



STOP WASTE

at home • at work • at school

Climate Action Plans: Trends and Best Practices

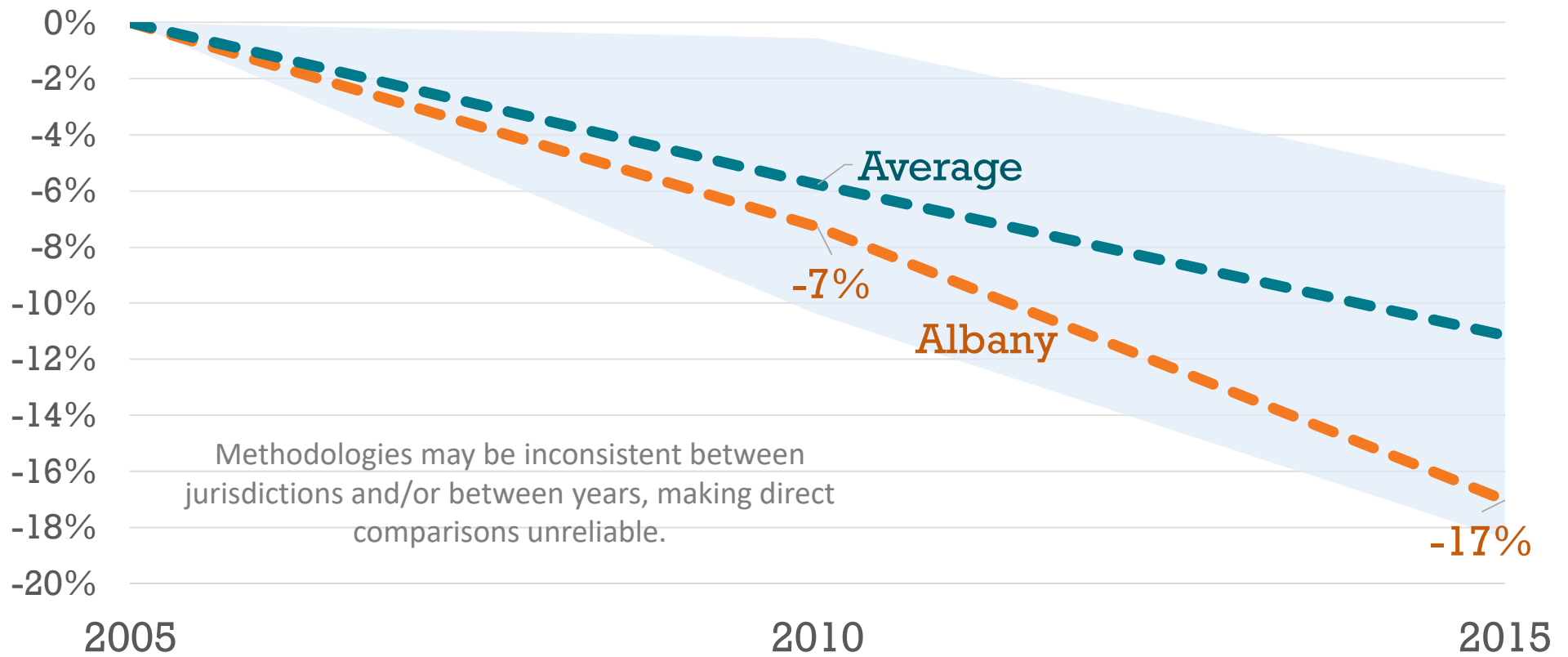
Albany Sustainability Committee

January 17, 2018

2020 Targets

	Alameda	Albany	Berkeley	Dublin	Fremont	Hayward	Livermore	Piedmont	Pleasanton	San Leandro	Union City	County
2020 Target "below baseline"	25%	25%	33%	15%	25%	20%	15%	15%	15%	25%	20%	15%
Baseline Year	2005	2004	2000	2010	2005	2005	2008	2005	2005	2005	2005	2005
Year Adopted	2008	2010	2009	2013	2010	2014	2012	2010	2012	2009	2010	2014
Consultant	PMC	AECOM	n/a internal	PMC	AECOM	Ascent	ICF	AECOM	ESA	KEMA	AECOM	AECOM

GHG Inventories 2010 & 2015 (Alameda jurisdictions)



Digging Deeper: County of Santa Barbara

Table A-1. Comparison of 2007 and 2015 Community-wide GHG Emissions

Sector	Baseline Emissions		Current Year Emissions		Percent Change since Baseline
	MTCO ₂ e	Percent	MTCO ₂ e	Percent	
Residential Energy	195,490	16%	146,650	14%	-25%
Commercial and Industrial Energy	168,360	14%	155,390	15%	-8%
Waste	91,920	8%	76,880	8%	-16%
Off-Road Equipment	102,140	9%	101,130	10%	-1%
Water and Wastewater	49,510	4%	32,030	3%	-35%
Agriculture	62,110	5%	64,230	6%	3%
Transportation	521,160	44%	443,840	43%	-15%
Aircraft	2,270	0%	2,540	0%	12%
Total	1,192,970	100%	1,022,690	100%	-14%

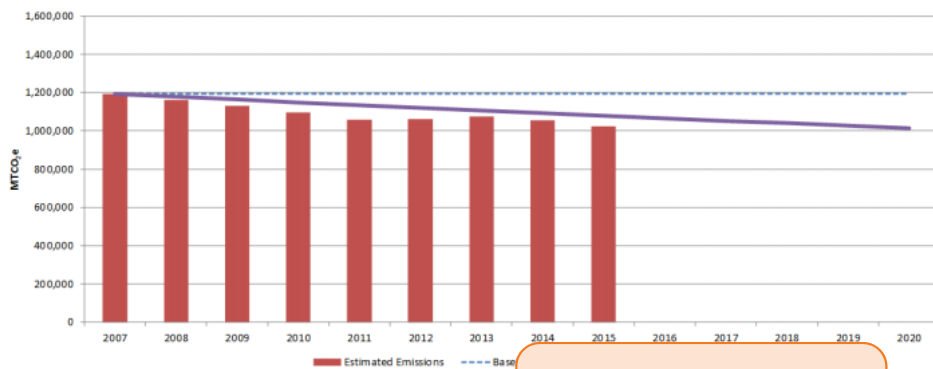


Figure A-1. GHG Emissions in the Unincorporated County from 2007 to 2015

170,280 MTCO₂e Reduction

VS

30,605 MTCO₂e Reduction

Table II-2: Implementation Progress by Core Strategy

Core Strategy	2016 Progress MTCO ₂ e	2020 Target MTCO ₂ e	Percent to Target
Built Environment (BE)	8,915	48,310	18%
Waste Reduction (WR)	8,650	46,850	18%
Sustainable Communities Strategy (SCS)	Not measurable	29,150	Not measurable
Transportation (T)	1,072	27,360	4%
Renewable Energy (RE)	6,261	14,510	43%
Industrial Energy Efficiency (IEE)	0	8,960	0%
Agriculture (AG)	2,133	7,640	28%
Government Operations (GO)	1,925	4,320	45%
Land Use Design (LUD)	1,056	2,480	43%
Water Efficiency (WE)	593	600	99%
Total	30,605	190,180	16%

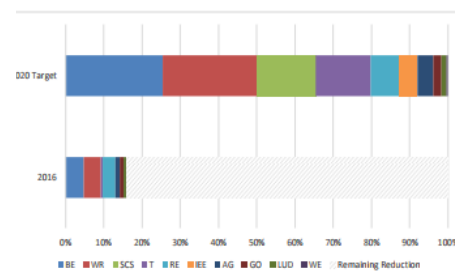


Figure II-3: Implementation Progress by Core Strategy (%)

