
Expanded Education Fund

Juliette Pascual
October 9, 2024



BOD Request

1. Approve the allocation of \$100,000 from the operating budget for the proposed 2024-2025 Expanded Education Fund



Objectives

- Background on existing education initiatives
- Approval of enhancement of education non-profits – *Expanded Education Fund*
- Introduction of engagement with local community colleges – *Community College Partnership pilot*
- Questions and Discussion



Engaging with Students & Schools

Investing in student education helps us engage our community and deliver on our mission.

The Education Fund launches to offer climate engagement opportunities for students

2019

Increasing number of requests for support from educators and non-profits to expand programming.

2023

Education Landscape Analysis helps identify a role for SVCE among a growing number of players.

2024



Success Snapshot – Education Fund

Dear SVCE,
Our treeplexish project
was a great success!
Thank you for your
help with funding.
We appreciate your
contributions to helping
us offset our carbon
emissions! We look
forward to working with
you in the future. Have
a great summer!

From, Dena Bernstein
on behalf of
LG's ~~Environmental~~ Environmental
Outreach Club!

38 teams funded

9 different cities

\$300,000+ in grants

5 organizations launched



Education Landscape Analysis explored existing Santa Clara County programs

Students

EmPowerSV scholarship competition

Existing Education Fund



Organizations & Educators

Santa Clara County Office of Education Summit

SCC Youth Climate Initiative



Various non-profit programs





Proposed Educational Opportunities

Students

EmPowerSV
scholarship
competition

Existing
Education Fund



Engagement
of community
colleges

Gaps

Enhancement of
education non-
profits

Organizations & Educators

Santa Clara
County Office of
Education
Summit

SCC Youth
Climate
Initiative



Expanded Education Fund

Offer competitive grants to non-profits working with schools to expand reach in SVCE service area schools, and enhance climate/clean energy curriculum.



Expanded Education Fund

Engage existing non-profits with programs that enhance early workforce development and expand access to curriculum and field trips.

Program	Funded Groups	What	Target Audience
Education Fund	Student groups + faculty advisor	Student-led projects	K – college prioritizing underrepresented communities and Title 1 schools
Expanded Education Fund	Environmental education non-profits	Energy education & early workforce development	



Potential Impact Areas & Budget

Expected budget of \$100K, allocate \$20K per non-profit

Early Workforce Development



Energy research speaker series for high schoolers

Community Workshops



Local workshops and summer camps to learn energy concepts

Curriculum & Educator Training



Middle school science curriculum on the foundations of energy



Next Steps for Expanded Education Fund

Program timelines will vary depending on the type of engagement, and may last through the following school year.



August

Executive
Committee
Approval



October

Board of
Directors
Approval



November

Finalize
development



Fall 2024

Program
Opens



2025

Launch
initiatives

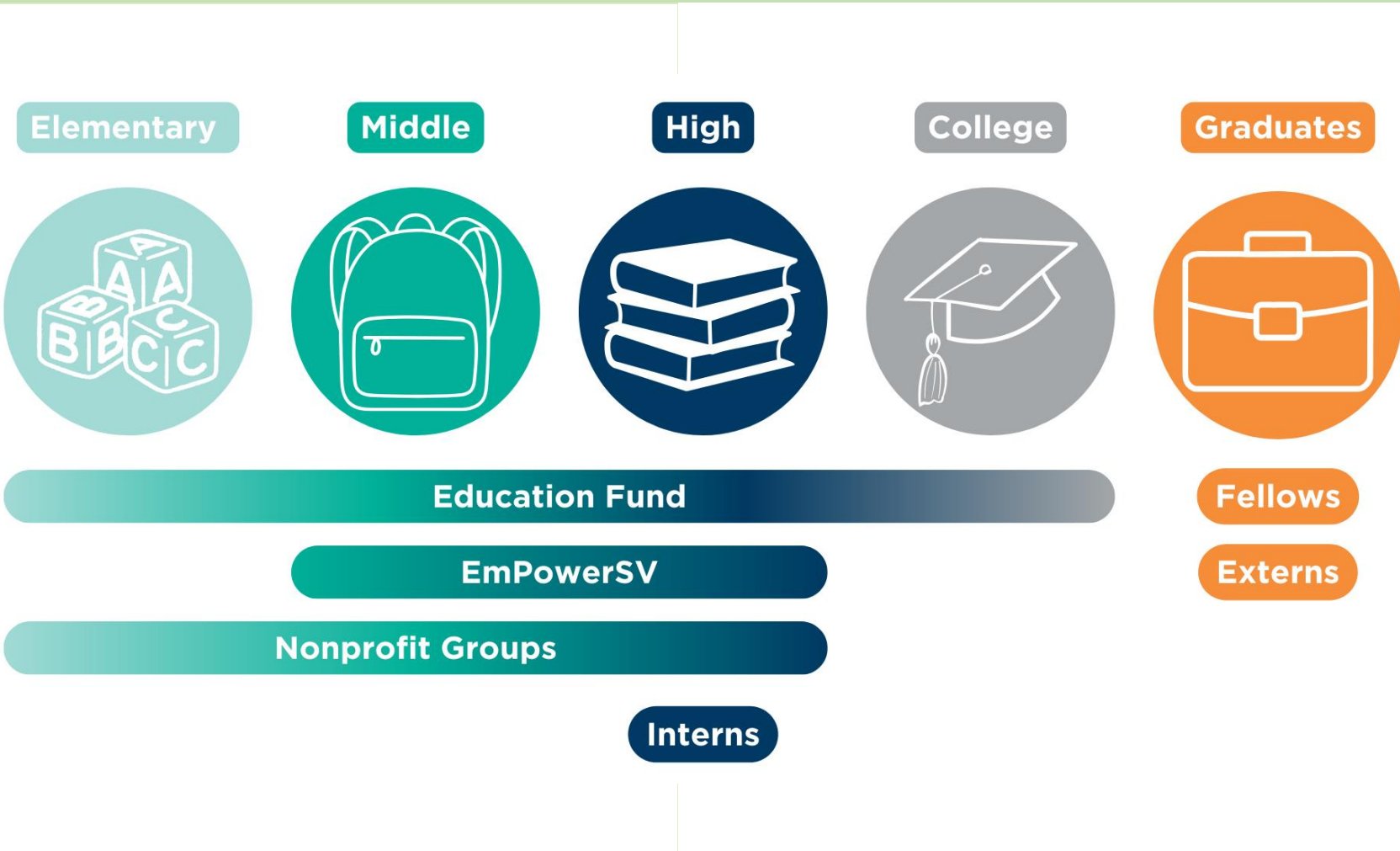
Community College Partnership

SVCE staff to serve as mentors and speakers with local community colleges and inspire future clean energy careers.



