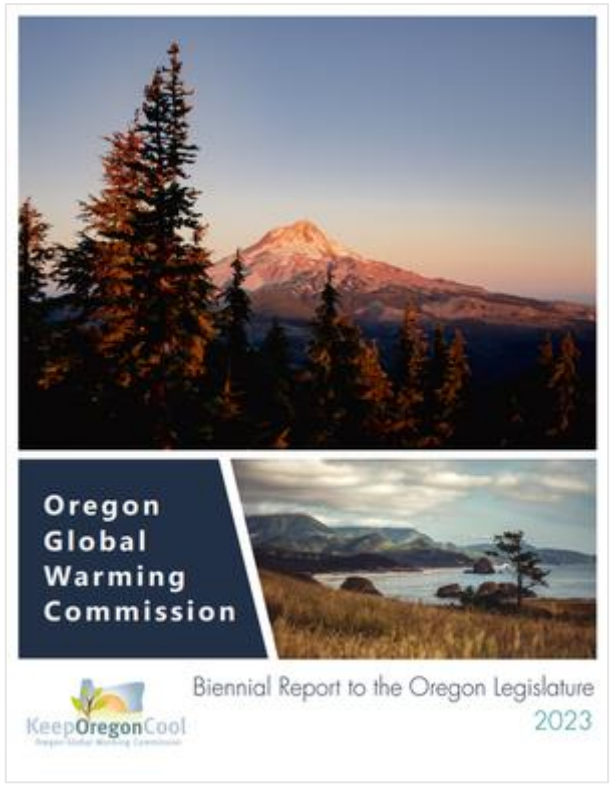
CLIMATE SNAPSHOT

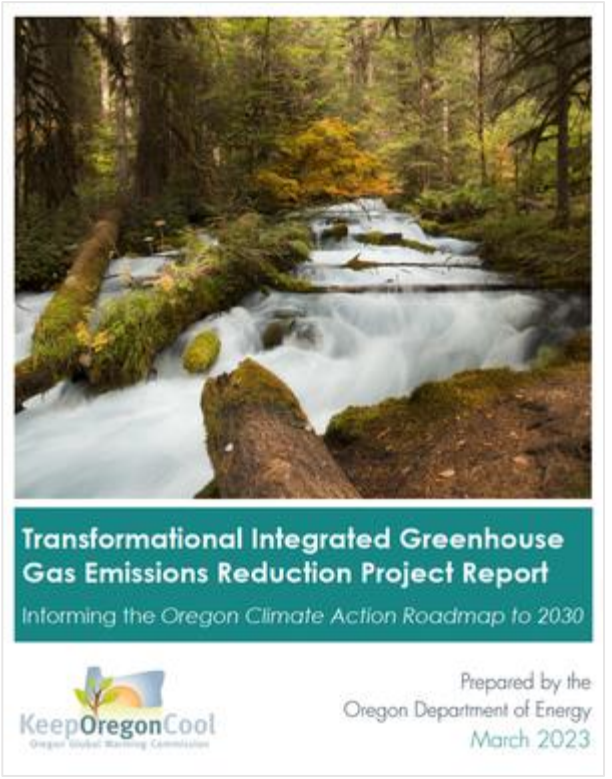
Senate Committee on Energy and the Environment

OGWC Chair Cathy Macdonald
Zachariah Baker, ODOE
Alan Zelenka, ODOE
Michael Williams, ODOE

September 28,2023

TRIO OF REPORTS DELIVERED





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www.keeporegoncool.org

Agenda

- Recent Greenhouse Gas Emissions Trends
- GHG Emissions Forecast (aka TIGHGER)
- Climate Science and Oregon's GHG Goals
- Carbon Sequestration Efforts on Natural and Working Lands
- Federal Funding to Accelerate Climate Action

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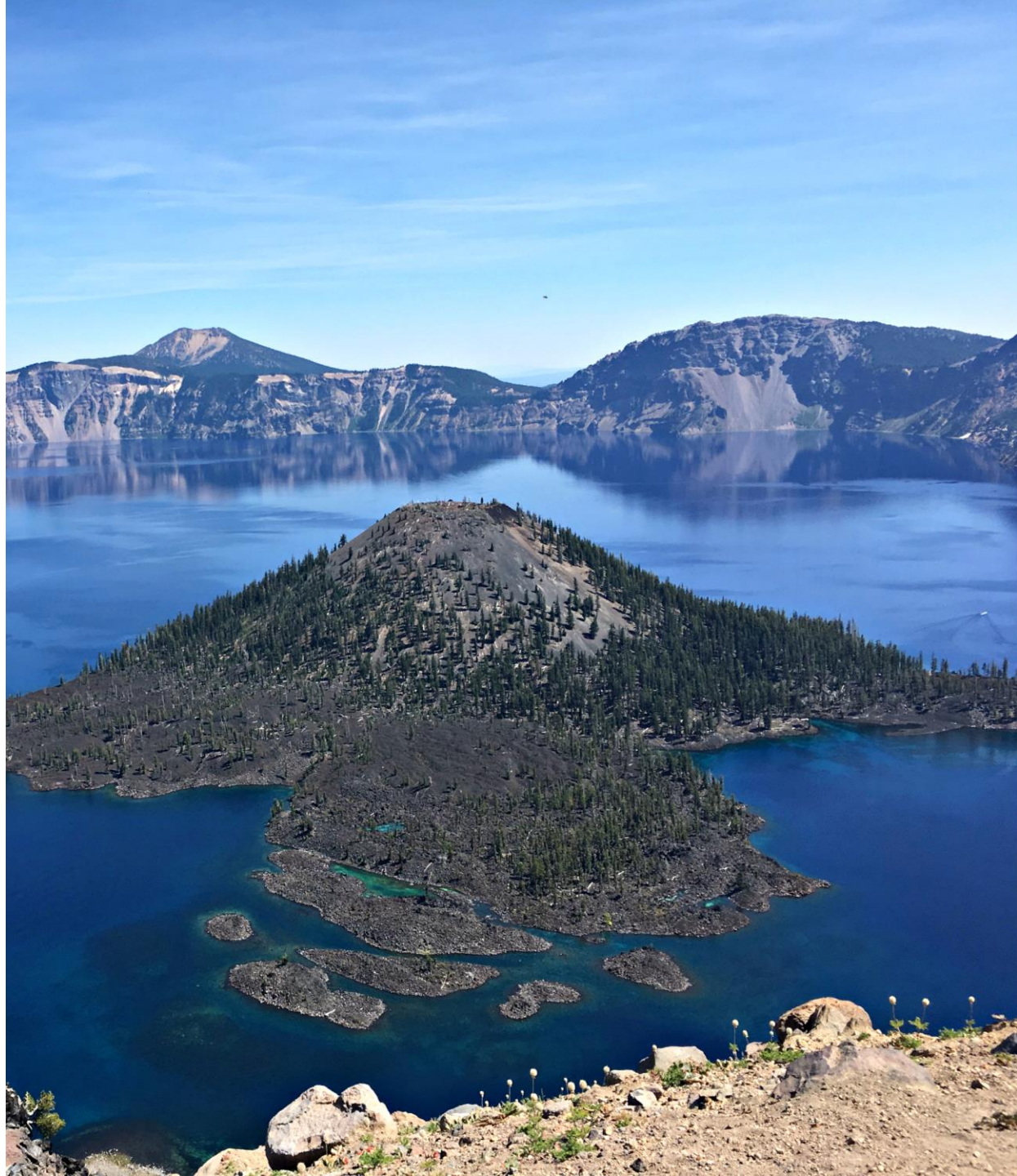