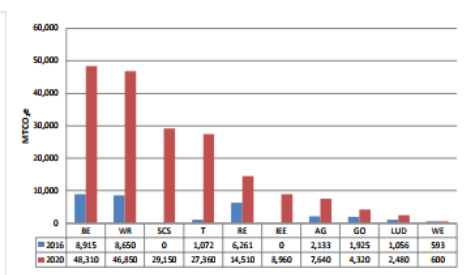
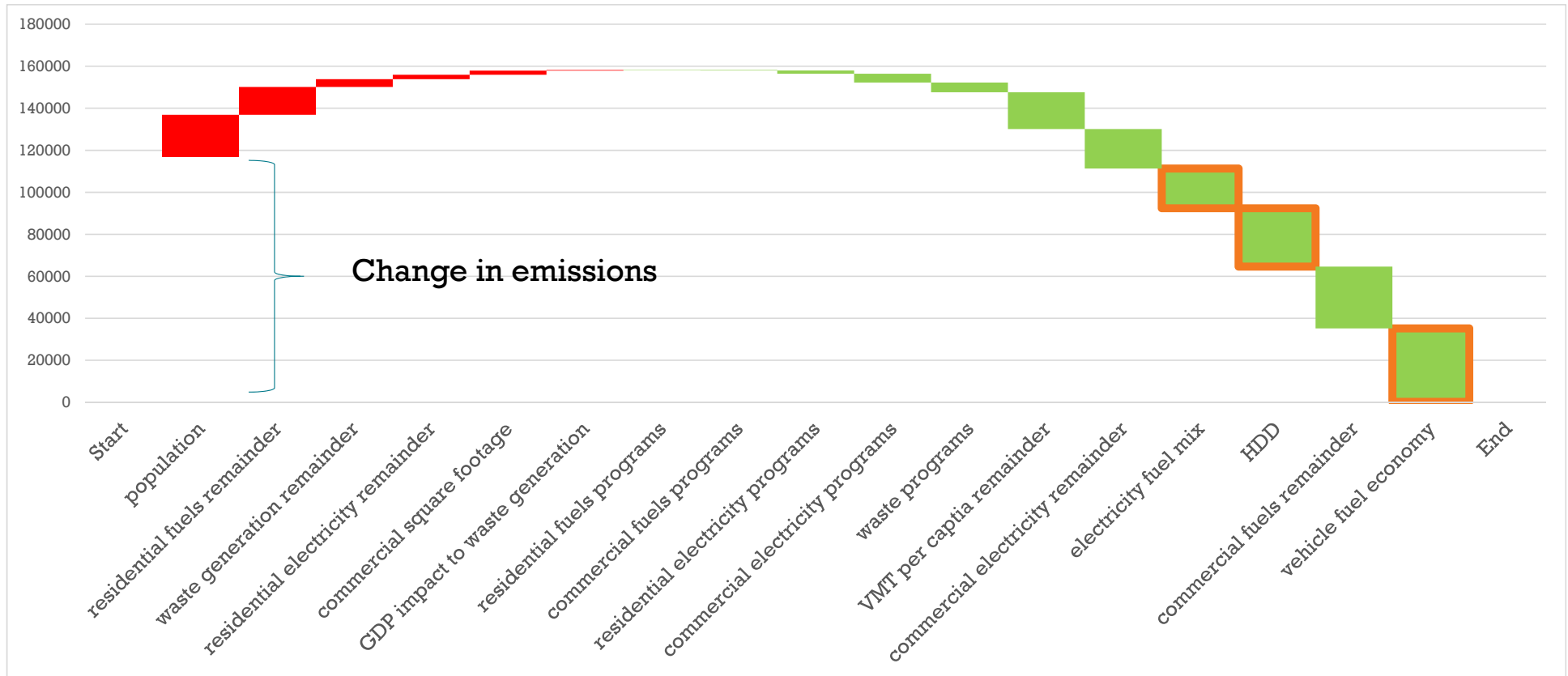
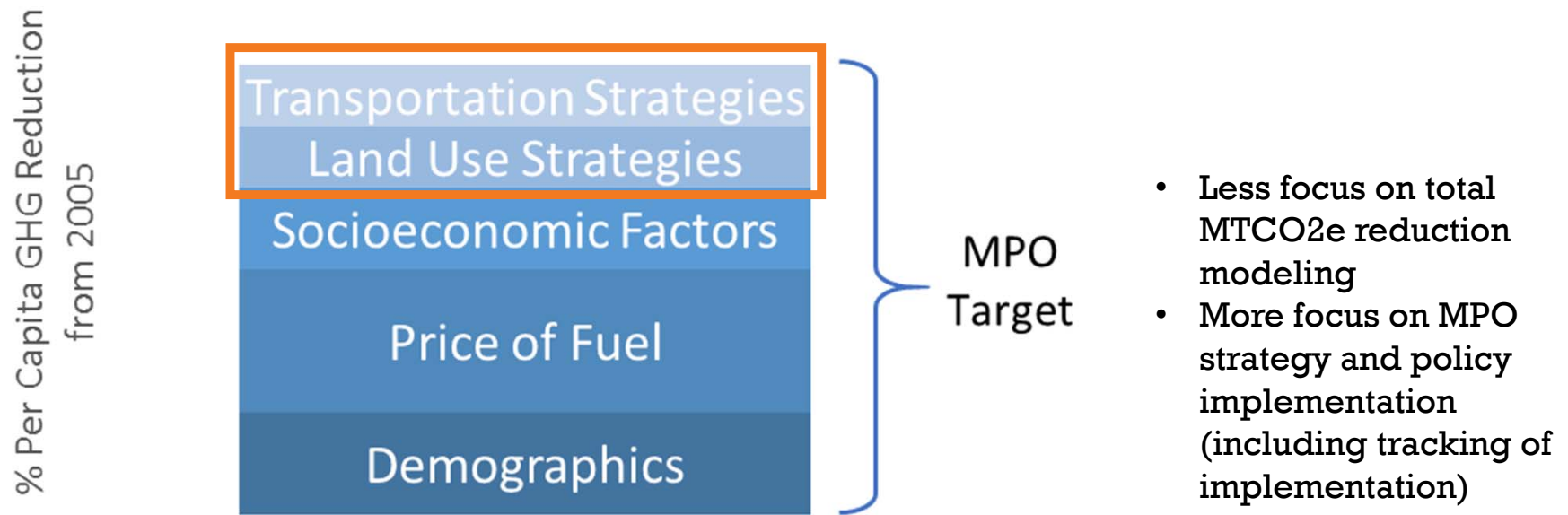


Figure II-4: Implementation Progress by Core Strategy (MTCO₂e)