Workforce development opportunity with local colleges

Engage college students to explore clean energy careers



Colleges





Community College Partnerships

SVCE Involvement

- Community college staff have reached out to SVCE about working together to introduce students to clean energy careers and SVCE programs
- CC & SVCE staff have had conversations about creating mentorships, speaker series, and ambassador opportunities
- Interested SVCE staff identified—there would be minimal staff time committed to a pilot partnership



BOD Request

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Questions



Item 4: Authorize the Chief Executive Officer to Execute a 10-Year Power Purchase Agreement with VCI Energy, Inc. for Glossy Garlic Renewable Solar and Storage

SVCE Board Meeting
October 9, 2024

Authorize the Chief Executive Officer to execute Glossy Garlic agreement for the procurement of renewable solar energy and energy storage as follows:

1. VCI Energy Glossy Garlic (PPA) (“Glossy Garlic”)

- a. 50 MW or approximately 192,000 MWh per year of Renewable Portfolio Standard (RPS) Portfolio Category Content One (“PCC1”) eligible resources from solar PV;
- b. 50 MW, 4-hour or 200 MWh lithium-ion battery energy storage system which is capable of charging from the CAISO grid;
- c. 10-Year term PPA with expected commercial operation date (COD) and term from February 28, 2029, through February 27, 2039; and.
- d. Total amount not-to-exceed \$138,000,000.



Executed Long-Term Power Purchase Agreements (PPAs)

Significant progress made towards meeting long-term clean energy goals

- \$3.7 Billion in executed PPAs
- 21 PPAs
- 1,528 MW of nameplate capacity
- 71% RPS in 2030
- 9 projects online and operating ~39% RPS in 2024

	Seller	Project Name	Technology	Generation MW	Storage MW	Storage MWh	Approximate % of Annual load in 2030	Term (years)	Lifetime Not to Exceed Authority (MM\$)	SVCE Board Approval	Status
1	MN8	Slate	Solar + Storage	93	46.5	186	6.2%	17	\$198	Oct-18	Online
2	Ormat	Casa Diablo	Geothermal	7			1.4%	10	\$43	Feb-20	Online
3	Atlantica	Coso	Geothermal	43.8			6.1%	15	\$331	Mar-20	Online
4	Leeward	Rabbitbrush	Solar + Storage	40	8	20	2.9%	15	\$64	Apr-20	Online
5	NextEra	Yellow Pine	Solar + Storage	50	26	104	3.8%	20	\$128	May-20	Online
6	Avantus	Aratina	Solar + Storage	80	50	200	6.3%	20	\$368	Jun-20	Pre-construction
7	174 Power Global	Atlas	Solar	50			3.6%	10	\$32	Jan-21	Pre-construction
8	SB Energy	Angela	Solar + Storage	20	10	40	1.4%	15	\$35	Mar-21	Pre-construction
9	AES	Mountain View	Wind	33.3			3.1%	20	\$128	Apr-21	Online
10	Origis	San Luis West	Solar + Storage	62.5	15.625	62.5	3.9%	15	\$132	Apr-21	Pre-construction
11	Clearway	Victory Pass	Solar + Storage	100	25	100	7.6%	15	\$173	May-21	Online
12	Terra-Gen	Cameron Crest	Wind	77.7			4.6%	15	\$150	May-21	Online
13	Rev Renewables	Tumbleweed	Long Duration		15.938	127.5		15	\$100	Feb-22	Construction
14	Onward	Goal Line	Long Duration		14.2	113.6		15	\$100	Mar-22	Pre-construction
15	Ormat	Geothermal Portfolio	Geothermal	16.75			4.2%	20	\$256	Jun-22	Pre-construction
16	OME	Fish Lake	Geothermal	1.82			0.4%	20	\$30	Jun-22	Pre-construction
17	AES	Baldy Mesa (RA-only)	Storage	0	75	300		10	\$81	Sep-22	Online
18	MRP	Hanford	Thermal + BESS	99.4	131.4	131.4		12	\$280	Apr-23	Pre-construction
19	NextEra	Grace	Solar	120	0		8.3%	15	\$286	Aug-23	Pre-construction
20	NextEra	Yellow Pine III	Storage	0	115	460		15	\$420	Aug-23	Pre-construction
21	Pattern	SunZia	Wind	100	0	0	7.6%	15	\$361	Nov-23	Construction
Total:				995	533	1845	71.4%		\$3,696		



Fall 2023 Procurement Efforts

SVCE Procurement Goals:

- Renewable Portfolio Standard (RPS)
- Integrated Resource Plan (IRP) GHG Reductions
- Mid-term Reliability (MTR) Procurement Order
- Portfolio Diversity
 - Technology
 - Geography
- Resource Adequacy
- Carbon Free Energy & Standalone Storage Projects
- Term: minimum 10 years

October
2023

- Issued RFP – seeking diverse RPS & MTR Resources

Early 2024

- Shortlisted Glossy Garlic

Oct-Nov
2024

- Expected execution of Glossy Garlic contingent on Board approval



Glossy Garlic Solar + Storage

- SVCE's first local utility-scale project
- 4% of SVCE's retail sales

Helps meet:

- GHG reduction target
- 75% RPS by 2030
- SB100 Clean Energy target of 100% by 2045
- SB350 long-term RPS requirements
- Provides clean Resource Adequacy capacity

Developer

- VCI Energy, Inc.

Product & Attributes

- 50 MW New Solar, 50 MW New 4-hour Battery Storage
- 192 GWh PCC1 Renewable Energy
- Resource Adequacy

Project Name & Location

- Glossy Garlic
- **Santa Clara County**

Expected Delivery Term Start

- 10-year, online in early 2029

Contract Price Structure

- Fixed price (\$/kW-mo) for Resource Adequacy and (\$/MWh) for Metered Energy. No Escalator.

