policy levers

Policy Lever	Electrification	Electrification: ACP	Hydrogen and Carriers	Extensive Capture
DACS	35.7%	34.6%	21.5%	88.8%
Industrial Methane Capture and Destruction	12.0%	12.2%	9.0%	0.0%
Power Sector Decarbonization	9.3%	9.5%	6.7%	11.2%
Electric Transportation	8.4%	8.5%	1.5%	0.0%
Industrial F-gas Measures	6.7%	6.9%	6.2%	0.0%
Electrification/Hydrogen for Industrial Fuel	7.9%	8.0%	20.8%	0.0%
Industrial Efficiency Improvements	5.0%	5.1%	3.1%	0.0%
Building Electrification	2.8%	2.8%	1.5%	0.0%
R&D Fuel Use Reductions	1.8%	1.8%	0.2%	0.0%
Transportation Mode Shifting	1.2%	1.2%	0.7%	0.0%
Livestock Measures	1.3%	1.3%	0.8%	0.0%
Early Retirement of Industrial Facilities	0.8%	0.8%	0.5%	0.0%
Afforestation and Reforestation	0.6%	0.6%	0.4%	0.00%
Building Efficiency Standards and Retrofits	0.5%	0.5%	0.7%	0.00%
Carbon Capture and Sequestration	0.0%	0.0%	0.0%	0.00%
Hydrogen Transportation	0.3%	0.3%	4.1%	0.00%
Green Ammonia and Fertilizer	0.0%	0.0%	0.5%	0.00%
Hydrogen via Electrolysis	0.1%	0.1%	18.7%	0.00%
Cogeneration and Waste Heat Recovery	0.0%	0.0%	0.9%	0.00%
Ammonia for Cargo Shipping	0.0%	0.0%	0.2%	0.0%

Emission savings from demand response in the electric power sector were unable to be quantified directly as demand response was incorporated into the WIS:dom-P model. More information on demand response and peak load reduction can be found in Appendix F.

Emission savings from using ammonia for cargo shipping fuel might be underestimated, with savings possibly between <1% to 1.6% of total BAU emissions in 2050 even with fuel efficiency gains.

Detailed methodology for emissions reduction attribution can be found in the EPS supporting documentation, available online at https://us.energypolicy.solutions/docs/index.html.