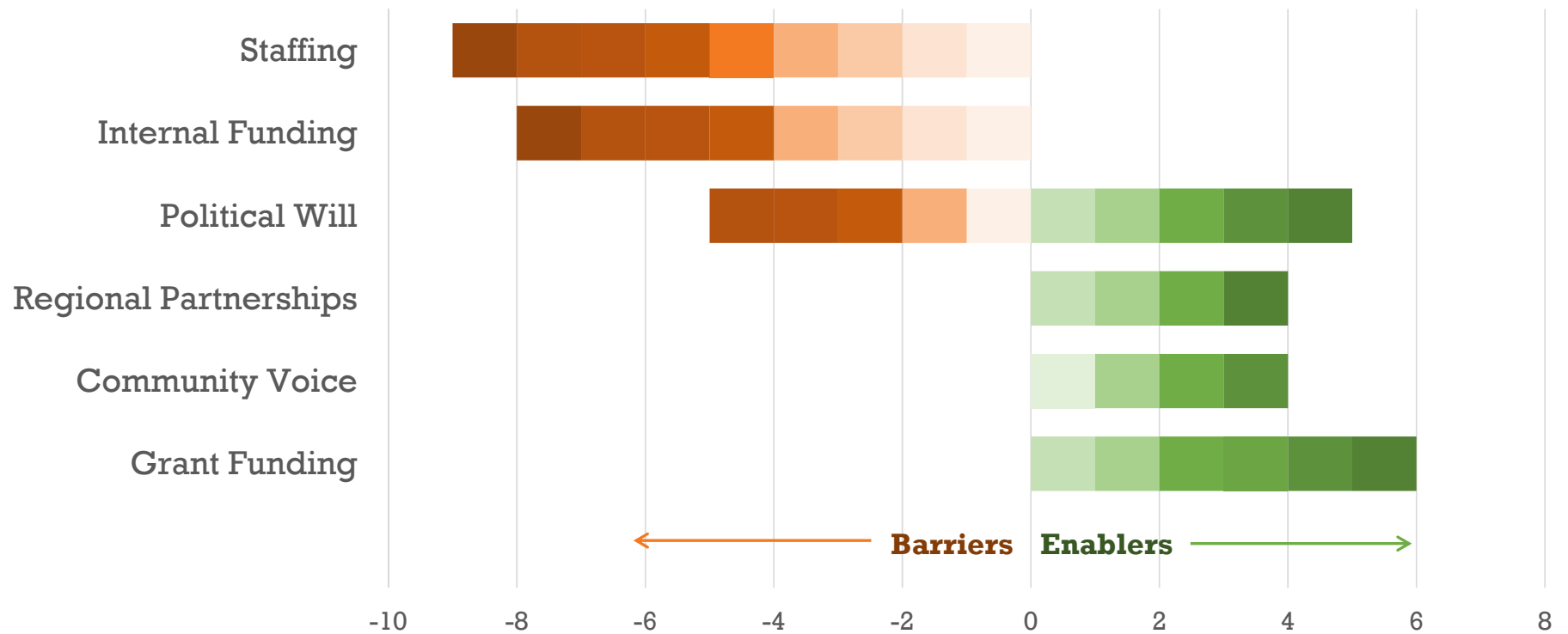
ICLEI DOE C-LEAP Data Analysis Project: Disaggregating Causes



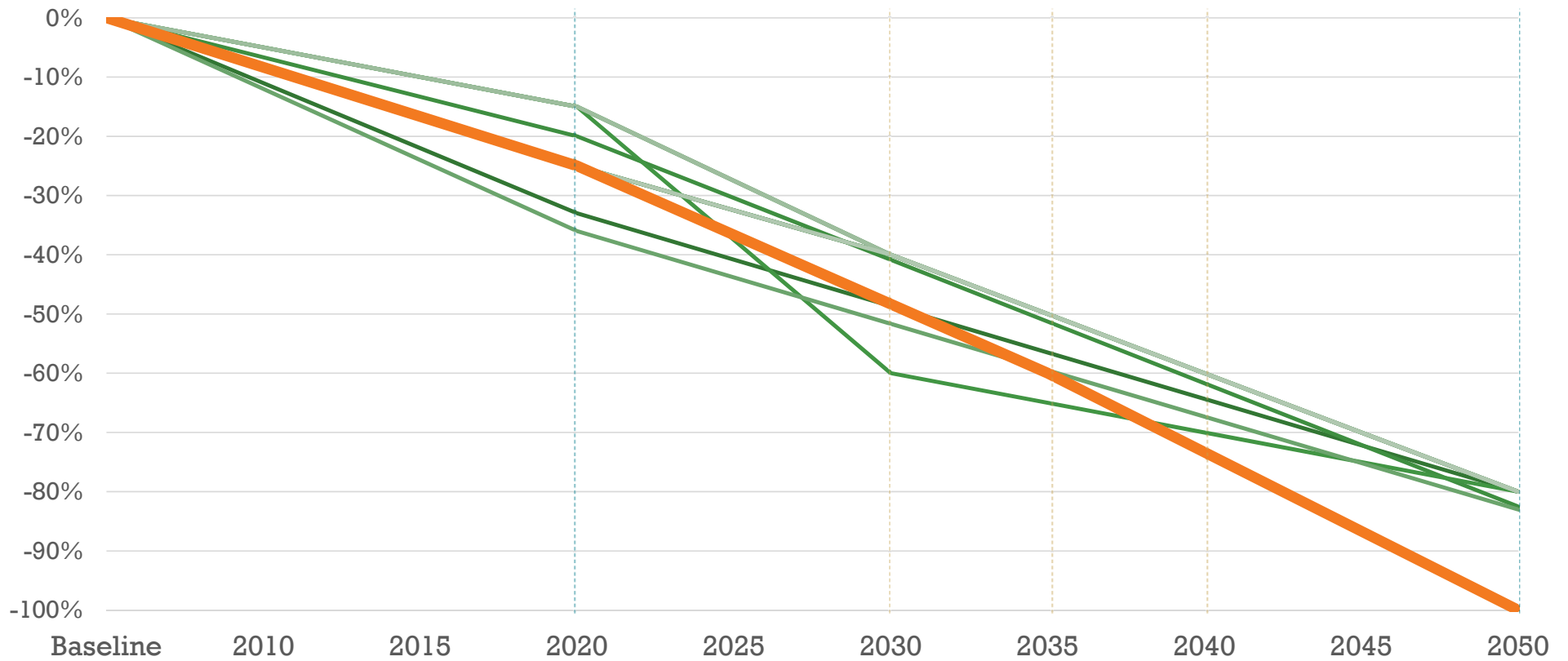
CARB SB 375 Shifting Focus & Framework



Implementation to date: Barriers & Enablers



Albany's GHG Targets (compared to other Alameda jurisdictions)