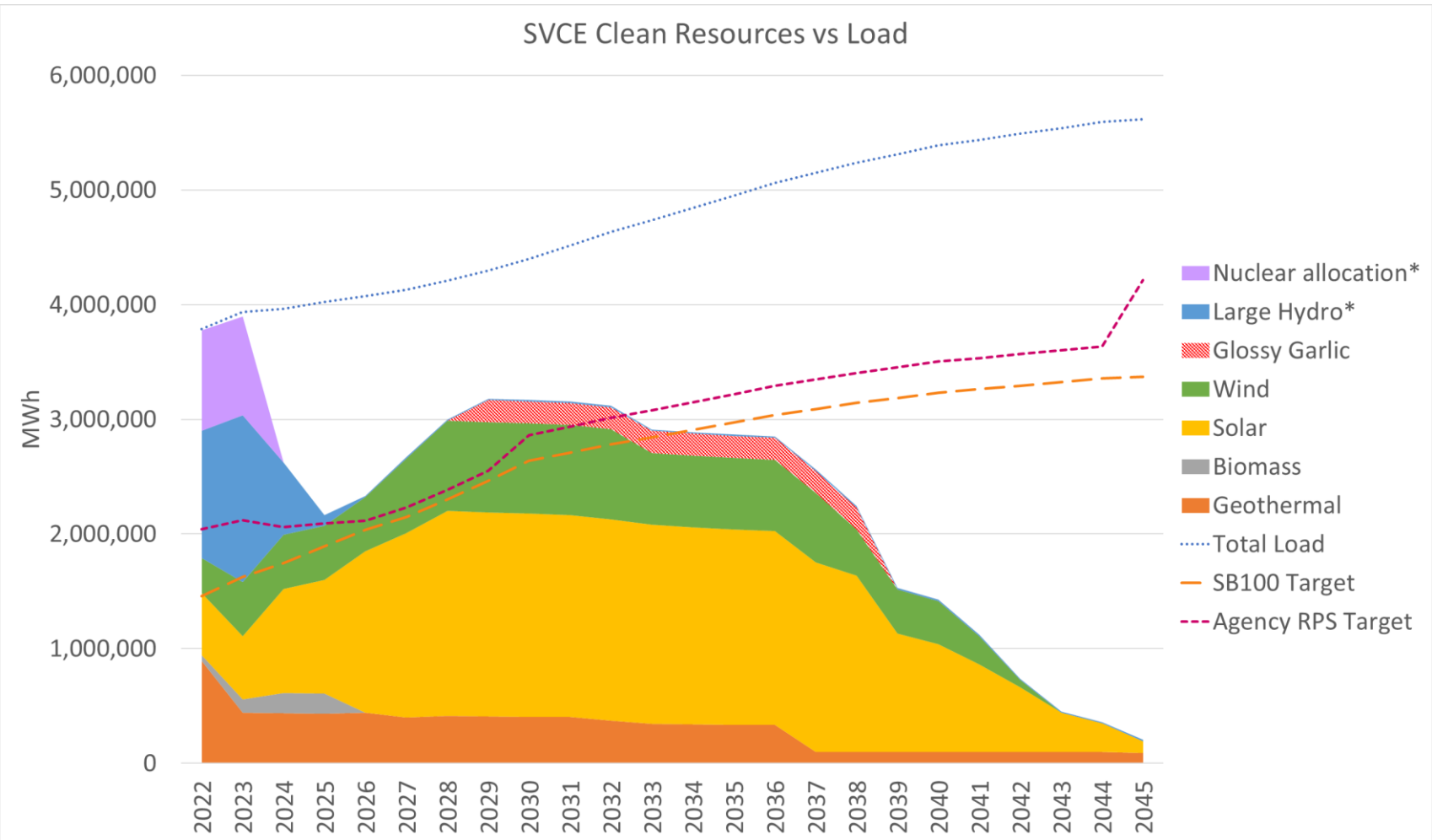


Annual RPS Progress

Glossy Garlic will help SVCE meet ongoing SB100 RPS requirements as well as SVCE's Agency RPS target that climbs to 75% in 2030

SB100 Carbon Neutral targets per SB 1020

- 60% RPS by 2030
- 90% Clean by 2035
- 95% Clean by 2040
- 100% Clean by 2045



*Additional carbon-free allocations in 2024 and beyond are expected from PG&E's existing portfolio and a new state-wide Central Procurement Entity



Compliance with Long-Term RPS Procurement Mandate

- SB350 requires 65% of RPS to come from long-term (≥ 10 years) contracts
- Glossy Garlic adds to Compliance Period 6 (CP#6) obligations

	CP#4 2021- 2024	CP#5 2025- 2027	CP#6 2028- 2030
1. State Mandated RPS per Compliance Period - % of Retail Sales	40%	50%	57%
2. State Mandated % of Mandated RPS (Row #1) to be Contracted Under RPS Long-term Contracts	65%	65%	65%
3. State Mandated % of Retail Sales with RPS Long-term Contracts (Row 2* Row 1)	26%	33%	37%
4. SVCE: Current Compliance with Row #3: Existing RPS Achieved with Long-term Contracts	27.4%	62.2%	73.9%
5. SVCE: RPS Achieved with Glossy Garlic	27.4%	62.2%	77.9%
Open Position relative to State Mandate (Row #3) +Above/ (-) Below	+1.4%	+29.2%	+40.9%



Energy and Reliability Portfolio

Glossy Garlic will increase clean energy and capacity to meet Resource Adequacy requirements.

One-to-one ratio of PV to BESS improves ability to meet RA Slice of Day requirements.

Increases Clean Energy from Solar by 4% and Clean RA Capacity from BESS by ~4%

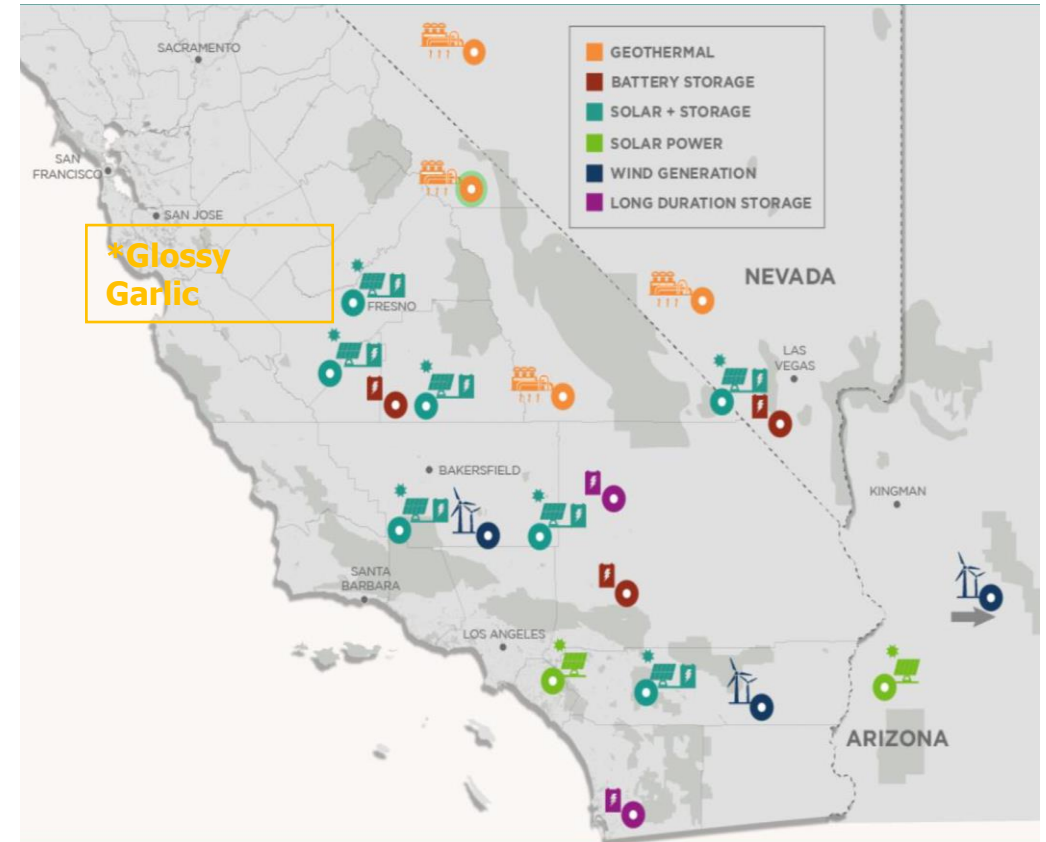
Estimated for 2028	Annual Energy (GWh)	Energy Source as a Percent of Total Retail Sales	Capacity Source as a Percent of Total RA Requirement
Biomass	0	0%	0%
Geothermal	385	9%	4%
Solar with Glossy Garlic	2,004	47%	6%
Wind	633	15%	6%
Large Hydroelectric	1,265	29%	0%
Battery Storage with Glossy Garlic	0	0%	35%
Natural Gas RA-only	0	0%	40
Hanford – Natural Gas	Est. 8	0.2%	9%
Total	4,286	100%	100%



Glossy Garlic Project Risk

All power supply projects carry risk which may be managed through sound contract provisions, proper portfolio oversight and diversification of technology, location, tenure and counterparty.