RECENT GHG EMISSIONS TRENDS

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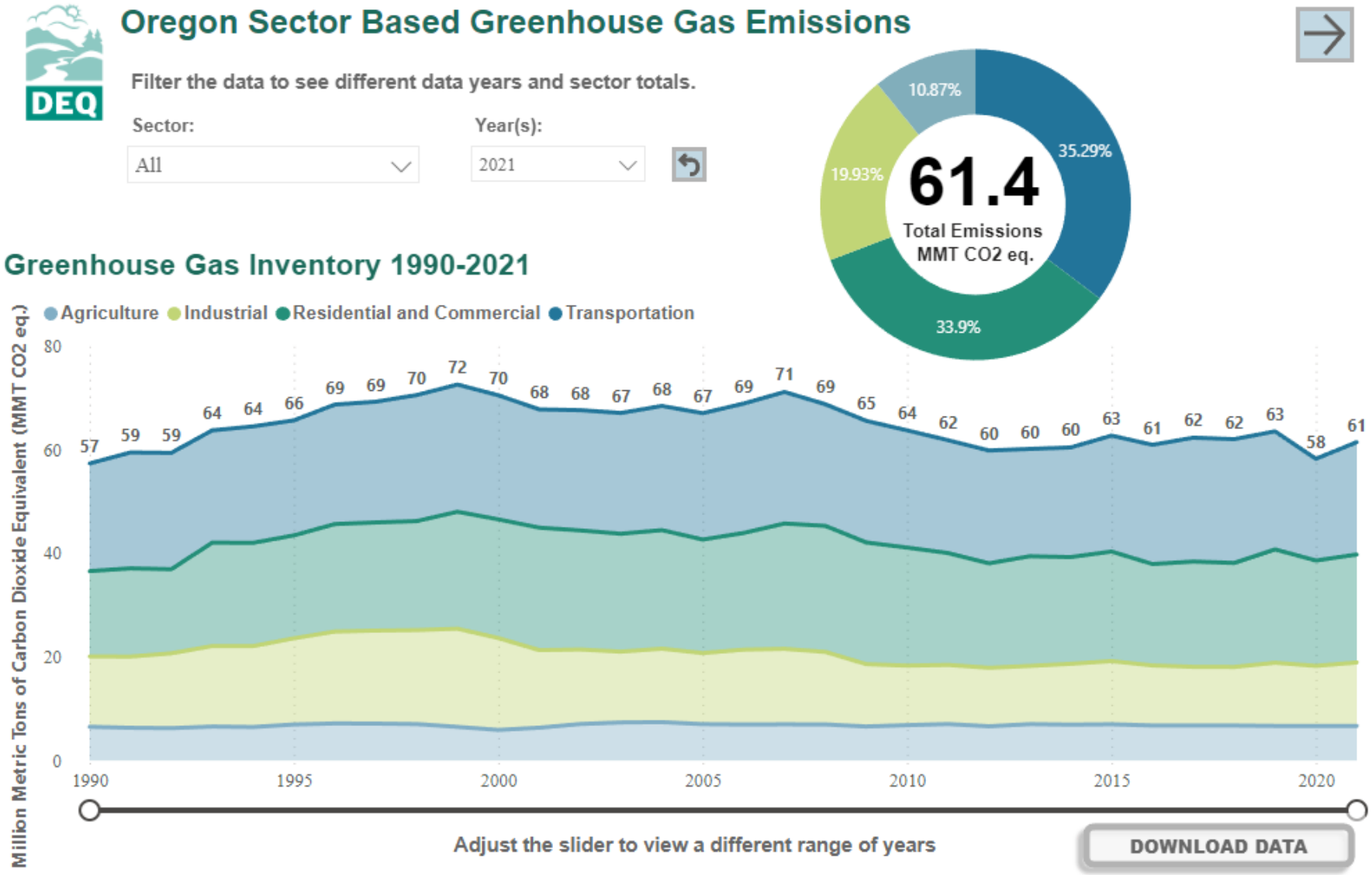

Note: 2020 and 2021 data are preliminary

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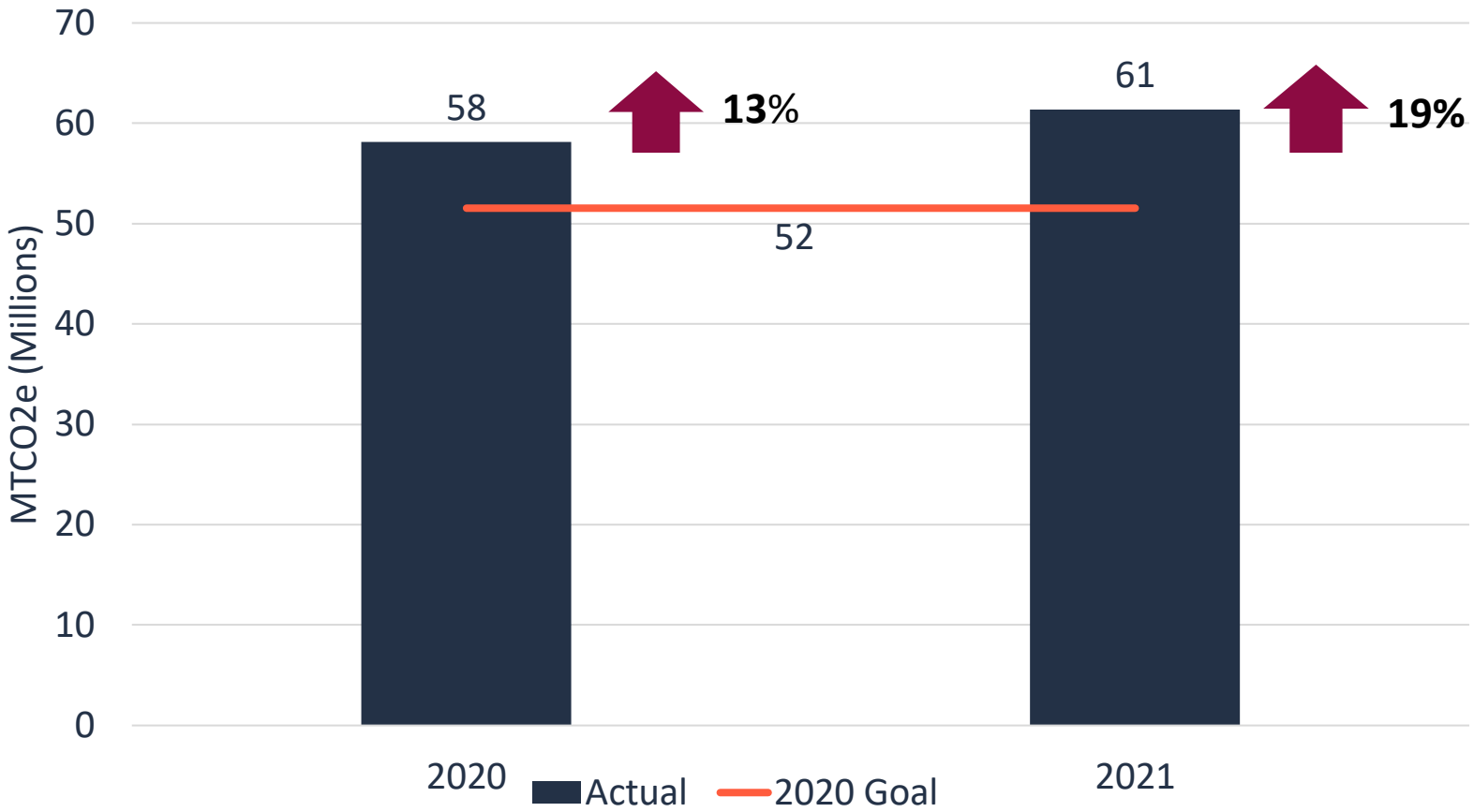
2020 GOAL MISSED



Note: Total annual emission numbers are rounded here but the percentages displayed reflect calculations using the detailed data from DEQ's sector-based inventory.

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GHG EMISSIONS FORECAST
TIGHGER Report

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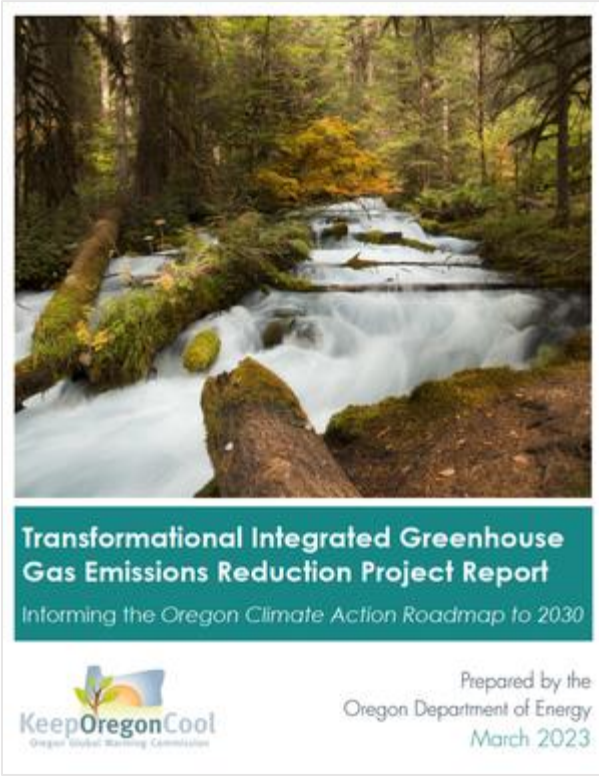
TIGHGER

Transformational Integrated Greenhouse Gas Emissions Reduction Project

- Forecast GHG emissions in Oregon
- Assess the impact of existing programs and regulations
- Assess additional opportunities to reduce GHG emissions