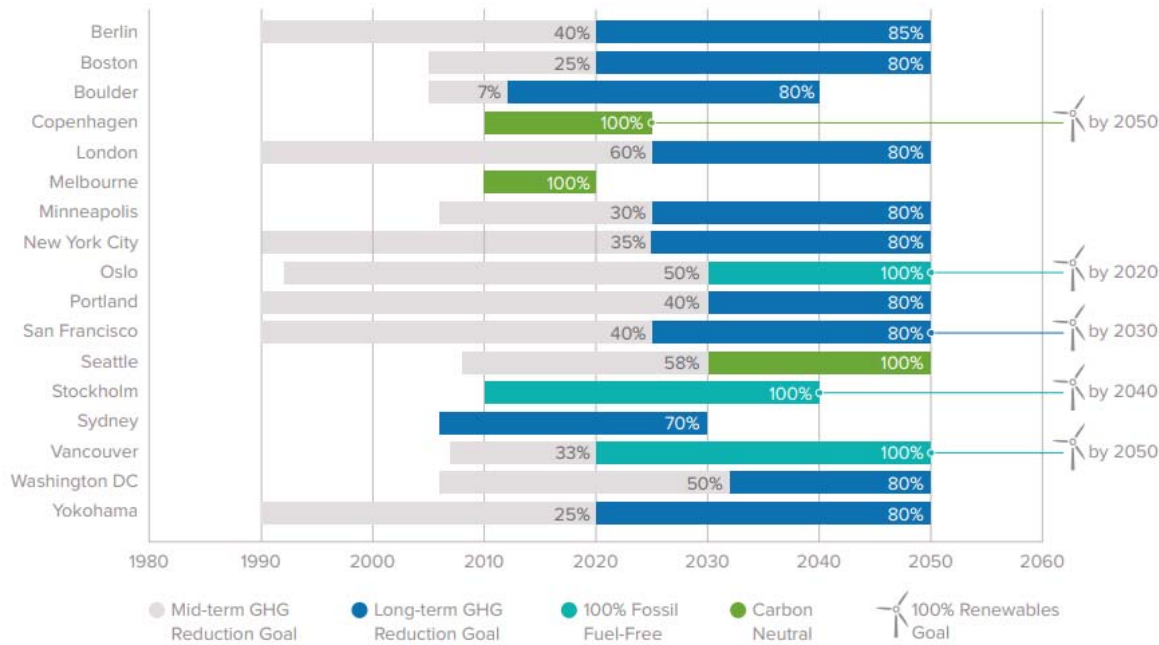


Carbon Neutral Cities



CNCA
CARBON NEUTRAL CITIES ALLIANCE

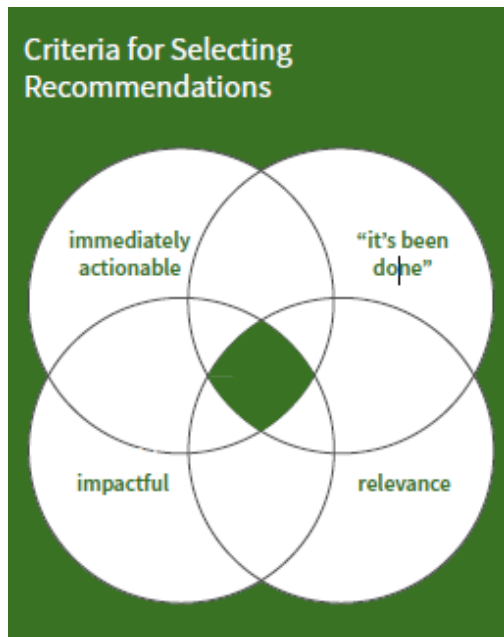
Aims to address what it will take for leading international cities to achieve deep emissions reductions and how they can work together to meet their respective goals more efficiently and effectively



C40 Carbon Neutral Cities

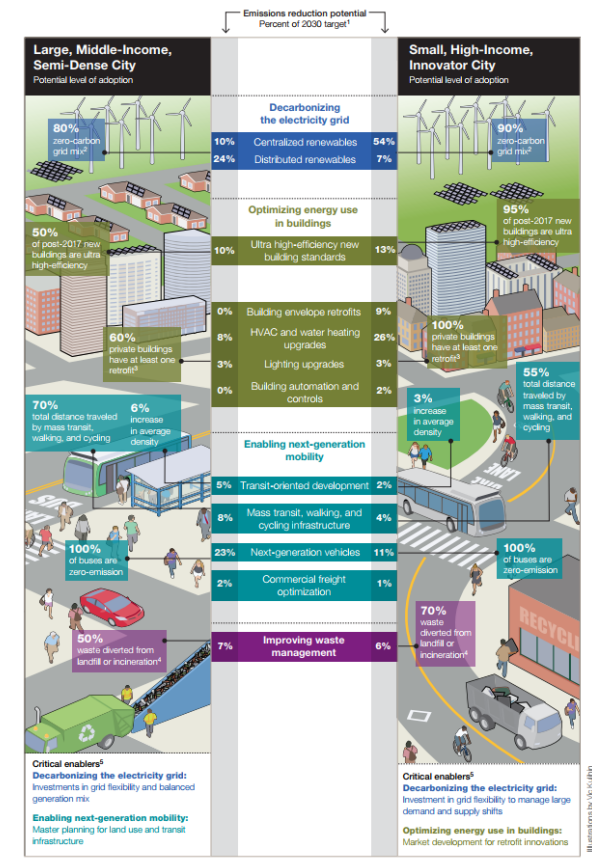
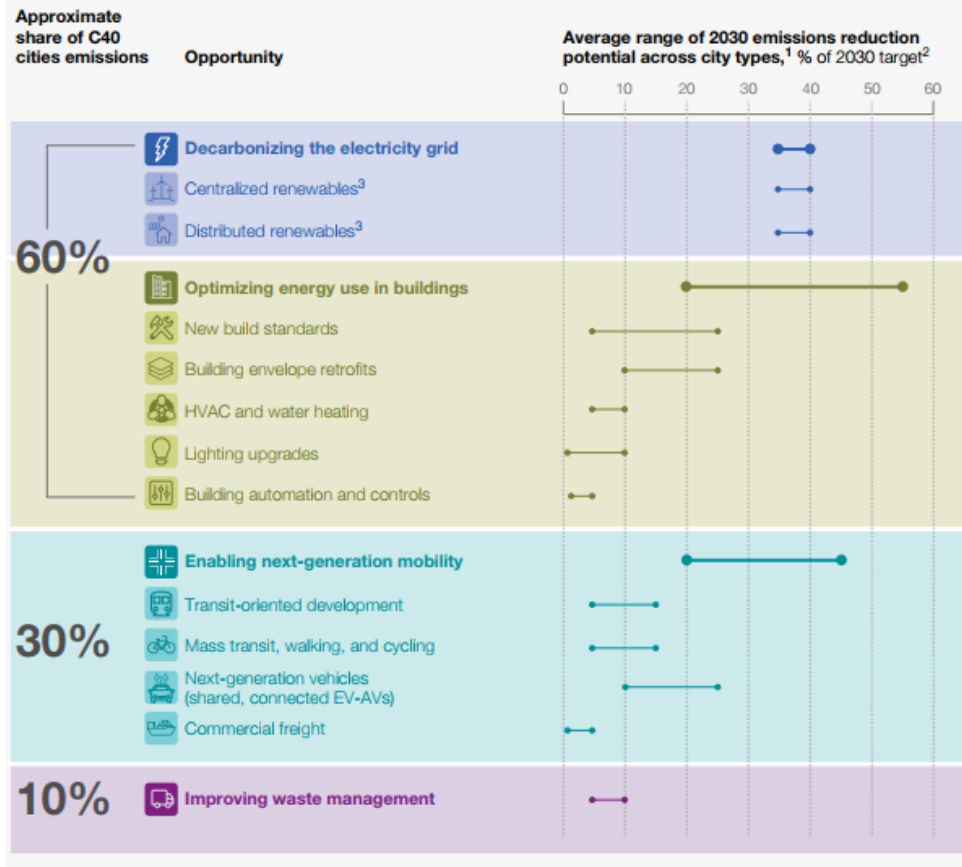
- Austin
- Accra
- Barcelona
- Boston
- Buenos Aires
- Cape Town
- Caracas
- Copenhagen
- Durban
- London
- Los Angeles
- Melbourne
- Mexico City
- Milan
- New York City
- Oslo
- Paris
- Philadelphia
- Portland
- Quito
- Rio de Janeiro
- Salvador
- Santiago
- Stockholm
- Vancouver

Carbon-Free City Handbook: 22 Recommendations



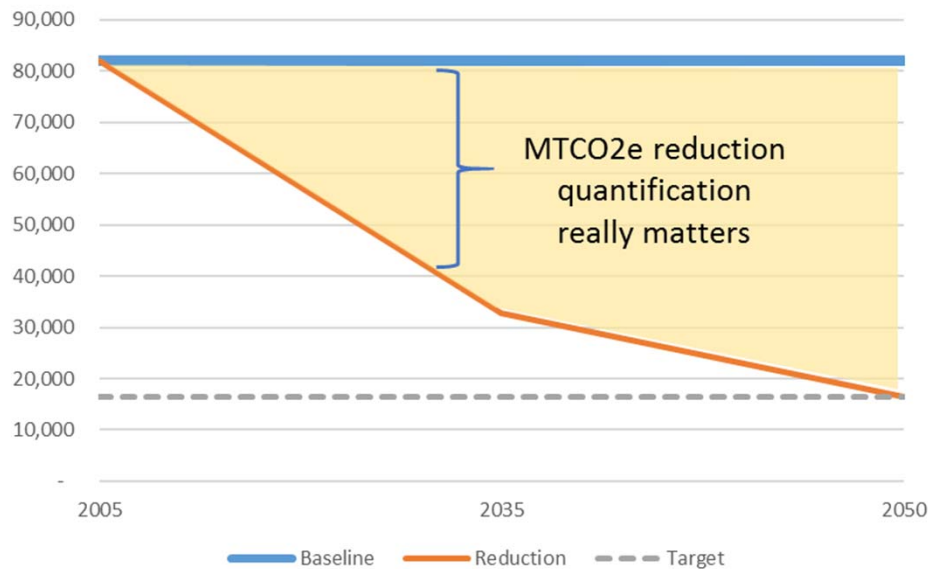
	City Area of Control	Size of Immediate Climate Impact	Buildings	Transportation and Mobility	Electricity	Industry	Biological Resources
<p>Lead by Example Direct political control, important to kick-start local markets</p>			1. City Building Retrofits	6. Fleet Electrification	13. LED Smart Streetlights 15. Municipal Solar Installations 16. Municipal Renewable Supply		21. Urban Forestry
<p>Structural Citywide Change Within most cities' powers, and has citywide impact</p>			2. Net-Zero Codes 3. Progressive Codes	7. Combustion Vehicle Reduction 8. Freight Reduction 10. Car-Free Downtown 11. Mobility Alternatives 12. Public Transit	14. Electric Districts	17. Clean Industrial Heat 18. Efficient Motors	20. Organic Waste Diversion
<p>Enabling Mechanisms Create opportunities to make climate actions easier for others</p>			4. Smart LED Lighting 5. Benchmarking and Transparency	9. EV Charging		19. Operator Training	22. Plant-Based Diets