- Development Risk – pre on-line
 - VCI has site control for Glossy Garlic
 - Local and other use permits in process
 - CAISO interconnection study not yet started
 - Supply-chain and labor cost
 - Financing
- Performance Risk – post on-line
 - PV generation
 - Energy & RA value
 - BESS Operations





Glossy Garlic adds a local project to SVCE's portfolio while meeting clean objectives

- Contributes 4% of RPS-eligible energy on an annual basis
- Helps meet clean energy goals, SB 100, SB 350 and SB 1020
- Reduces GHG emissions
- Provides Resource Adequacy capacity
- Provides net positive portfolio value
- First local project in SVCE's service area

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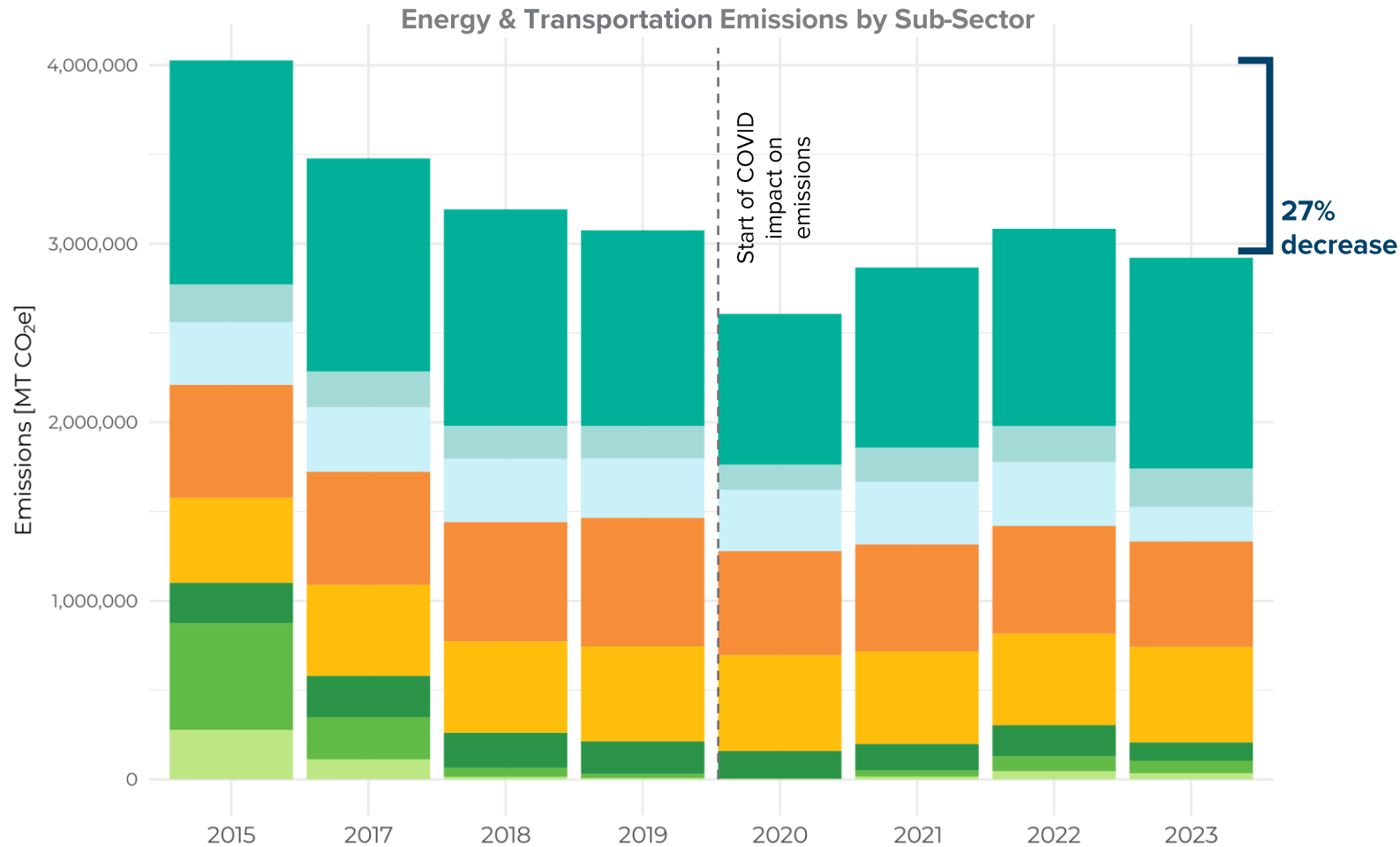
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2023 Greenhouse Gas Inventory Update

