



# Clean Energy Transition Institute Sustainable Path Virtual Lunch

▶ February 24, 2022

# Clean Energy Transition Institute

- **What We Are:** Independent, nonpartisan Northwest research and analysis nonprofit organization
- **Our Vision:** Accelerate the transition to a clean energy economy in the Northwest
- **Our Role:**
  - Provide unbiased research and analytics
  - Offer an information clearinghouse for policymakers
  - Convene diverse stakeholders



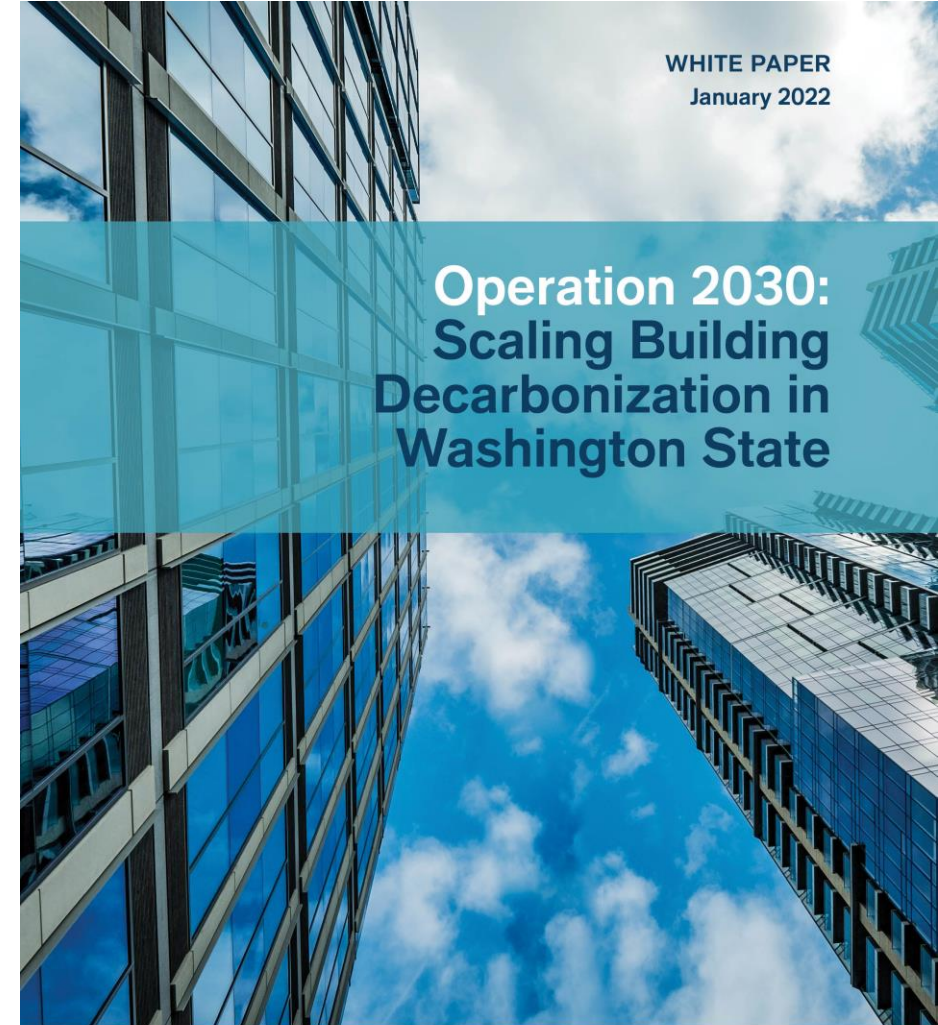
# 2022 Programmatic Focus

- Equitable Rural Building Decarbonization
- Clean Economy Industrial Summit
- Claiming Power
- Northwest Clean Energy Atlas
- Operation 2030: Scaling Building Decarbonization



# Operation 2030 Project-Phase 1

- Independent analysis of data from the Washington 2021 State Energy Strategy deep decarbonization modeling
- Focuses on multi-level ramp up required to take building decarbonization to scale by 2030
- White paper
- Forums



# Operation 2030 Phase 1 Supporting Materials

Operation 2030 Documents:

White Paper



Key Findings



Building Sector Data



Webinar Presentation



Webinar Recording



Webinar Q & A



# Operation 2030 Imperatives

1. Adapt to Decarbonization Scale and Pace
2. Commit to the Most Strategic Path
3. Establish Measurable Targets
4. Scale Building Decarbonization by 2030