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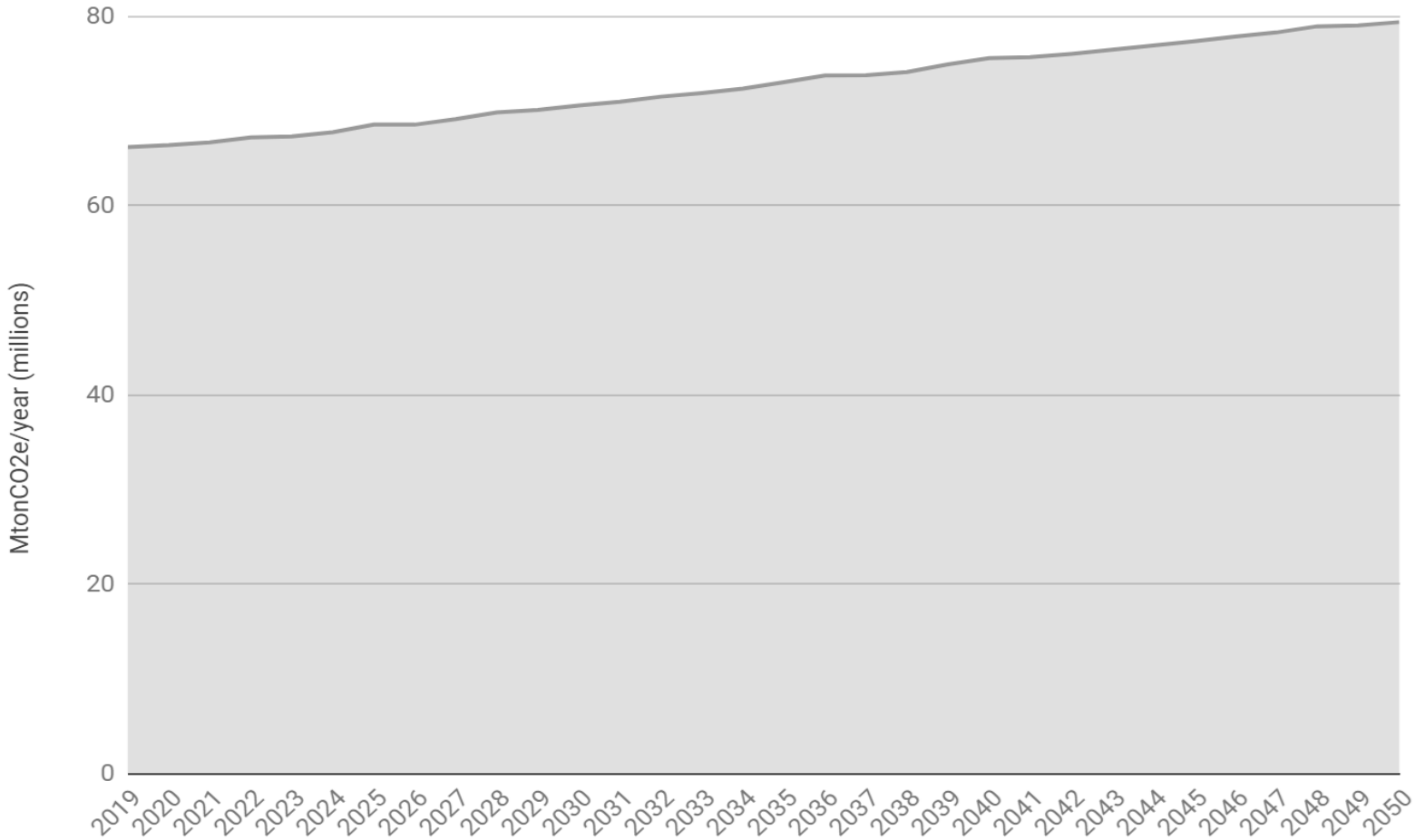
FORECAST OF GHG EMISSIONS

Roadmap Reference Case/Business-As-Usual



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PROGRAMS AND REGULATIONS ADOPTED

DEQ Programs and Rules:

1. Advanced Clean Cars 1 (2009)
2. Clean Fuels Program (2016)
3. Advanced Clean Trucks
4. Climate Protection Program (CPP)
5. Advanced Clean Cars II
6. Clean Fuels Program Expansion
7. Landfill Program
8. Recycling Modernization Act

Other Programs and Rules:

9. HB 2021 (100% Clean Electricity)
10. Energy Efficiency Appliances
11. Solar + Storage Rebate Program
12. Heat Pump Rebate Programs
13. Community Renewable Energy Program
14. Manufactured Home Replacement
15. Healthy Homes Grant Program

Federal Programs:

- CAFÉ standards

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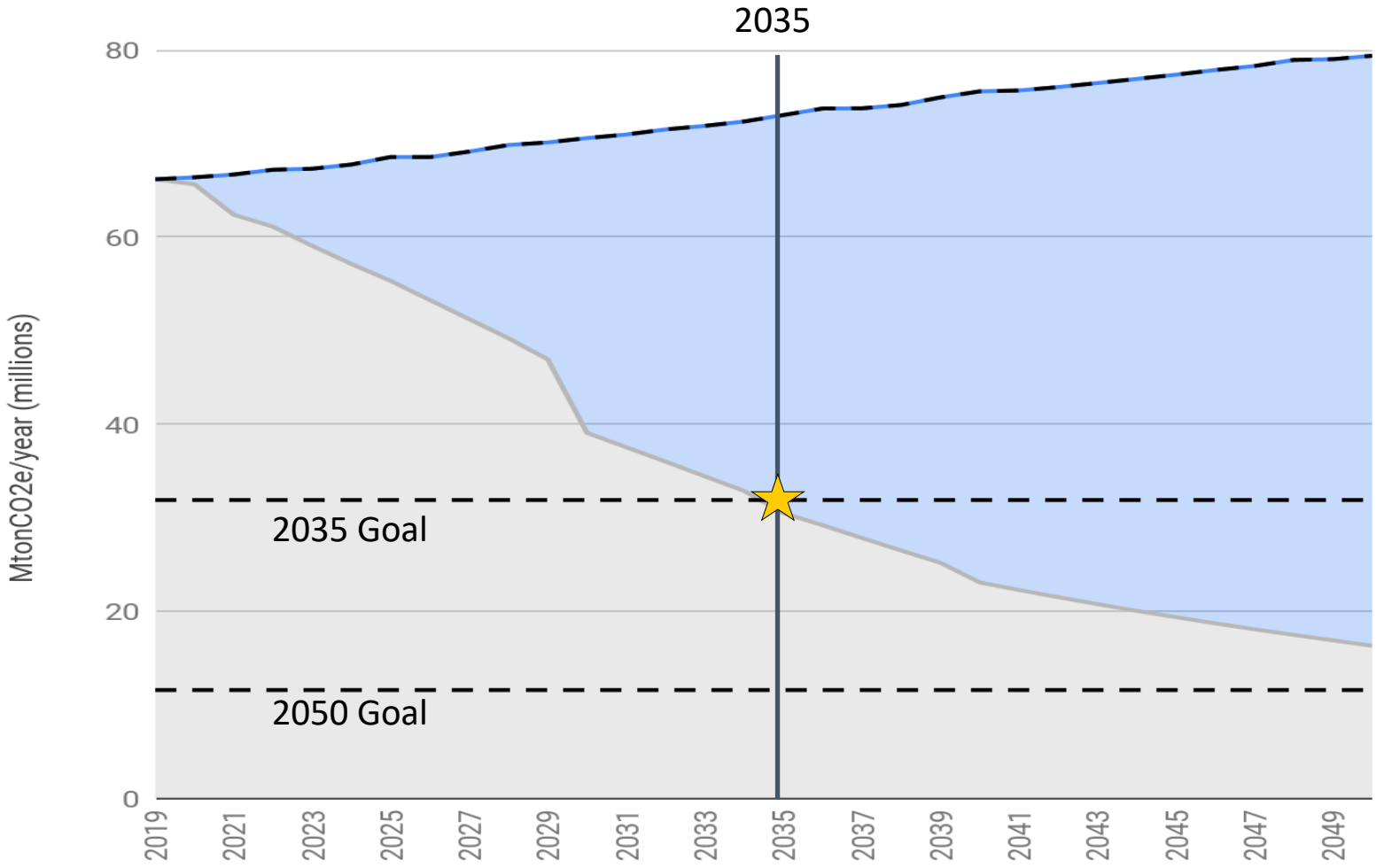
PROGRAMS AND REGULATIONS ADOPTED