October 9, 2024



2023 total emissions were 27% below 2015



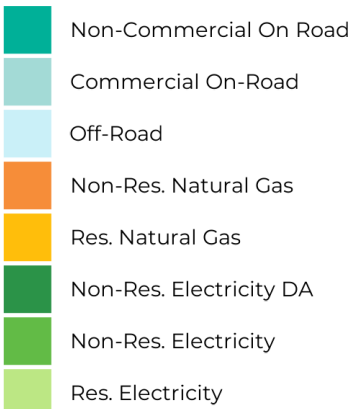
2023 emissions:
2.92 million MT CO₂e

SVCE Region GHG Reduction Targets

2021: 30% below 2015

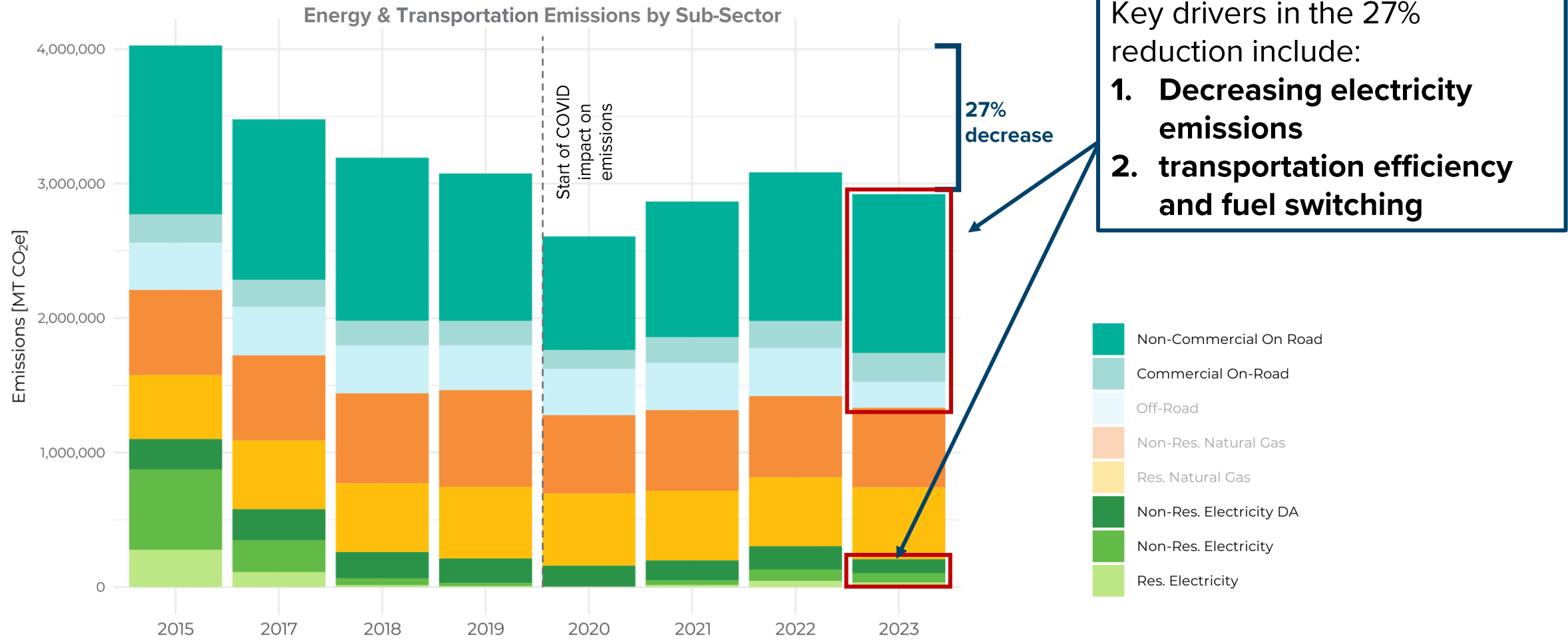
2025: 40% below 2015

2030: 50% below 2015





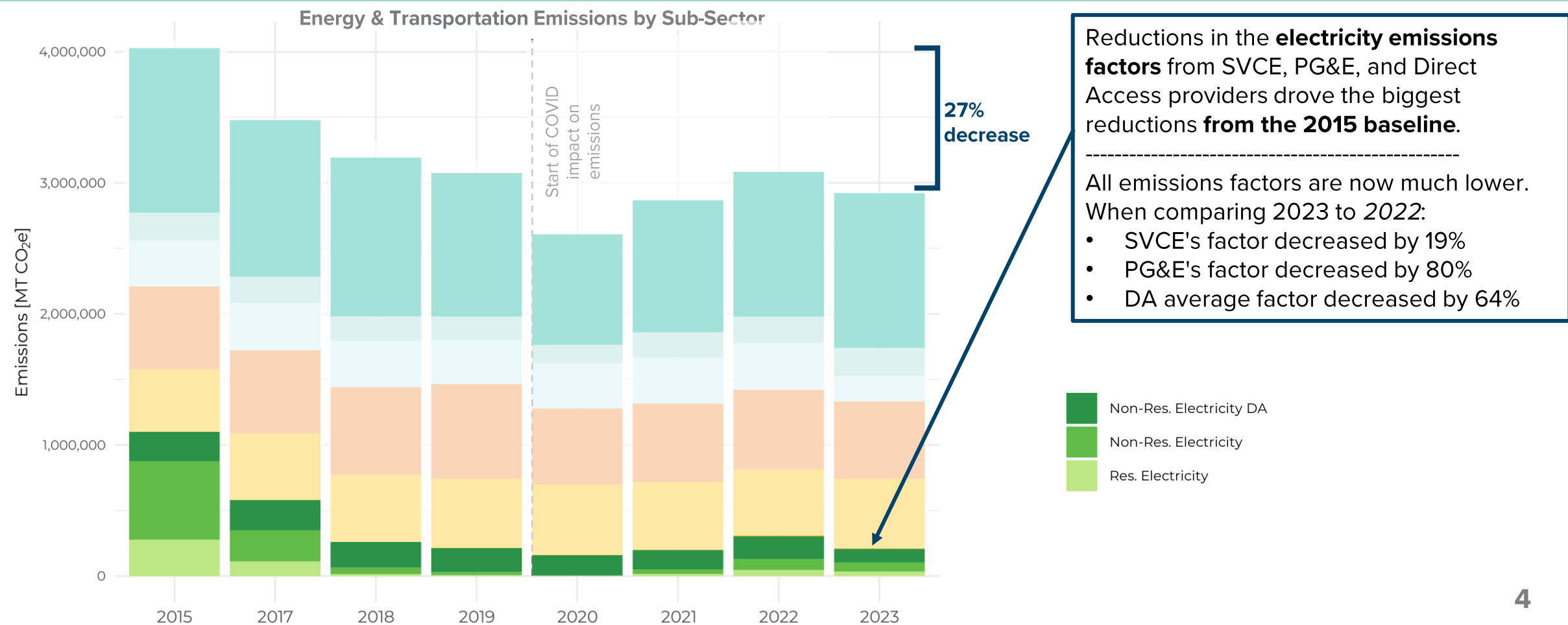
Cleaner electricity and transportation drove the reduction