# 1. Adapt to Decarbonization Scale and Pace

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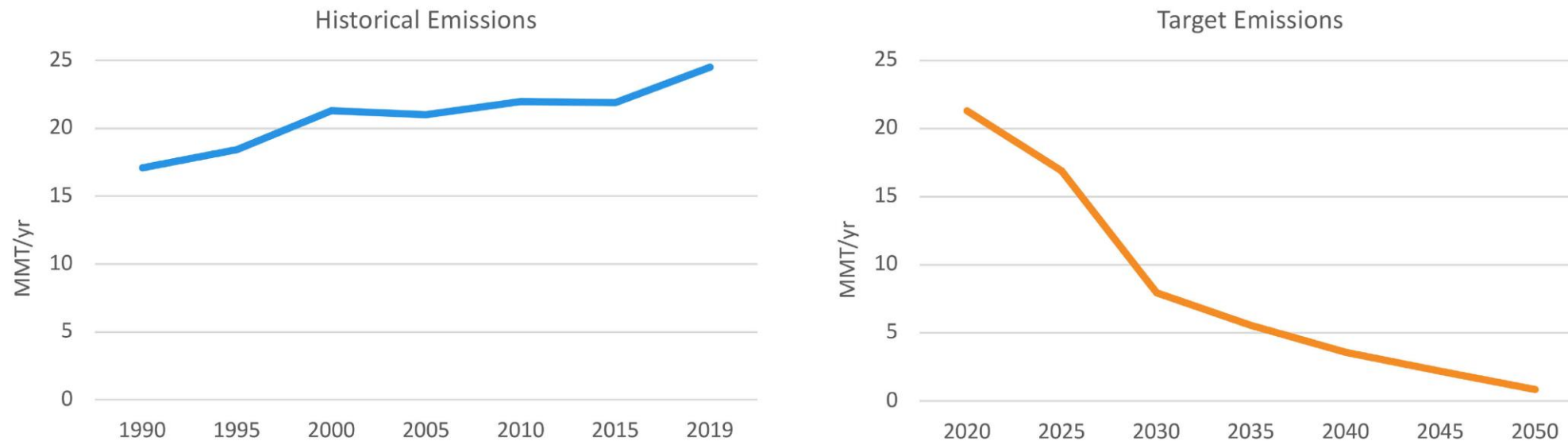
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# Shift in Building Sector Emissions from Historical Increase to Dramatic Decrease

**Figure 2. Shifting from Historically Increasing Building Sector Emissions (1990-2019) to Dramatically Decreasing Emissions (2020-2050)**



Sources: 2050 Institute analysis using historical energy use from U.S. Energy Information Administration (EIA) energy consumption data, and projected energy use from deep decarbonization modeling performed for the Washington 2021 State Energy Strategy: WA DDP Building Sector Energy Use and Sales Shares. Note that the deep decarbonization model assumes a 10% drop in demand in 2020 due to the COVID impact. Emissions factors are from EIA Carbon Dioxide Emissions Coefficients, the Environmental Protection Agency Emission Factors for Greenhouse Gas Inventories, average of historical WA electricity emission rates in the Department of Commerce Washington State Electric Utility Fuel Mix Disclosure Reports For Calendar Year 2017, Tables 2 and 3, and where relevant, future emissions rates for renewable fuels forecast in the Washington 2021 State Energy Strategy, Appendix B: Data Accompanying Deep Modeling Technical Report, Sheet S7.



# 2. Commit to the Most Strategic Path



# Washington's Strategic Building Decarbonization Pathway

- Onsite fossil fuel use emits nearly 100% of building emissions by 2030
- Electrification deepens energy savings and accelerates emissions reductions
- Equipment rollover dynamics drive scale and pace
- Electrification saves \$34 billion by 2050
- Energy efficiency is critical to offsetting load growth



### 3. Establish Measurable Targets

# Recommended Targets for Decarbonizing WA's Buildings

Targets	2025	2030	2035	2040	2045	2050
Total Building Sector Emissions Reduction	18%	60%	72%	82%	89%	96%
Commercial Zero Net Carbon New Construction	50%	75%	100%	100%	100%	100%
Commercial Zero Net Carbon Retrofits (% sq. ft. per year)	1.2%	1.8%	1.7%	1.7%	1.6%	1.6%
Commercial Zero Net Carbon Retrofits (million sq. ft. per year)	24M	38M	38M	39M	40M	40M
Residential Zero Net Carbon New Construction	74%	100%	100%	100%	100%	100%
Residential Zero Net Carbon Retrofits (% units per year)	1.3%	3.1%	3.0%	2.8%	2.7%	2.3%
Residential Zero Net Carbon Retrofits (units per year)	42,000	110,000	110,000	110,000	110,000	99,000