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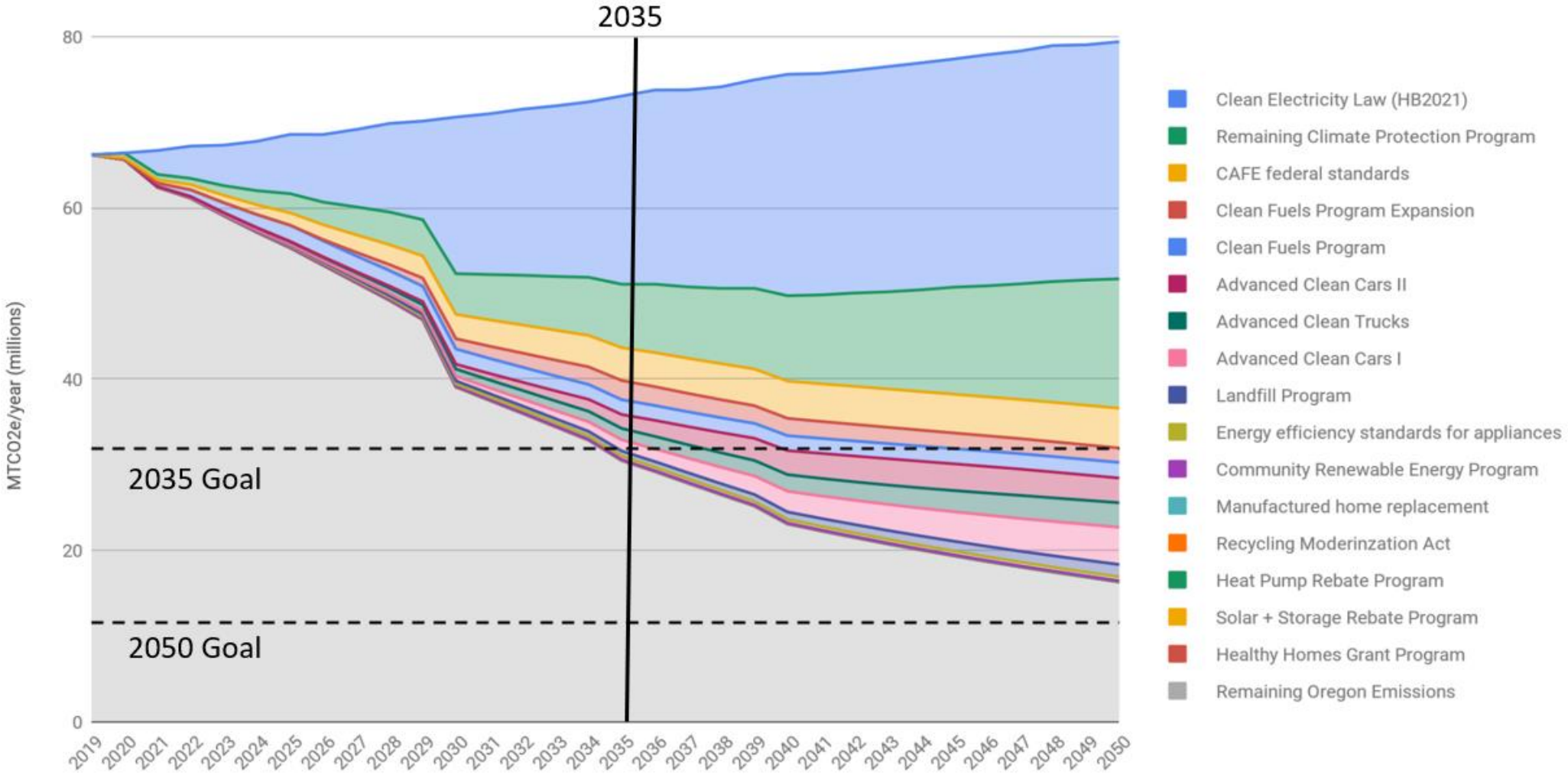
PROGRAMS AND REGULATIONS ADOPTED WEDGES



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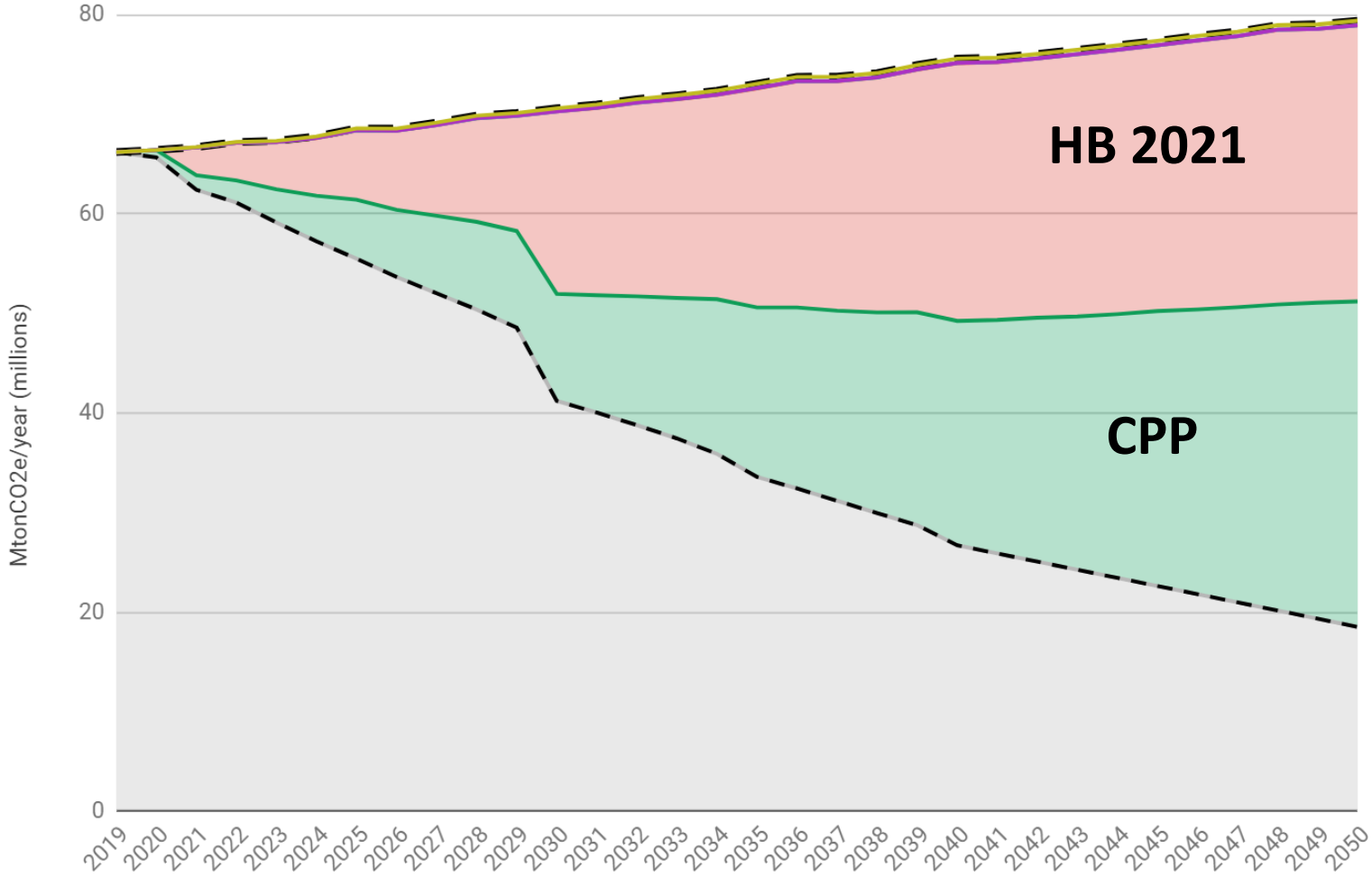
BIG LEVER PROGRAMS & REGULATIONS



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ACCELERATING THE GOAL TO 2030

- Keeping with Best Available Science
- Accelerate the 2035 Goal to 2030
- Two Scenarios
  - Electrification Scenario
  - Hybrid Scenario