Key Driver: Decreasing electricity GHG intensity

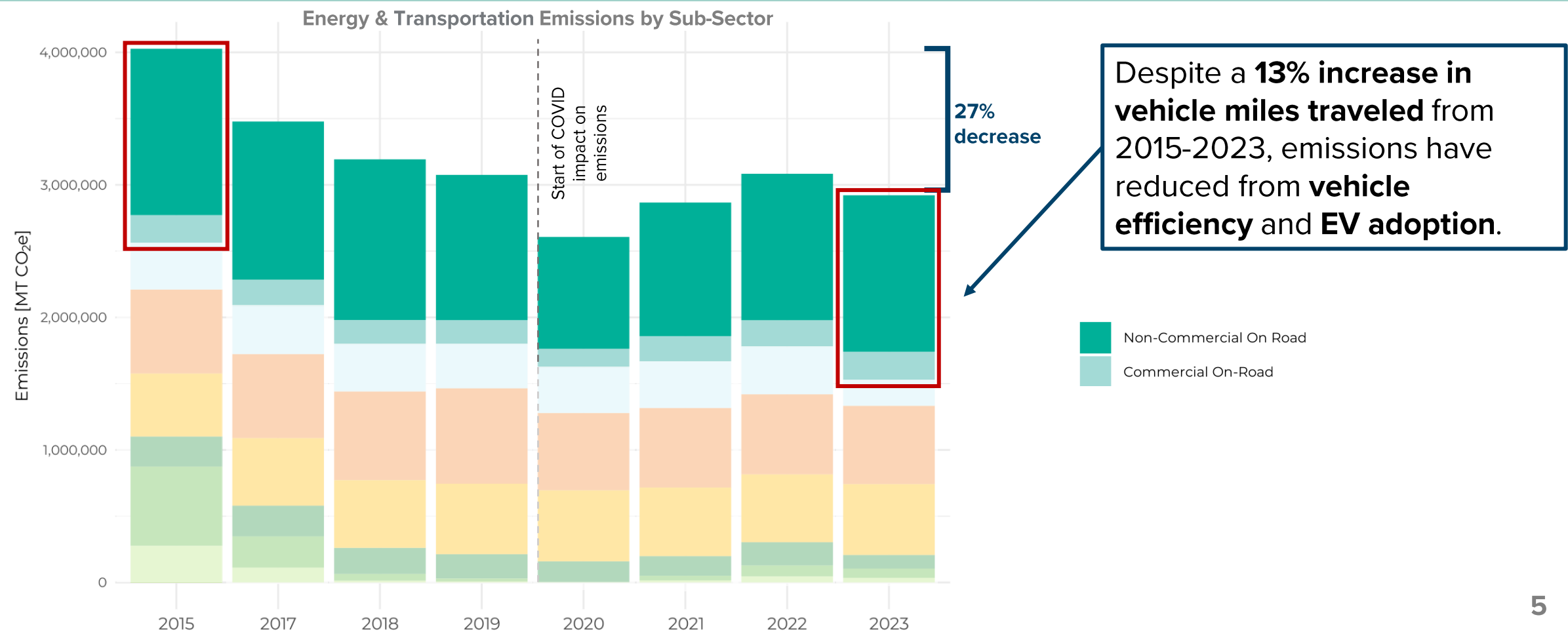
2023 electricity emissions were 72% below 2015





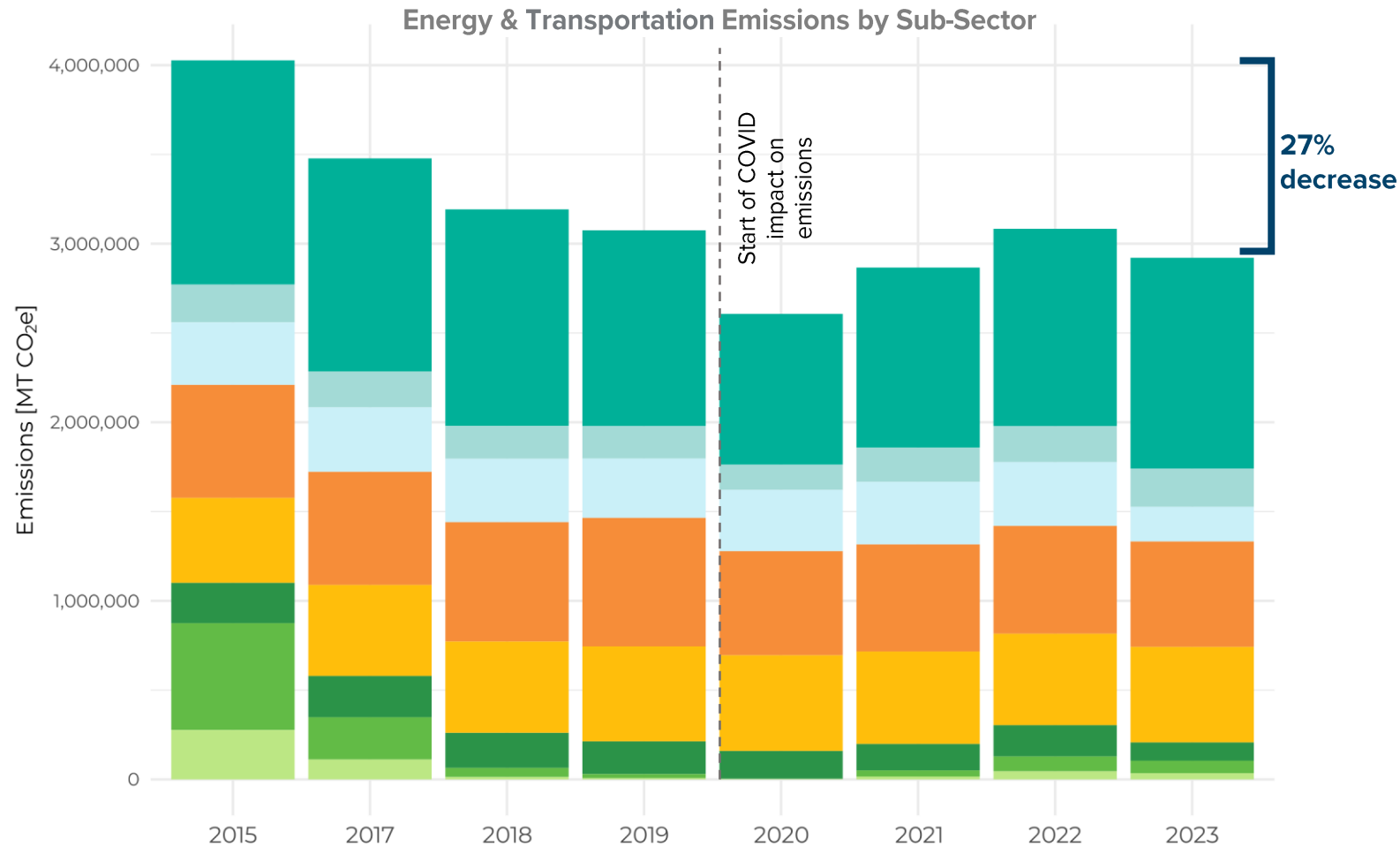
Key Driver: Transportation efficiency & fuel switching