C40 Focused Acceleration 2030: 12 Key Opportunities

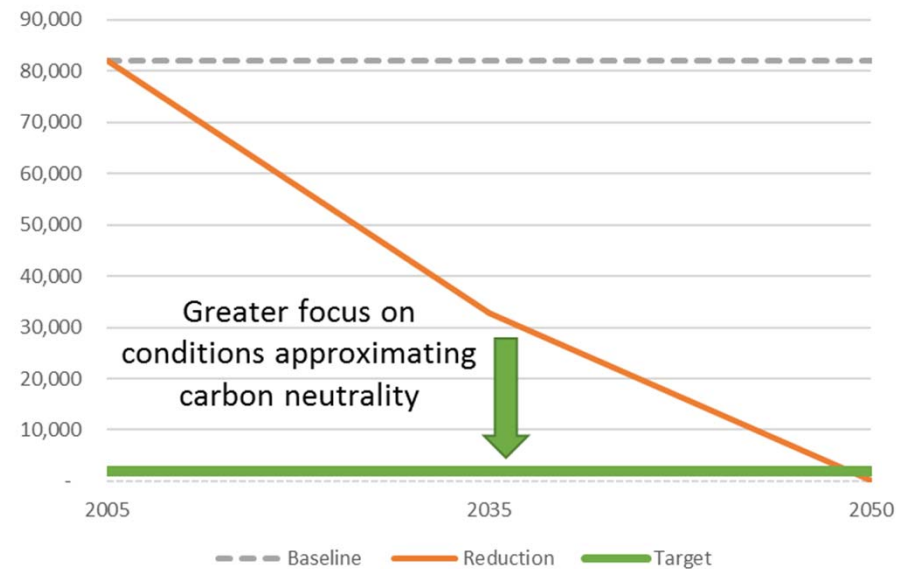


Measurement Depends on Reference Case

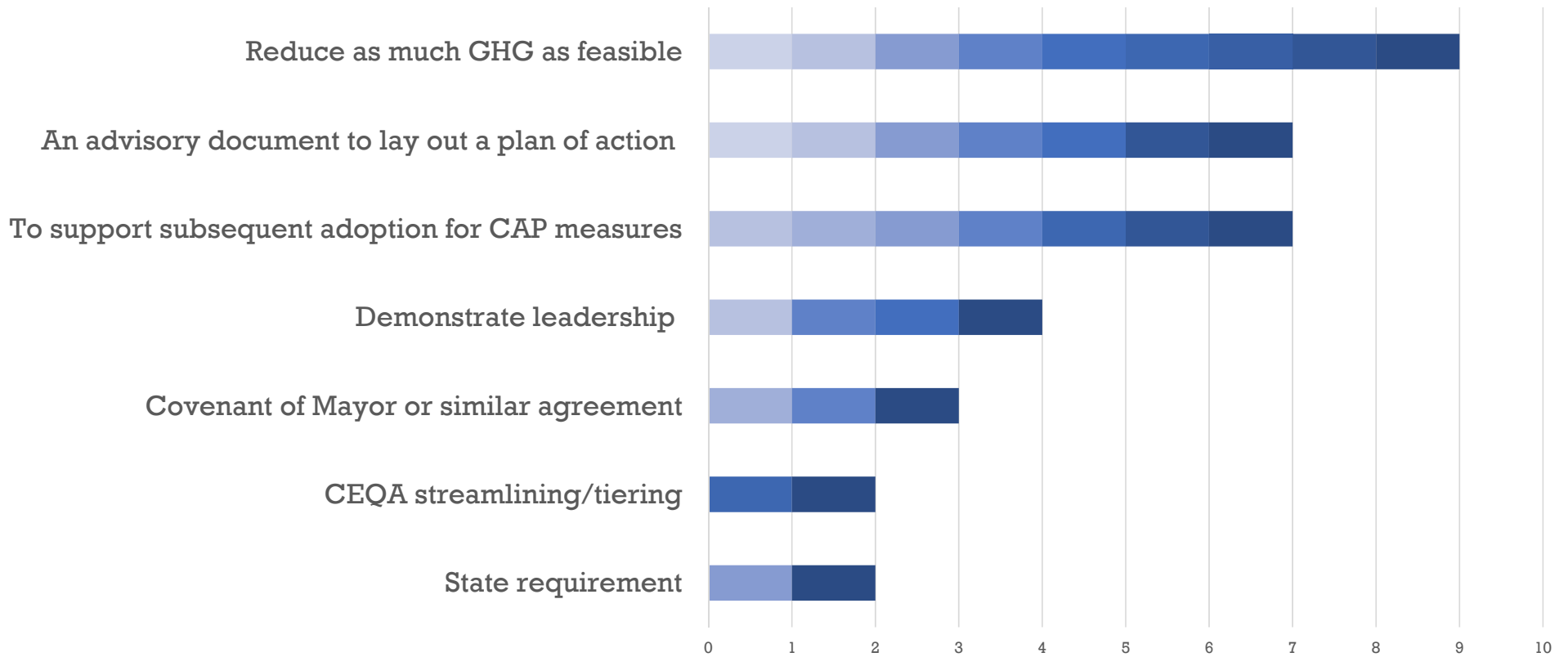
"Baseline" Reference Case
(if 80% reduction target)