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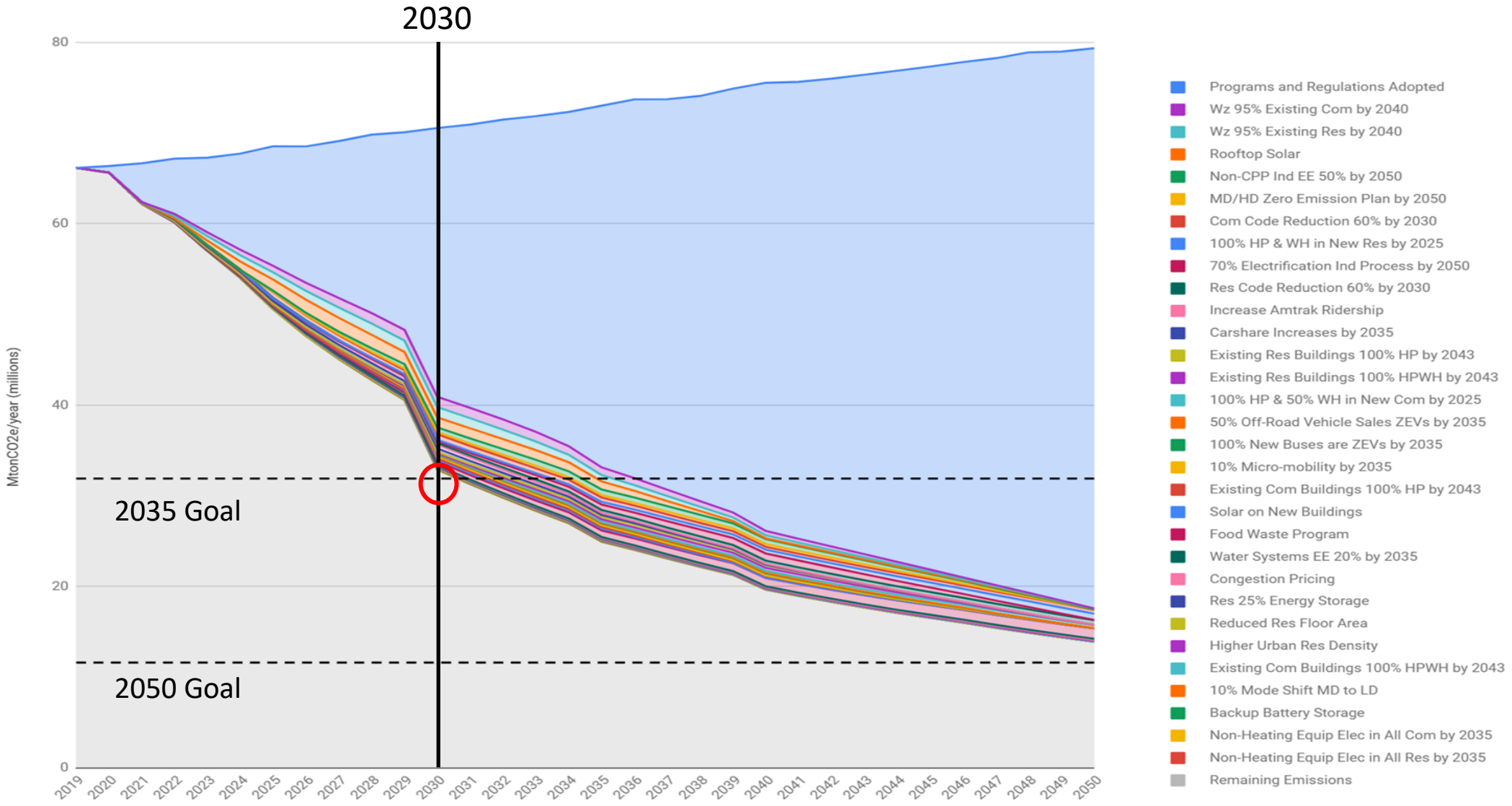
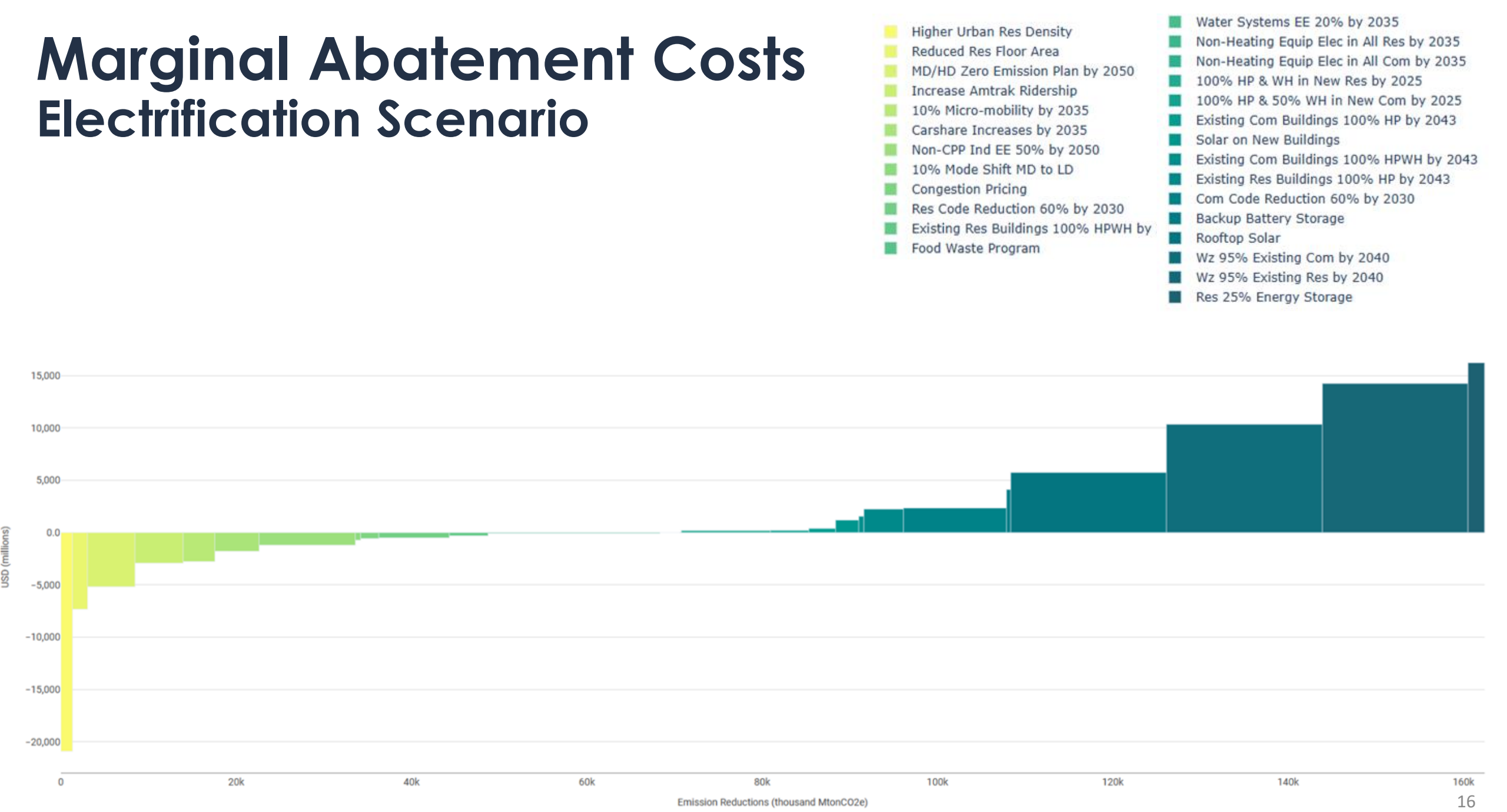
ELECTRIFICATION SCENARIO WEDGES



Marginal Abatement Costs
Electrification Scenario



FINANCIAL METRICS – 2050

Cost or Savings Category	Electrification Scenario	Hybrid Scenario
Capital Investment Costs	-$83.7 Billion	-$87.0 Billion
Energy Expenditure Savings	$108.6 Billion	$110.4 Billion
Operation and Maintenance Savings	$22.0 Billion	$23.4 Billion
Net Benefit	**$46.9 Billion**	**$46.8 Billion**

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FINANCIAL METRICS – 2050
Including Health Co-Benefits

Cost or Savings Category	Electrification Scenario	Hybrid Scenario
Oregon Health Savings	$75.6 Billion	$73.5 Billion
Net Benefit with Health Savings	**$122.5 Billion**	**$120.3 Billion**
Net Jobs per Year (first 7 years)	~31,000	~24,000

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ROADMAP TO 2030 TAKEAWAYS & STRATEGIES

1. Support robust and continuous implementation of existing climate programs and regulations.
2. Adopt updated state GHG goals consistent with the best available science.
3. Identify a set of additional climate actions – the TIGHGER Actions – that meet an accelerated GHG emission reduction goal of 45 percent below 1990 levels by 2030.
4. Support further study and analysis to continue to guide effective climate action over time.
5. Strengthen governance and accountability for Oregon climate action.
6. Position Oregon to take full advantage of federal investments in climate action.

+ 26 sub-recommendations

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CLIMATE SCIENCE AND OREGON'S GHG GOALS

MULTIPLE GOALS

	Current Statute	EO 20-04	OGWC Roadmap-Recommended
2030	-	-	**45%** below 1990
2035	-	**45%** below 1990	-
2040	-	-	**70%** below 1990
2050	**75%** below 1990	**80%** below 1990	**95%** below 1990 Net Zero* Net Negative thereafter*

** The net zero goal is by 2050 or as soon as possible and the net negative goal would apply in the subsequent year.*

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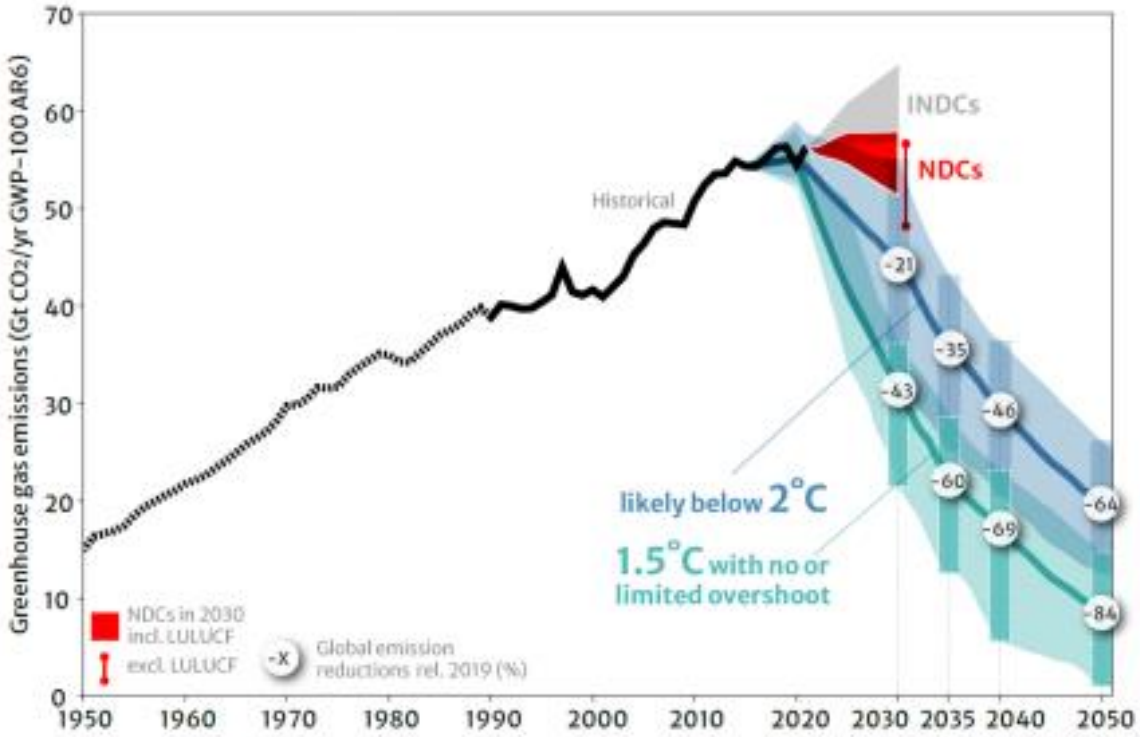
Figure 1