2023 on-road transportation emissions were 5% below 2015



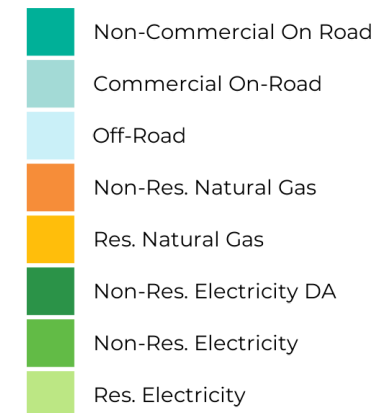


Back to the overall picture



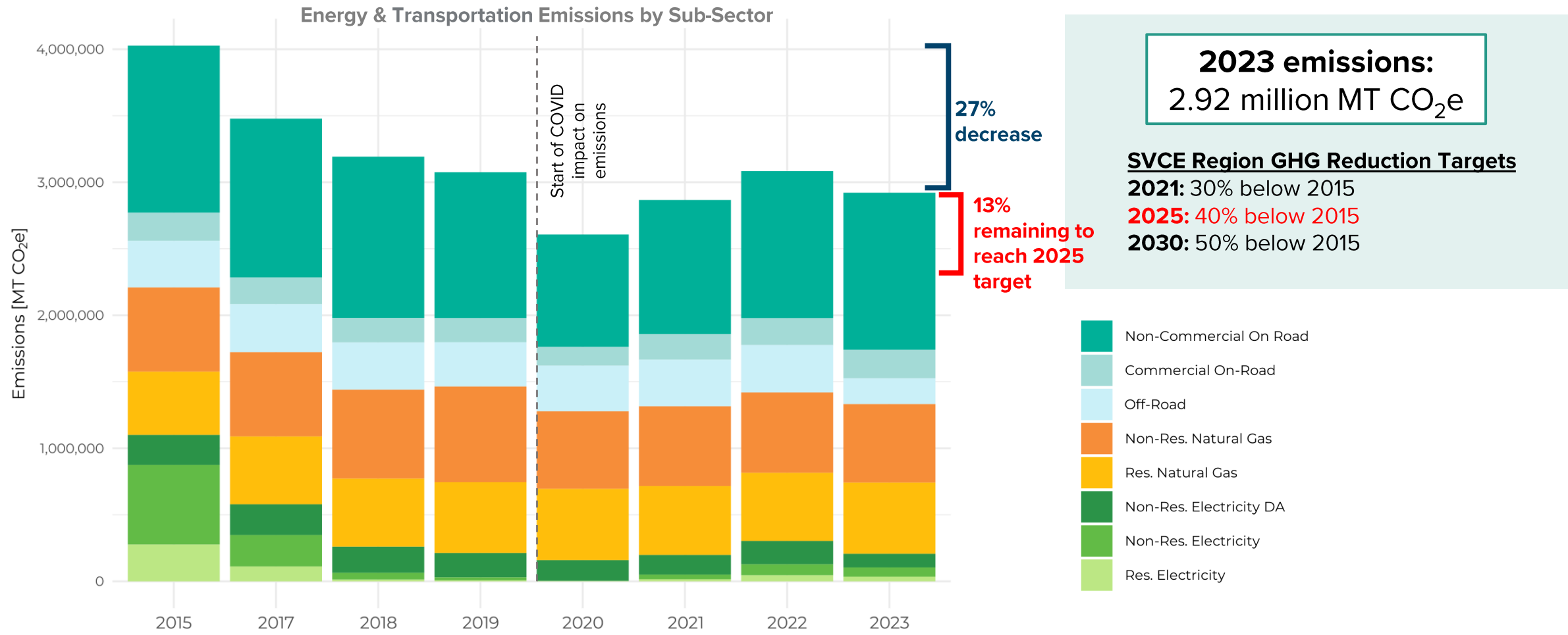
2023 emissions:
2.92 million MT CO₂e

SVCE Region GHG Reduction Targets
2021: 30% below 2015
2025: 40% below 2015
2030: 50% below 2015





Region is not likely to hit 2025 target





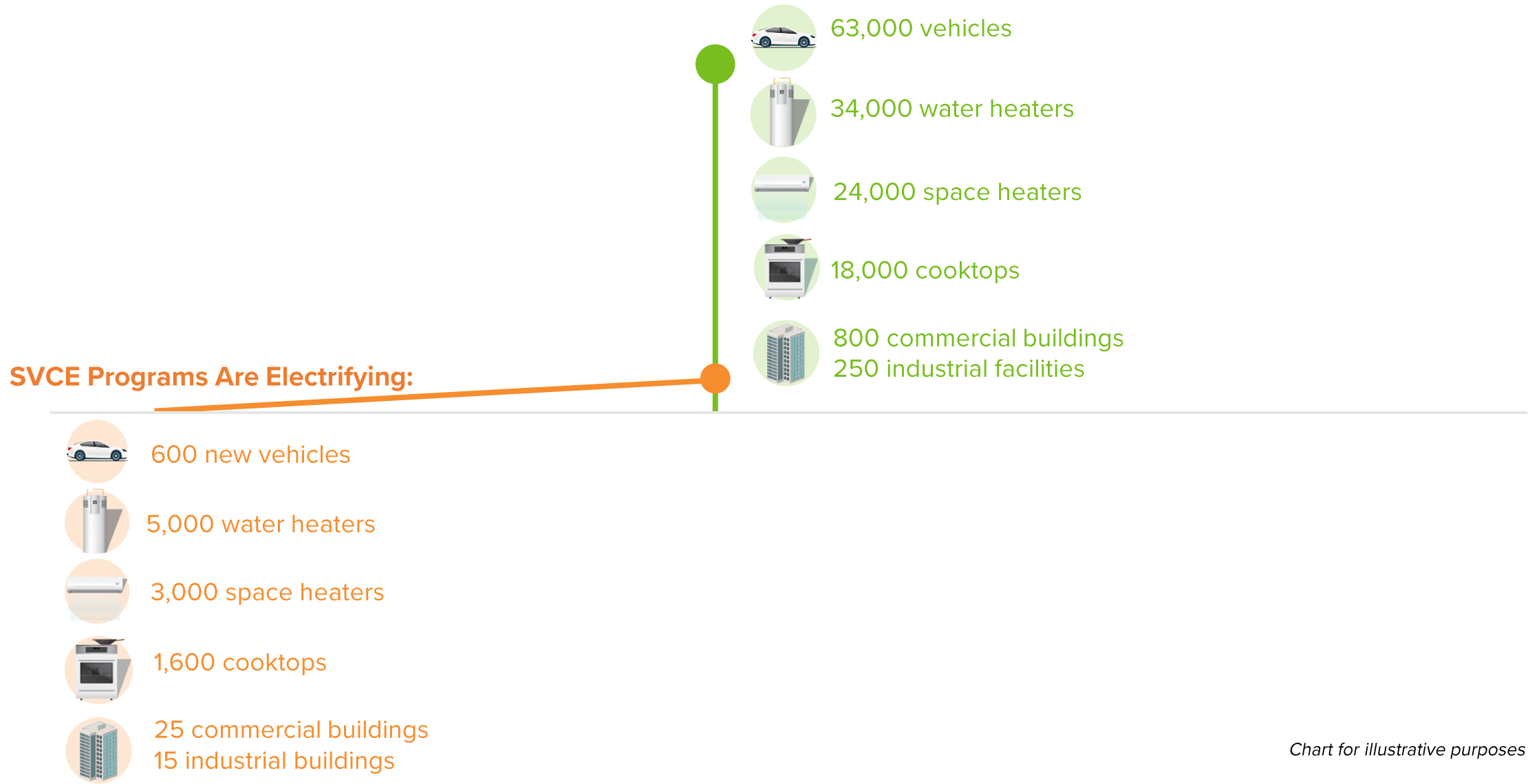
How far away is the 2025 target?