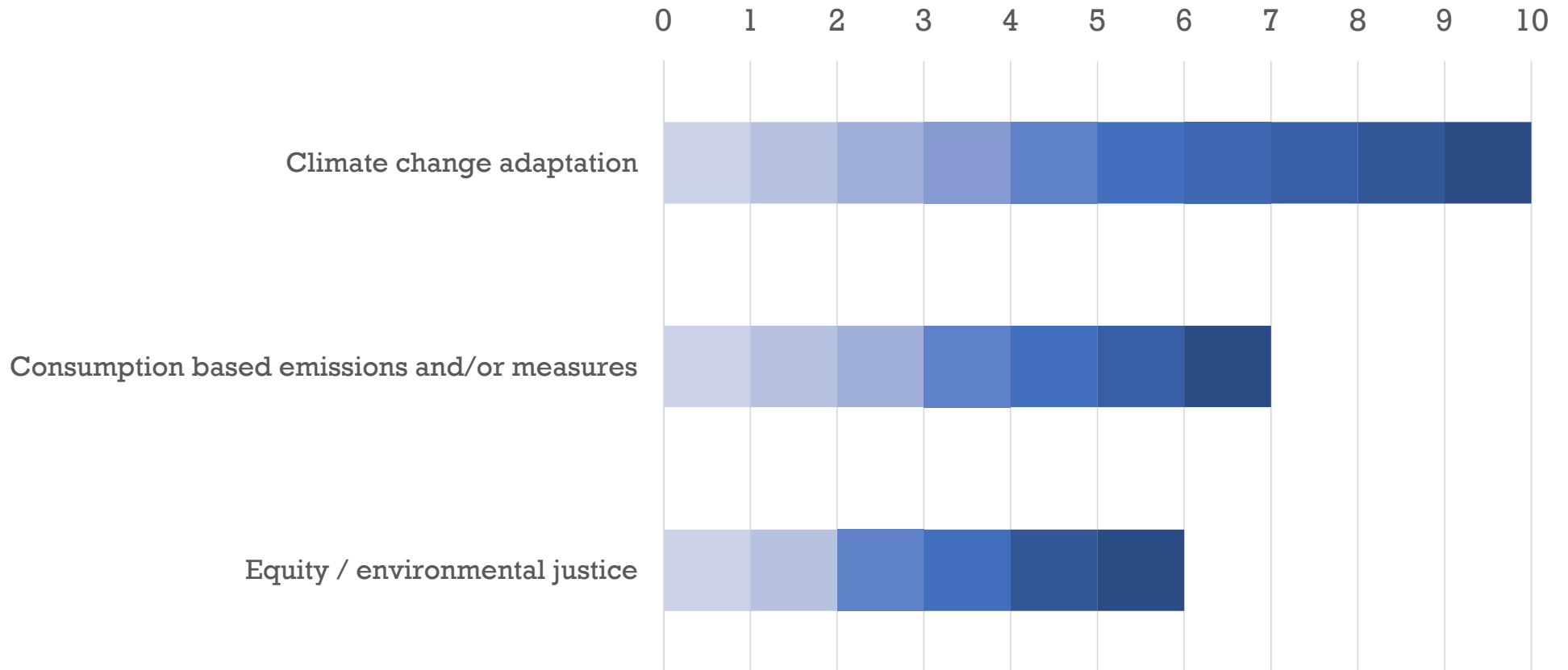
"Zero" or "Neutral"
Reference Case



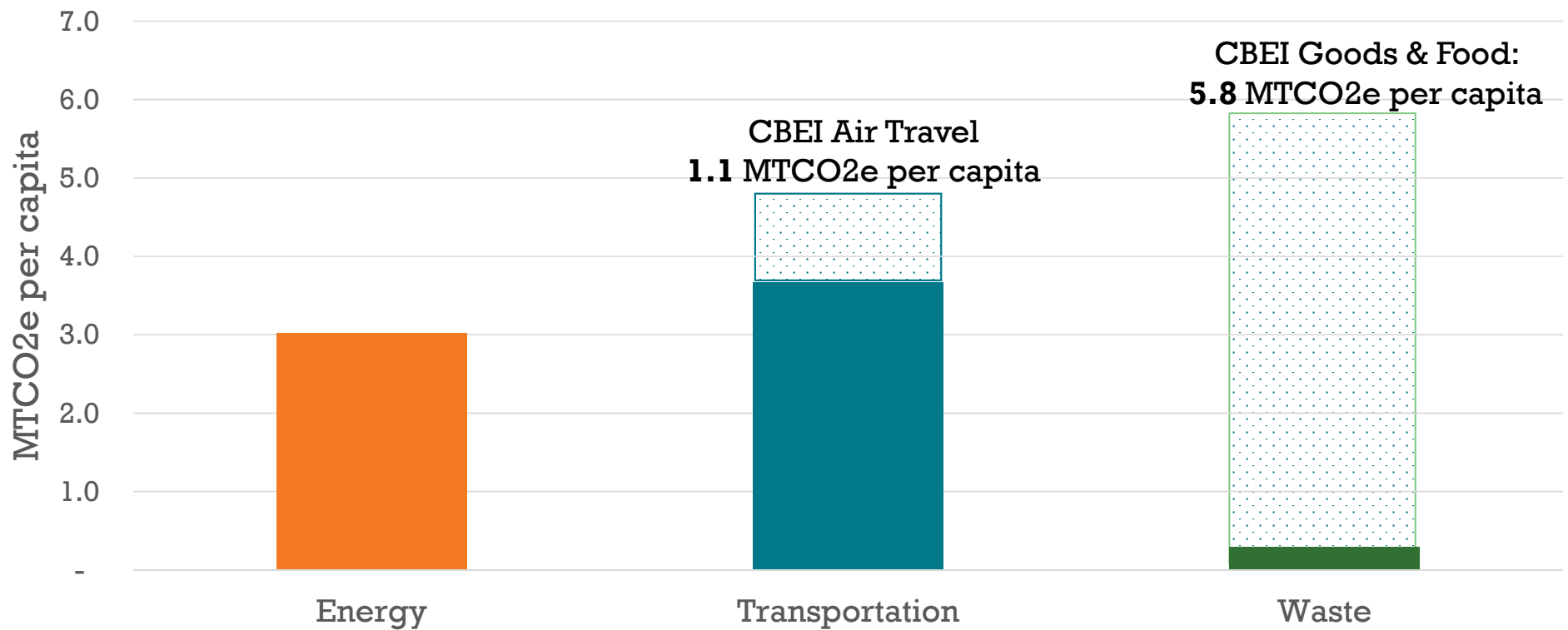
Reasons for CAP 2.0 (out of 10 Alameda jurisdictions)



CAP 2.0 – Beyond just local GHG reductions (out of 10 Alameda jurisdictions)