Historical emissions from 1950, projected emissions in 2030 based on nationally determined contributions, and emission reductions required by the Sixth Assessment Report of the Intergovernmental Panel on Climate Change



		Reductions from 2019 emission levels (%)			
		2030	2035	2040	2050
Limit warming to1.5°C (>50%) with no or limited overshoot	GHG	43 [34-60]	60 [49-77]	69 [58-90]	84 [73-98]
	CO_2	48 [36-69]	65 [50-96]	80 [61-109]	99 [79-119]
Limit warming to 2°C (>67%)	GHG	21 [1-42]	35 [22-55]	46 [34-63]	64 [53-77]
	CO_2	22 [1-44]	37 [21-59]	51 [36-70]	73 [55-90]

UNFCCC, Technical Dialogue of the First Global Stocktake – Synthesis Report – Figure 1

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Table 2: Comparison of GHG Reduction Goals Applied to Oregon Baseline Emissions.

GREENHOUSE GAS REDUCTION GOALS		OREGON EMISSIONS (MMTCO2e)					
SOURCE	**TARGET**	**BASELINE[vi]**	**2030**	**2035**	**2040**	**2045**	**2050**
OGWC Roadmap Recommendations 2B and 2C	**45% below 1990 by 2030; 70% by 2040; 95% by 2050**	**57**	**31**	**-**	**17**	**-**	**3**
	Net zero by 2050 or as soon as practicable; net negative thereafter						**NZ**
ORS 468A.205	75% below 1990 by 2050	57	-	-	-	-	14
Oregon EO 20-04	45% below 1990 by 2035; 80% by 2050	57	-	31	-	-	11
TIGHGER 2030 Scenario Projections[vii]	42-43% below 1990 levels by 2030; 56-60% by 2035; 66-69% by 2040; 71-73% by 2045; 76% by 2050	57	33	25-23	19-18	17-15	14
Oregon DEQ CPP Targets[viii]	50% below 2017-2019 levels by 2035; 90% by 2050	63	-	31	-	-	6
IPCC 1.5℃ Special Report[ix, 7]	All GHGs: 40-50% below 2010 by 2030	64	38-32	-	-	-	-
	CO_2: 45% below 2010 by 2030; net zero by 2050	64	35	-	-	-	NZ
IPCC 6th Assessment (1.5℃ pathways)[ix, 8]	All GHGs: 43% below 2019 by 2030; 69% by 2040; 84% by 2050	63	36	-	20	-	10
	CO_2: 48% below 2019 levels by 2030; 80% by 2040; (net zero by 2050-2055)[x, 9]	63	33	-	13	-	*NZ*
Federal Goals / U.S. NDC[10]	50% below 2005 by 2030; net zero by 2050	67	33	-	-	-	NZ
Washington[11]	45% below 1990 by 2030; 70% by 2040; 95% by 2050	57	31	-	17	-	3
	Net zero by 2050						NZ
California[12]	*48% below 1990 by 2030;[xi, 13]* 85% by 2045	57	*30*	-	-	9	
	Net zero by 2045 or as soon as possible; net negative thereafter					NZ	NN

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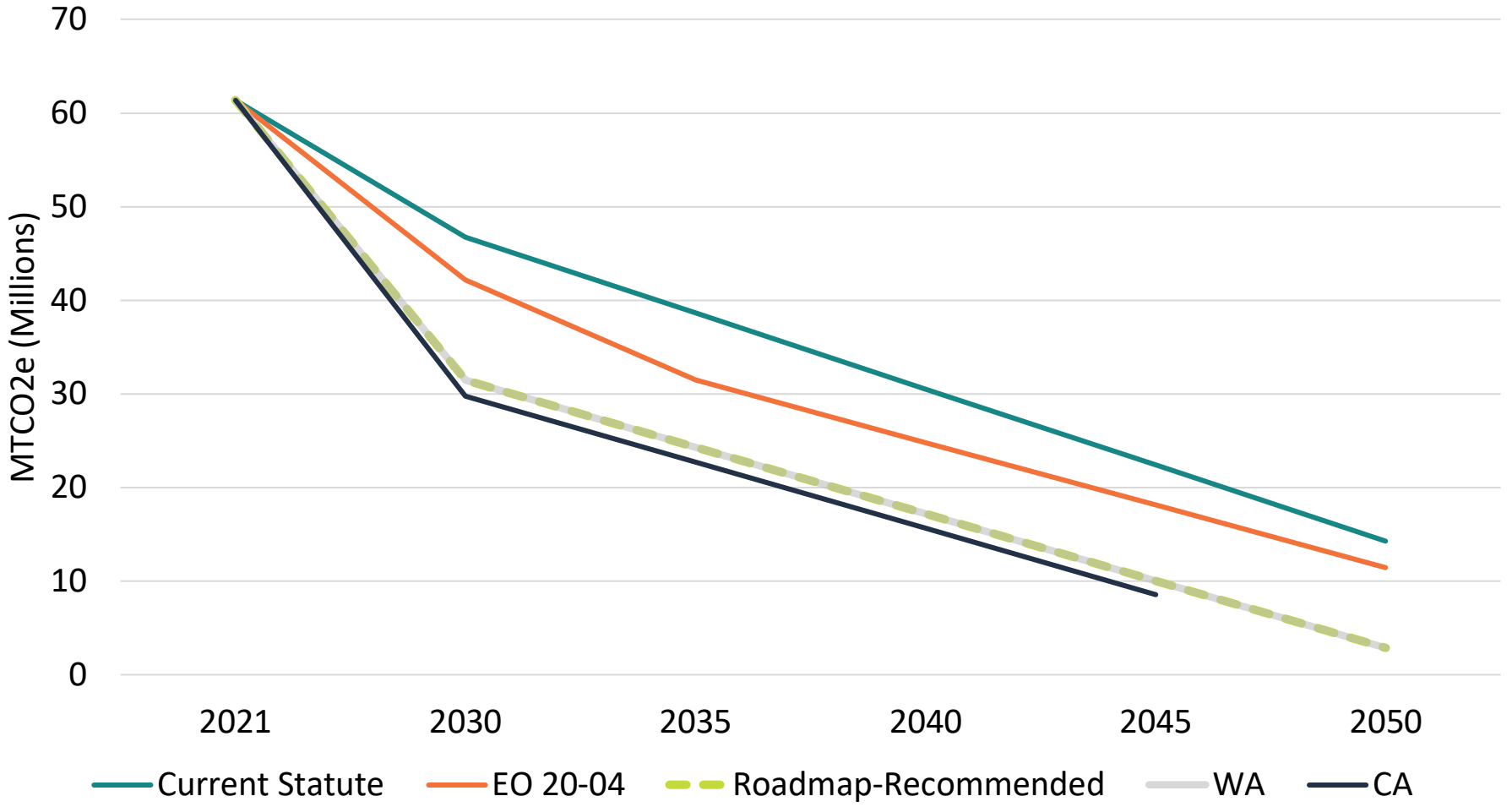
Oregon Climate Action Roadmap to 2030, Table 2