One scenario would be to electrify:



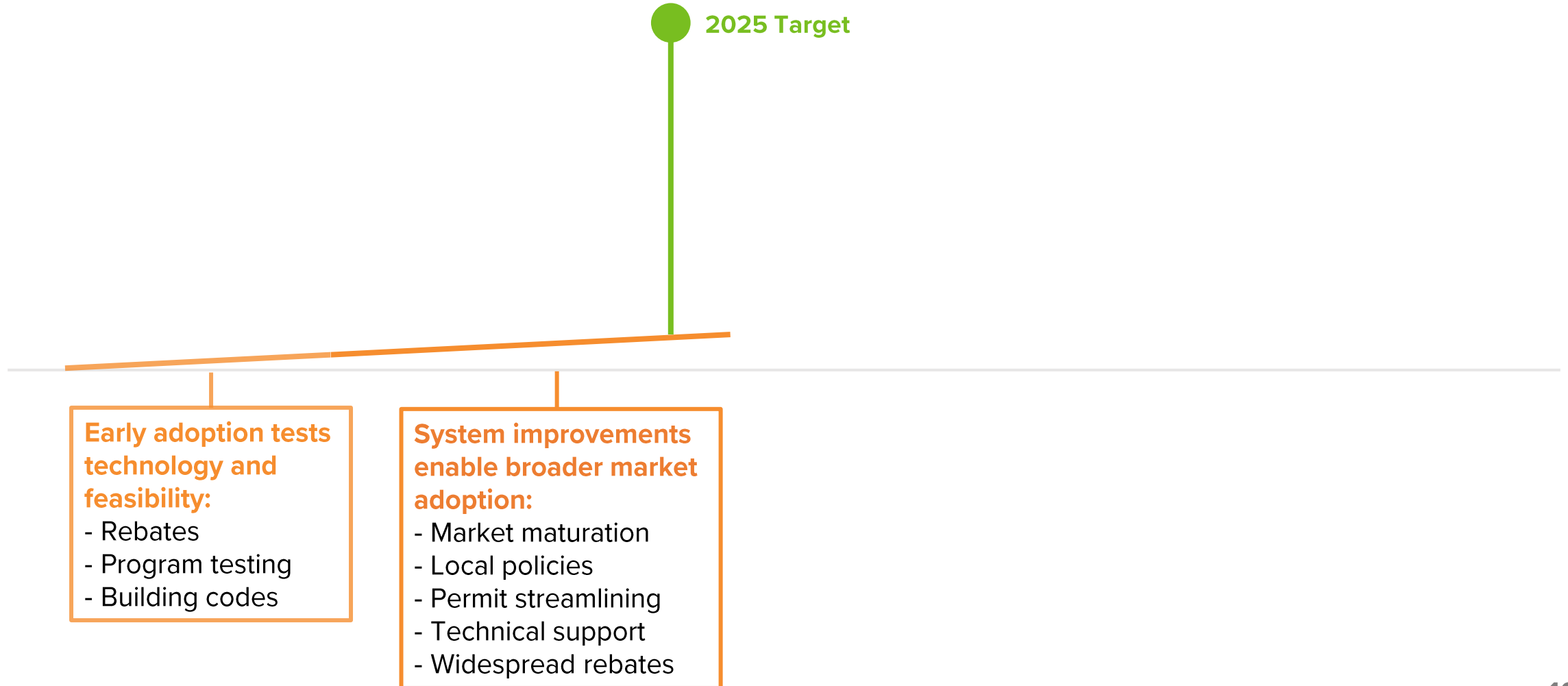


How many machines will current programs electrify?



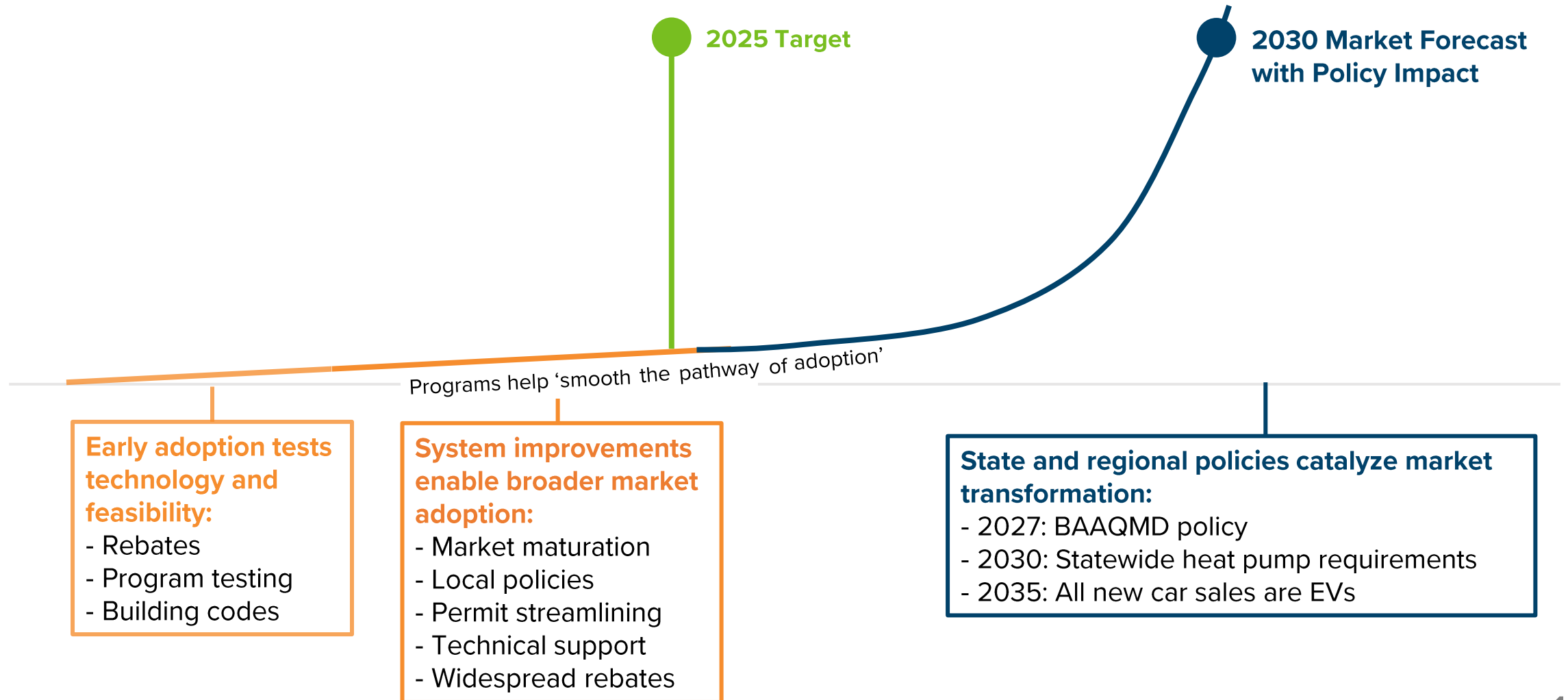


SVCE is investing in the building blocks that support long-term deep decarbonization





Forecast for 2030 market adoption and policy includes significant ramping



We have come a long way and we're driving electrification in our communities. The next order of magnitude requires enabling market transformation and policies. The path ahead isn't certain or easy, but our collective efforts can bend the carbon curve.