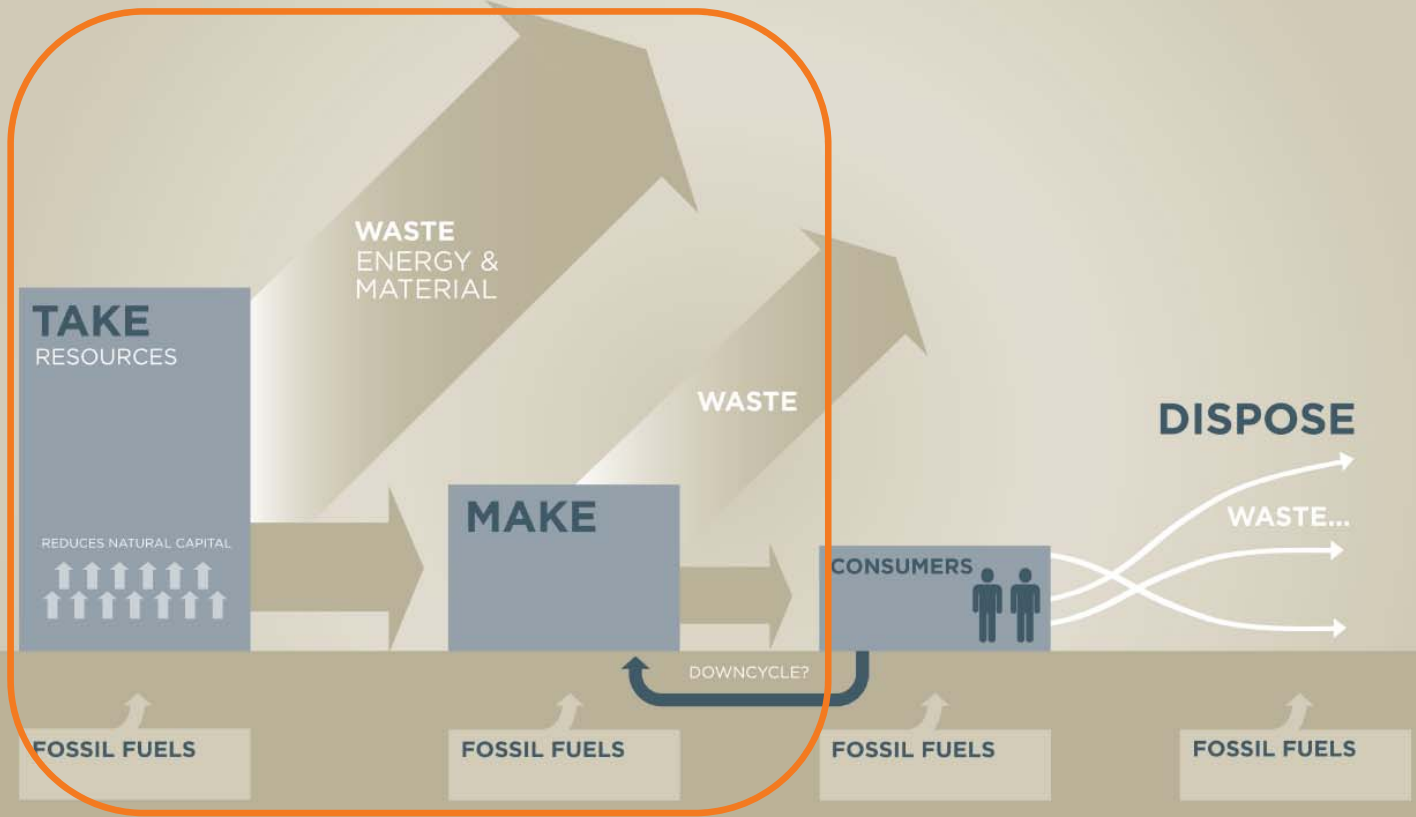


Average Per Capita Emissions (Alameda jurisdictions CAP baselines)



LINEAR ECONOMY

Our Blind Spot



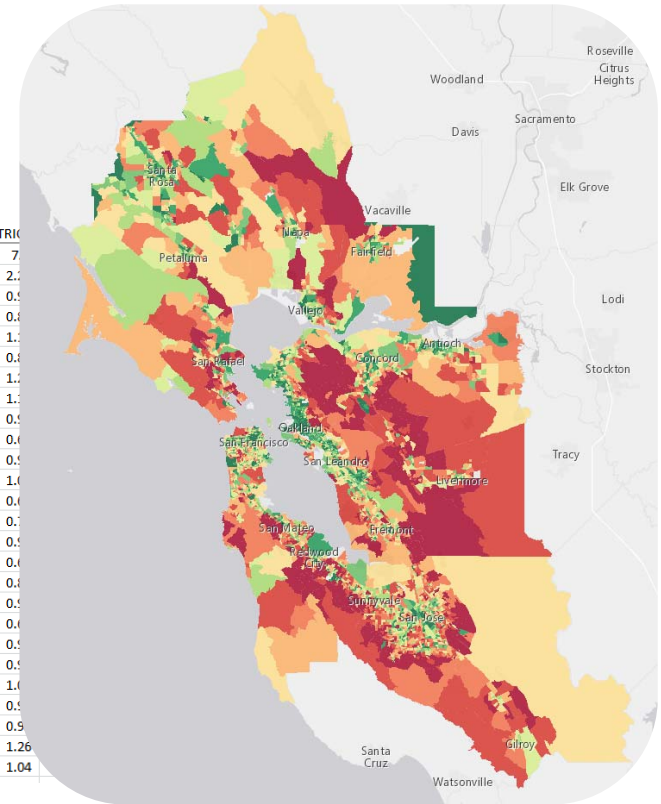
Adding the Consumption-Based Lens



CoolClimate Network
 University of California, Berkeley
 Renewable & Appropriate Energy Laboratory

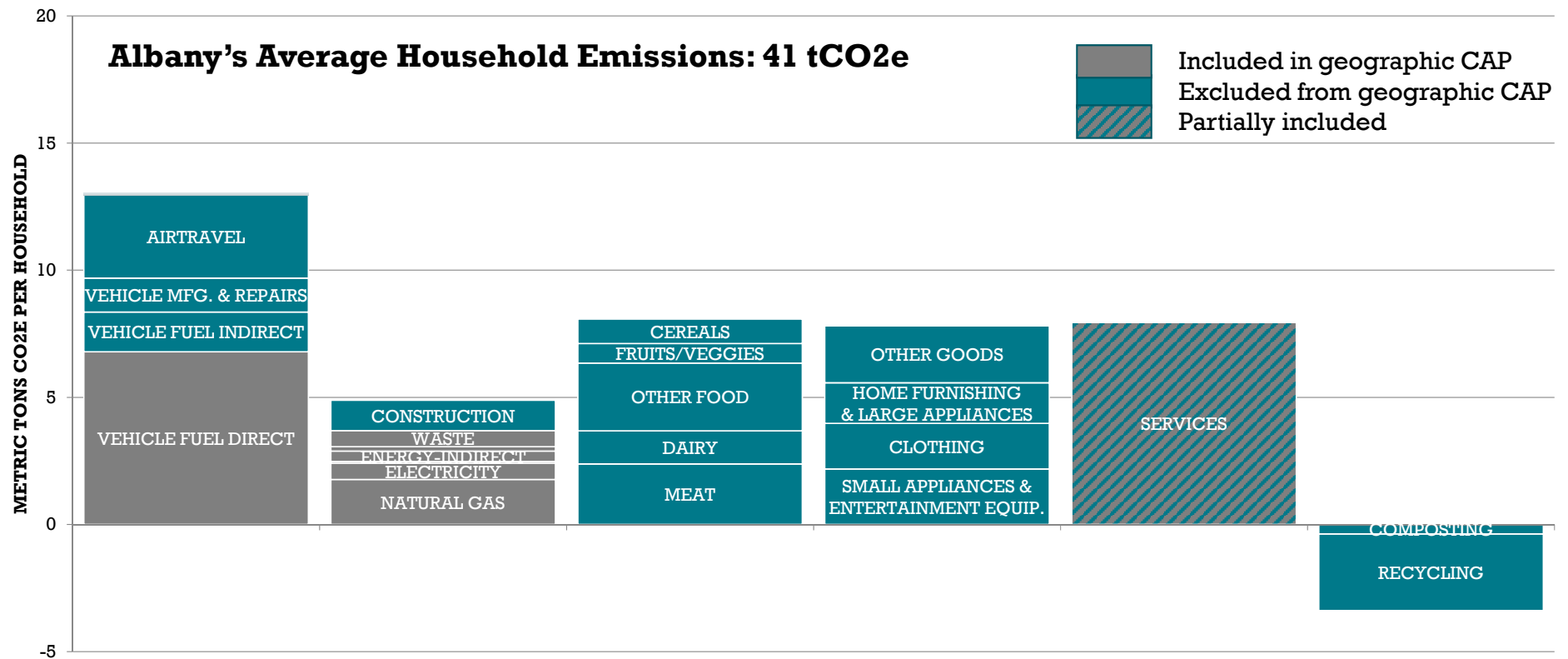
BAY AREA
 AIR QUALITY
 MANAGEMENT
 DISTRICT