ALIGNING GOALS WITH WEST COAST NEIGHBORS



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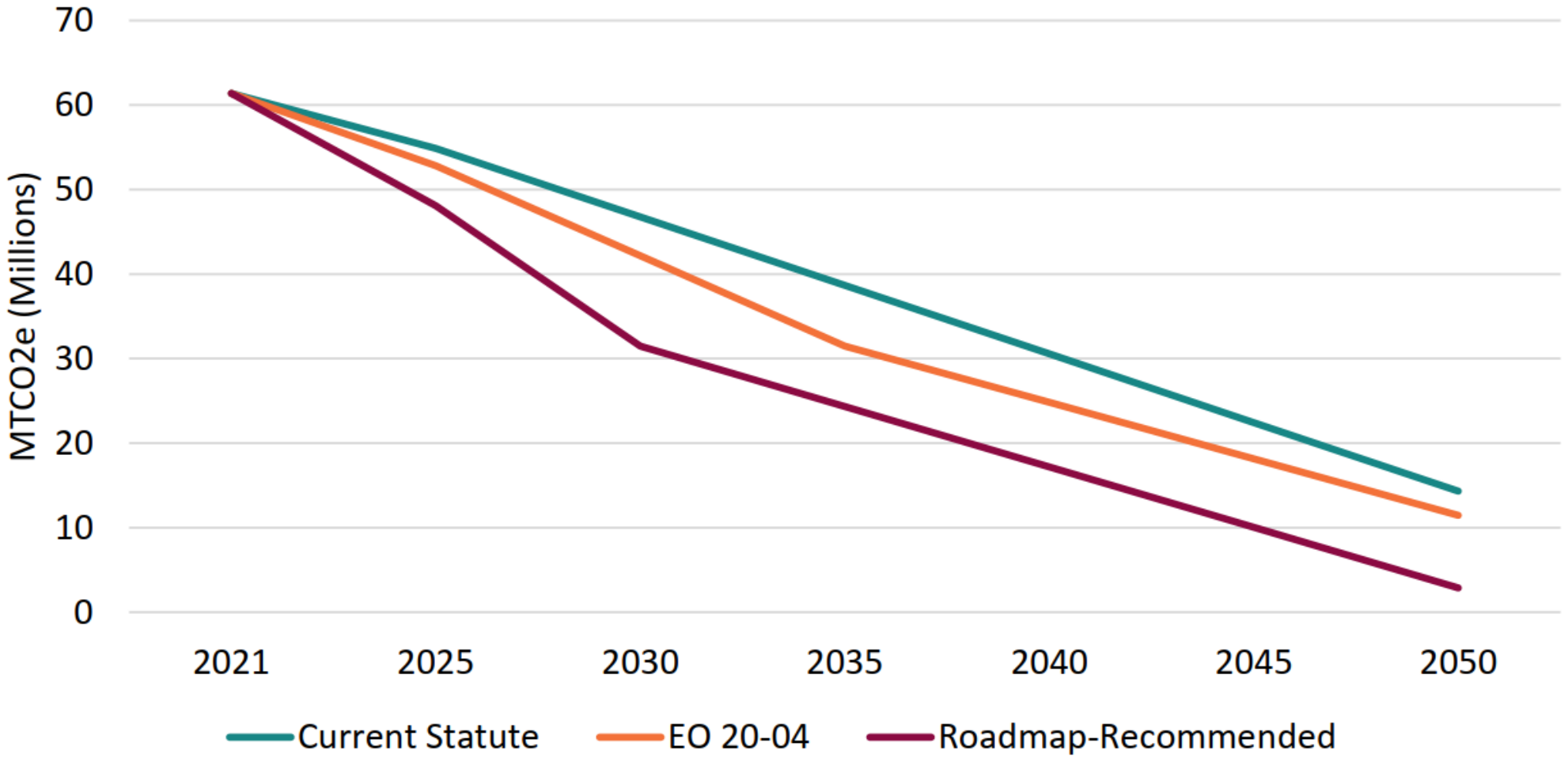
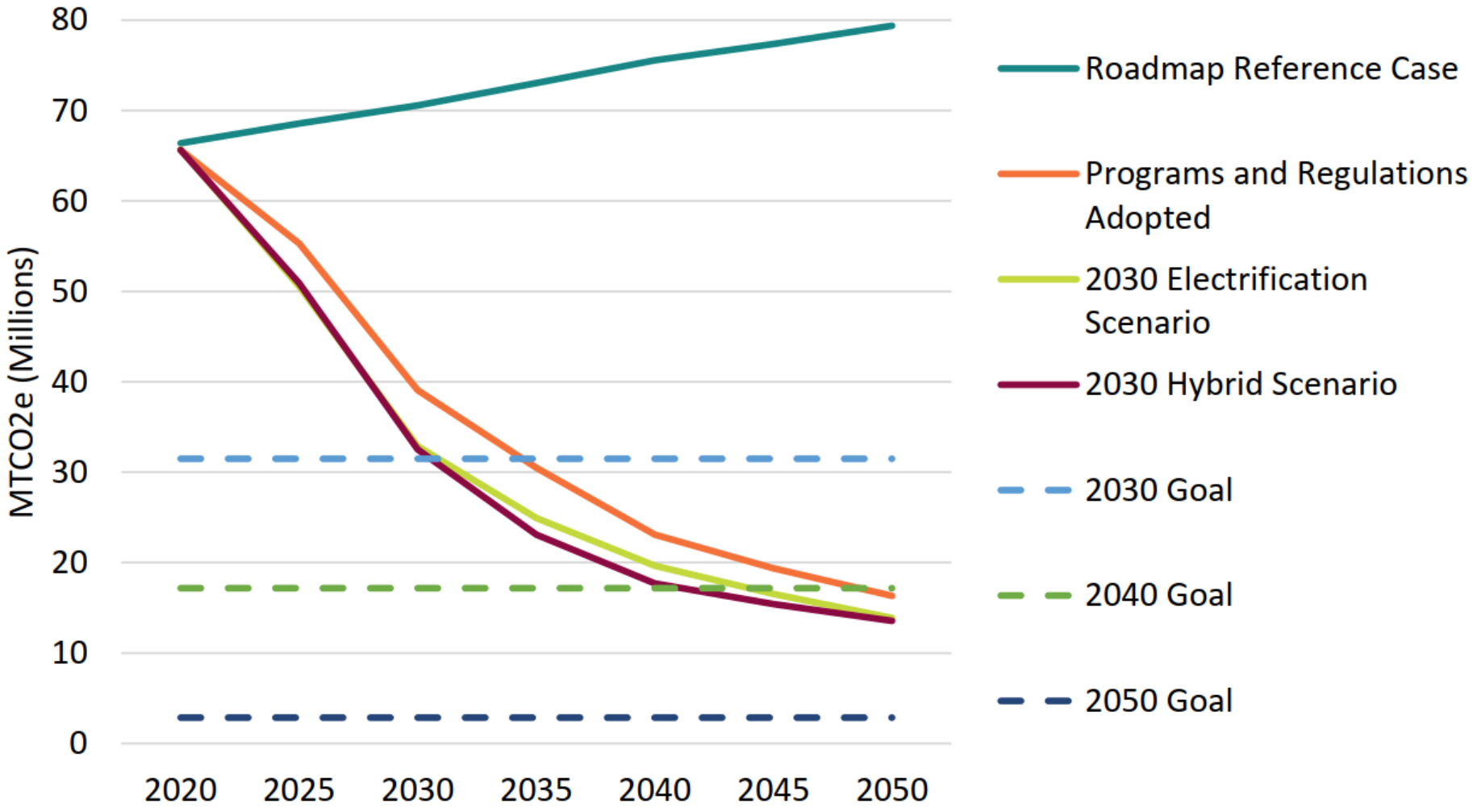
MORE AND FASTER EMISSIONS REDUCTIONS…



~342 MMTCO2e more emissions reduced through 2050 between current statutory and Roadmap-Recommended goals

OGWC 2023 Report to the Legislature, Figure 2

EVEN MORE WORK TO DO…



OGWC 2023 Report to the Legislature, Figure 6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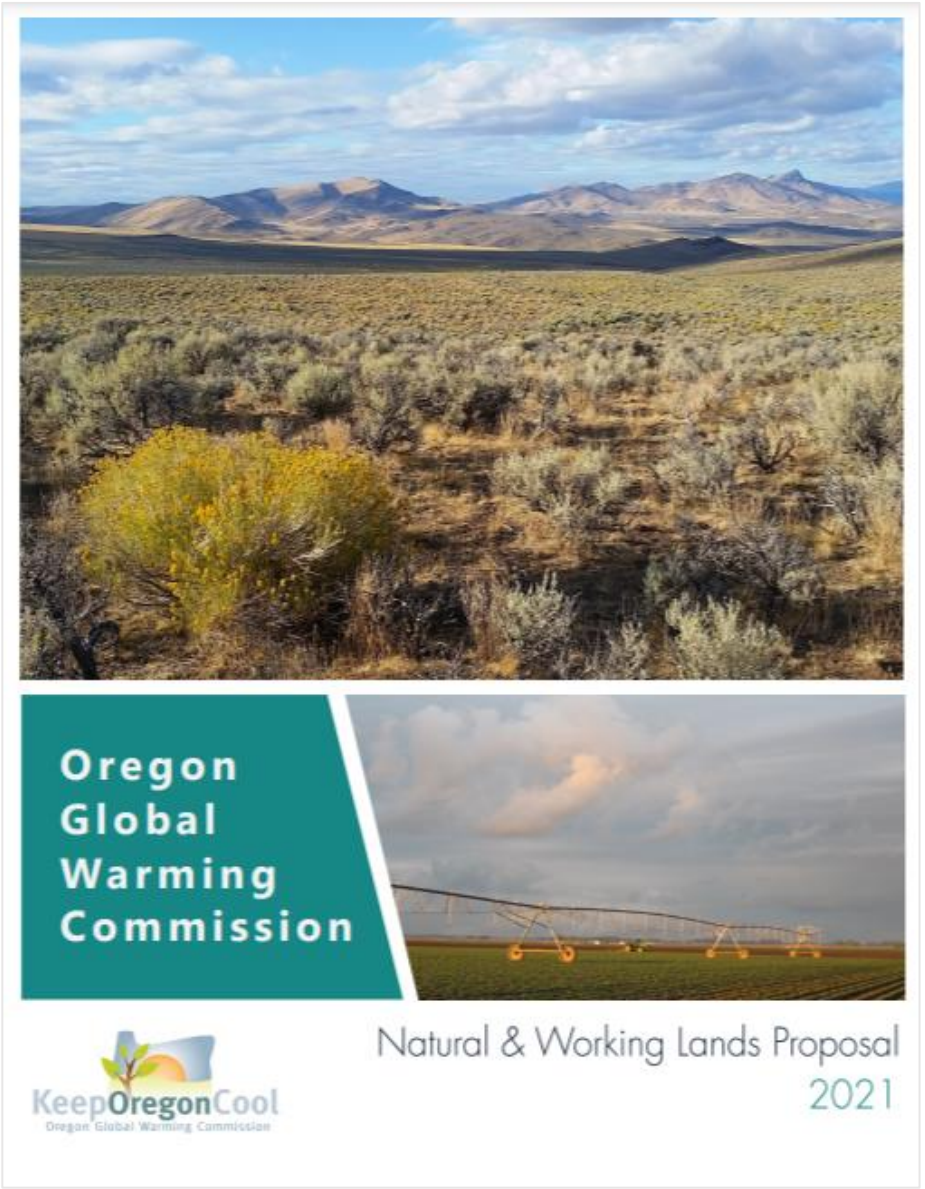
CARBON SEQUESTRATION EFFORTS ON NATURAL AND WORKING LANDS