# 4. Scale Building Decarbonization by 2030

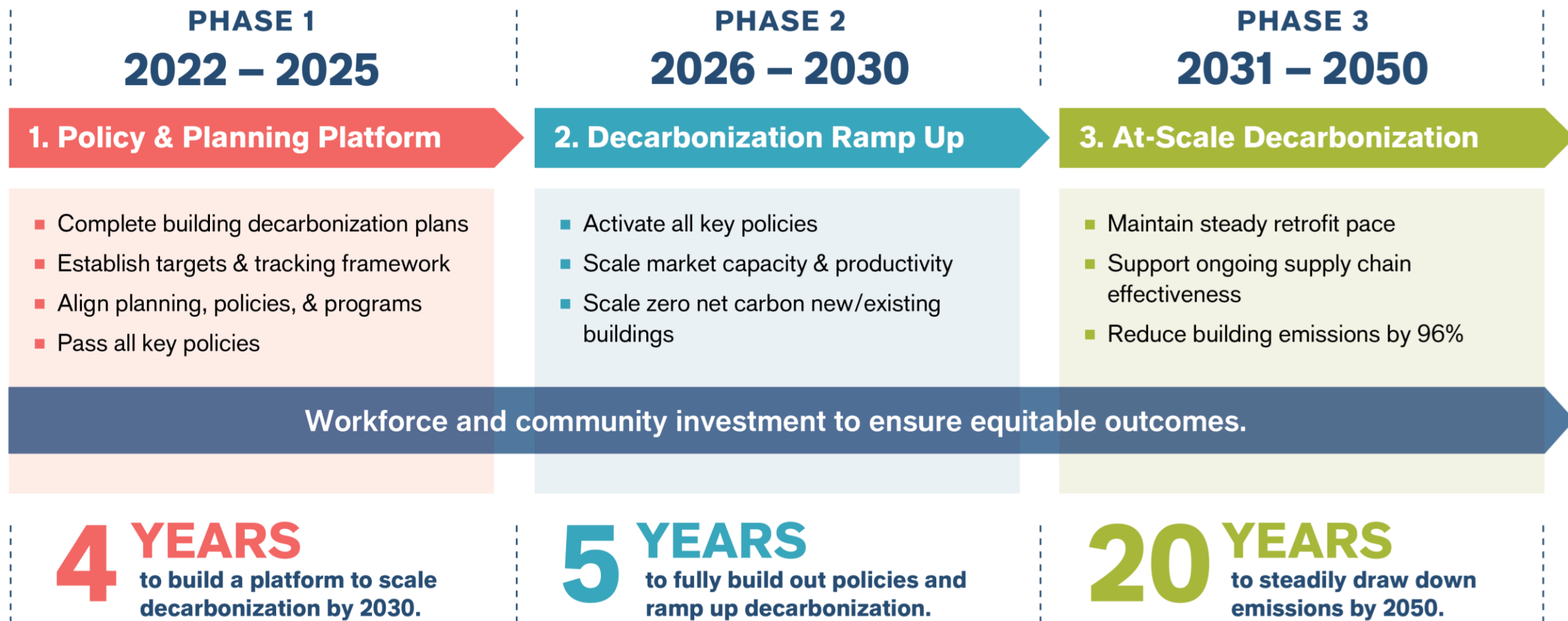


# Defining “Scale by 2030” ...

- ▶ Building sector emissions 60% less than 2020
- ▶ New and replacement space and water heating equipment produce zero emissions
- ▶ Transformation strategically designed, managed, and tracked to support equitable outcomes
- ▶ Market capable of decarbonizing building stock at target retrofit rate



# Three Key Phases to Decarbonize Buildings



# Next Steps



# Next Steps

- ▶ Outreach, Dialogue, Strategic Forums
- ▶ Ecosystem Analysis
- ▶ Refine and Operationalize Key Strategies
- ▶ Design Criteria for Keystone Policies for 2023 Session
- ▶ Further Research and Analysis



# Questions & Answers

# Thank you very much

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