transportati	Housin	Food	Goods	Service	TOTAL	TOTAL tCO2	CITY	GASOLINE	VEHICLES	AIRTAVE	PUB-TRAN	ELECTRIC
15.4	13.4	9.4	5.9	5.9	49.8	#####	US AVERAGE	11.86	1.51	1.91	0.11	7.0
18.4	7.2	8.9	5.7	5.7	45.7	585,533,297.07	CALIFORNIA AVERAGE	13.11	1.57	3.49	0.20	2.2
14.6	5.8	8.5	8.0	7.9	44.3	115,203,993.50	SF BAY AREA AVERAGE	9.67	1.49	3.35	0.05	0.5
14.0	5.5	8.6	7.5	7.6	42.7	23,388,477.09	ALAMEDA	9.42	1.43	3.04	0.08	0.4
15.5	6.2	8.8	7.9	8.0	46.0	17,196,599.05	CONTRA COSTA	10.60	1.58	3.27	0.05	1.7
15.9	6.0	7.4	8.9	9.2	46.8	4,819,879.62	MARIN	10.31	1.59	3.96	0.00	0.4
14.3	6.8	8.4	7.1	7.2	43.5	2,146,809.44	NAPA	9.93	1.49	2.84	0.01	1.2
14.3	6.1	8.9	6.7	6.7	42.2	5,708,655.08	SOLANO	10.22	1.47	2.54	0.04	1.2
13.6	5.9	8.1	6.6	6.6	40.4	7,184,627.42	SONOMA	9.64	1.40	2.55	0.01	0.5
10.9	5.1	7.2	7.9	8.1	38.7	13,370,011.89	SAN FRANCISCO	6.38	1.10	3.36	0.04	0.6
15.9	6.0	8.6	8.8	9.0	47.9	11,984,570.28	SAN MATEO	10.32	1.65	3.84	0.08	0.5
16.2	5.9	9.2	8.8	8.9	48.6	29,956,200.74	SANTA CLARA	10.69	1.67	3.77	0.05	1.4
9.2	4.0	6.4	5.7	5.8	30.7	461,062.68	EMERYVILLE	5.99	0.97	2.12	0.08	0.4
11.2	5.3	8.0	6.5	6.6	37.2	5,504,073.77	OAKLAND	7.47	1.17	2.52	0.08	0.2
12.5	5.4	8.7	6.2	6.2	38.6	1,425,558.74	SAN LEANDRO	8.85	1.30	2.26	0.08	0.5
11.9	5.2	7.1	7.5	7.7	39.0	1,908,009.25	BERKELEY	7.40	1.22	3.17	0.08	0.4
12.9	5.3	7.7	7.4	7.6	40.5	1,207,505.90	ALAMEDA	8.41	1.32	3.07	0.08	0.4
13.5	5.6	10.0	6.3	6.2	41.1	407,631.74	SAN LORENZO	9.77	1.40	2.25	0.08	0.5
13.0	4.9	8.1	7.8	7.9	41.4	299,177.26	ALBANY	8.36	1.33	3.27	0.08	0.4
13.7	5.8	10.1	6.5	6.4	42.0	2,266,717.39	HAYWARD	9.78	1.42	2.38	0.08	0.5
16.3	5.8	8.3	8.2	8.4	46.7	1,012,142.81	CASTRO VALLEY	11.06	1.65	3.50	0.08	0.5
16.5	5.7	10.2	7.6	7.6	47.2	621,427.47	NEWARK	11.70	1.68	3.03	0.08	1.4
16.6	5.9	10.7	7.9	7.8	48.5	978,923.27	UNION CITY	11.65	1.69	3.15	0.08	0.5
17.3	5.7	9.5	9.0	9.1	50.2	3,564,680.22	FREMONT	11.54	1.74	3.90	0.08	0.9
17.8	6.3	8.8	8.8	9.0	50.3	1,504,550.22	LIVERMORE	12.08	1.79	3.82	0.08	1.26
18.1	5.9	8.7	9.5	9.7	51.4	811,641.09	DUBLIN	12.02	1.82	4.21	0.08	1.04



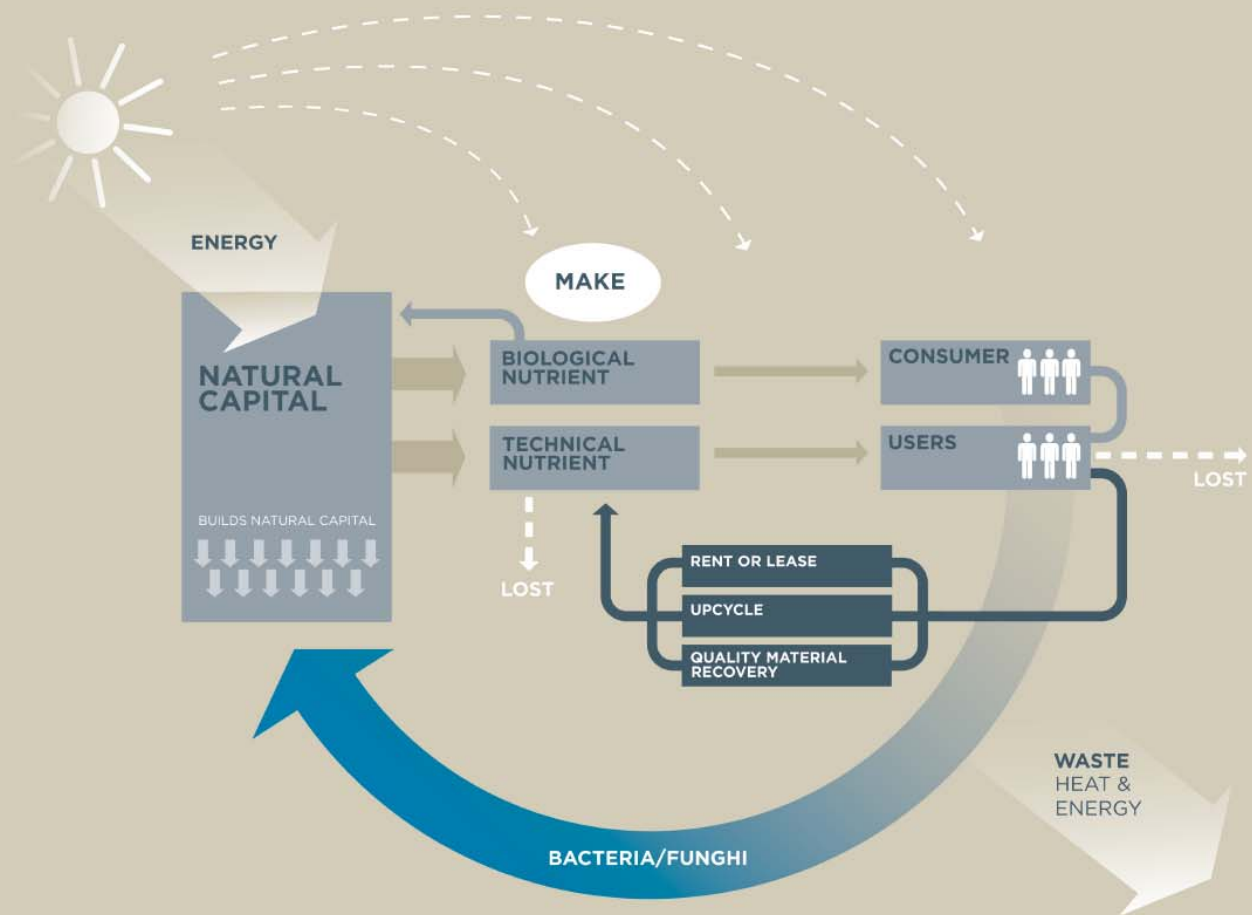
coolclimate.berkeley.edu/inventory

Adding the Consumption-Based Lens



THE CIRCULAR ECONOMY

Addressing Our Blind Spot



StopWaste Workshop Findings & CAP 2.0 Recommendations

- Fewer, more flexible measures
- Systemic, not incremental changes
- Implementation metrics
- Implementation resources

Energy Sector

- Decarbonize/electrify
- Systemically support Grid 2.0
- Storage, time of use

Transportation Sector

- Understand market forces
- Focus on city's unique role
- Ensure equity

Waste Sector

- Focus upstream
- Circular economy
- Low-carbon consumption



STOP WASTE

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Thank You!

Visit us at:

StopWaste.org

PG&E Data Incomplete for Most Jurisdictions

City	COM Electric	IND Electric*	COM Gas	IND Gas*
Alameda	-	-	COM only	Dropped (25%)
Albany	COM only	Dropped (45%)	Dropped	Dropped
Berkeley	COM only	Dropped (55%)	COM only	Dropped (80%)
Dublin	COM+IND+AGR	Included in COM	Included	-
Emeryville	COM+IND	Included		
Fremont	COM+IND+AGR	Included		
Hayward	COM+IND+AGR	Included		
Oakland	COM+IND	Included		
Piedmont	Included	-		
San Leandro	COM+IND	Included		
Union City	COM+IND+AGR	Included		