Natural and Working Lands Proposal

- Year+ long process
- Over 1,000 Oregonians provided comments
- Proposal includes
  - Proposed goals and metrics
  - Strategy recommendations

www.keeporegoncool.org/s/2021-OGWC-Natural-and-Working-Lands-Proposal.pdf



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Strategies

1. Position the state **to leverage federal lands and investments** in climate-smart natural and working lands practices.
2. **Create a sustained source of state funding** to increase sequestration in natural and working lands.
3. **Fund and direct state agencies** to advance natural and working lands strategies.
4. Invest in **improvements to the natural and working lands inventory and research**.

HB 3409 Sections 53-67

- Defines natural and working lands (N&WL)
- Declares that it was the policy of the state to advance N&WL strategies
- Creates a fund to invest in Natural Climate Solutions and leverage other public funding
- Directed agencies to develop and report on a inventory and metrics
- Directs the OGWC to create a N&WL Advisory Group and Tribal consultation
- Requires the Commission to complete a workforce and training study

Home Our Approach Stakeholder Advisory Committee Resources Contact

Oregon's Natural & Working Lands

Oregon's natural and working lands - forests, grasslands, rangelands, farmlands, wetlands, and urban parks and open spaces - produce many benefits, including opportunities to capture and store carbon to reduce Oregon's overall/net contributions to greenhouse gas emissions. Oregon has goals to increase the amount of carbon natural and working lands capture and store by 2030 and 2050. If the state is successful in achieving these as well as sector-based carbon storage goals, Oregon could be net neutral and mitigating the effects of climate change by 2040.

A Project of
Oregon's Global Warming Commission

https://www.ogwcnaturalandworkinglands.org/

Federal Funding for Natural Climate Solutions

IRA NCS investments

- Forests: $4.7 billion for protection, management, and restoration
- Agricultural Lands: $20 billion toward climate-smart agricultural practices
- Coastal Habitat: $2.6 billion in grants to conserve and restore coastal habitats
- Field Data: $300 million to quantify carbon sequestration and greenhouse gases data to assess conservation outcomes

IIJA NCS Policy and Appropriations

- Wildfire risk reduction program/grants: $4.37 billion over 5 years USFS/DOI
- Ecosystem restoration program/grants: $2.13 billion over 5 years USFS/DOI
- National Seed Strategy for rehabilitation and restoration: $70m DOI/$130m USFS
- REPLANT Act: Reforestation Trust Fund: Increase up to $290 million/year
- Joint Chiefs Landscape Restoration Program: $90 million/year
- Post-fire restoration: $225M

USDA Climate-Smart Commodities Grants: $3.1 billion


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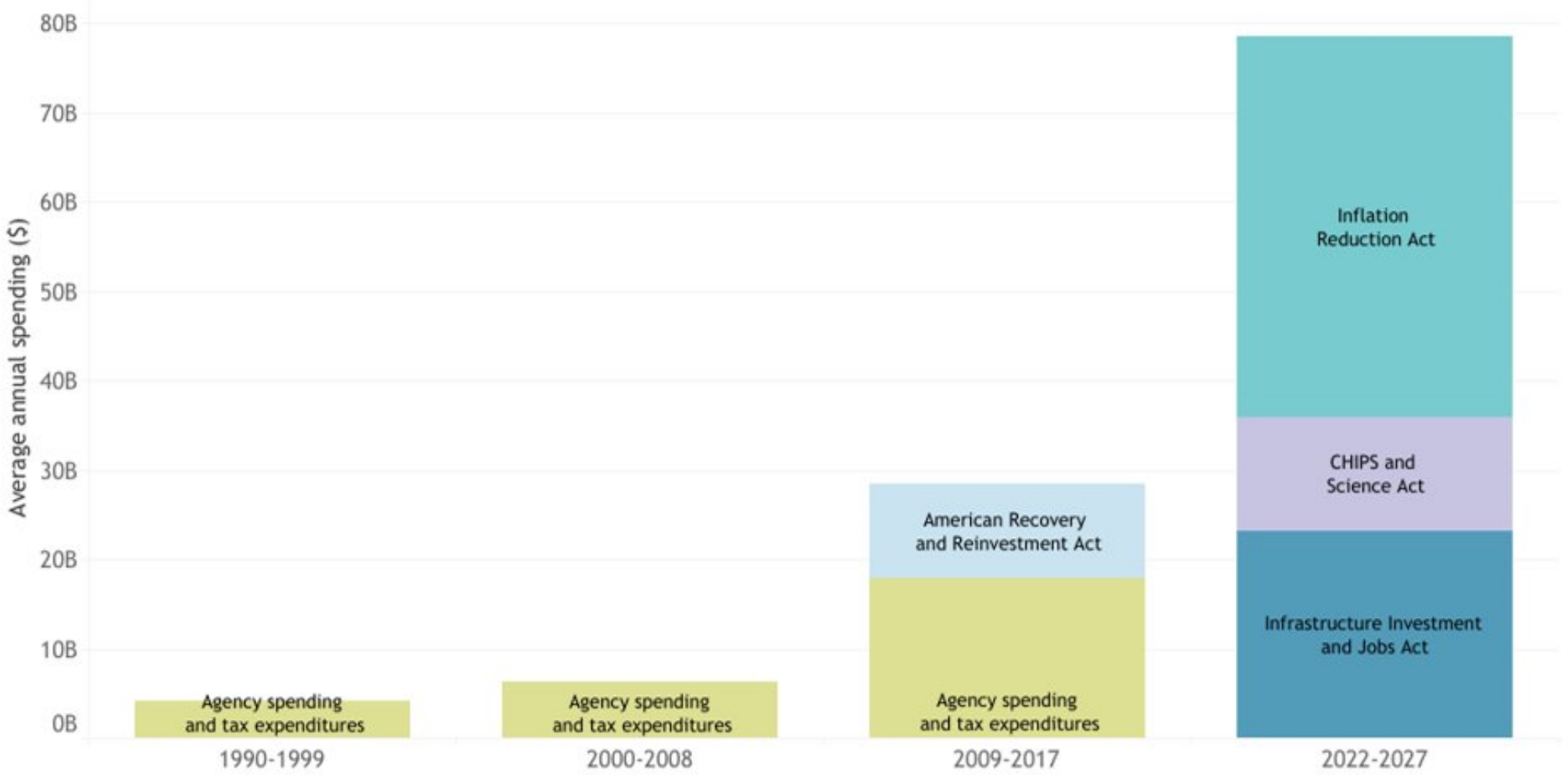
FEDERAL FUNDING TO
ACCELERATE CLIMATE ACTION

HISTORIC INVESTMENTS



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https://public.tableau.com/app/profile/jun.shepard2722/viz/FederalSpending1990-2029/FederalSpending1990-2029

FEDERAL GRANT OPPORTUNITIES ODOE IS CLOSELY FOLLOWING

Federal Planning

- Energy Auditor Amount TBD
- Future Resilient and Efficient Code cycles
- Future GRIP cycles
- Latest and Zero Building Codes
- Contractor Training

Application Open

- Solar for All Amount $138 Million
- HOMES $57 Million
- HEAR $56 Million
- Contractor Training $2 Million
- CPRG – Implementation
- Latest and Zero Building Codes
- Clean Communities Investment Accelerator
- R-STEP
- National Clean Investment Fund
- TSED

Pending

- Hydrogen Hub
- EECBG $1.9 Million

Awarded

- SEP $5.6 Million
- Grid Resilience $50 Million
- Resilient and Efficient Codes $456K
- CPRG Planning - $500K

Key

Red = IIJA Formula
Orange = IIJA Competitive
Teal = IRA Formula
Green = IRA (unknown Form/Comp)
Gray = IRA Competitive
Circle = ODOE is not/may not be a lead applicant

September 25, 2023

THANK YOU!

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