What We Measure Matters

Miya Kitahara | Program Manager

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EBEW GHG Inventory Tool

- Updated through 2018
  - 2005, 2020, 2015, 2017, 2018

- Ready to enter in 2019 data
  - Requires PG&E, CCA, waste data
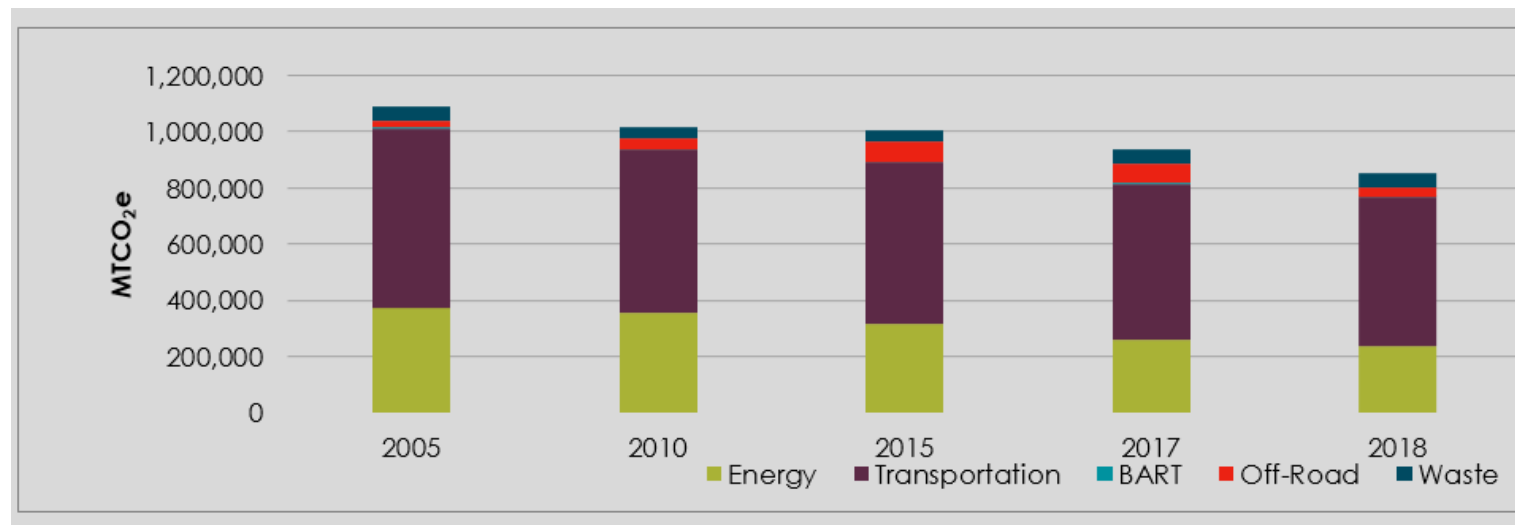
- No more consultant support

EBEW Inventory Data

☑ Energy	381,397	373,837	447,419	449,702	405,735	356,004	337,086	344,865	340,060	315,940	310,777	276,206	253,406	224,446	181,576
Residential electricity	54,284	51,577	71,940	73,641	66,617	51,309	45,686	51,167	49,174	48,033	45,034	32,287	23,315	19,148	1,305
Nonresidential electricity	141,079	131,326	178,471	182,683	153,033	118,682	98,593	108,046	104,451	105,846	98,257	70,911	51,296	24,226	3,972
Residential gas	104,669	106,973	106,835	106,048	102,921	102,992	107,599	103,255	102,540	84,774	87,213	88,815	91,899	93,141	95,103
Nonresidential gas	81,364	83,961	90,173	87,329	83,164	83,021	85,208	82,397	83,894	77,286	80,274	84,193	86,896	87,932	81,197
☑ Transportation	616,349	606,039	595,792	585,607	575,485	565,425	564,054	562,575	560,987	559,291	557,487	549,499	541,411	520,021	511,225
Passenger vehicles	380,553	371,275	362,059	352,907	343,816	334,788	331,511	328,126	324,633	321,032	317,322	311,754	306,087	299,865	292,620
Commercial vehicles	235,796	234,764	233,733	232,701	231,669	230,637	232,543	234,448	236,354	238,259	240,165	237,744	235,324	220,156	218,605
☑ Waste	50,924	49,782	54,291	43,127	40,158	38,338	37,496	33,520	34,746	33,647	38,148	41,567	47,555	52,209	52,209
☑ Off-road	24,345	27,002	29,659	32,316	34,973	37,630	44,311	50,992	57,673	64,353	71,034	70,156	69,279	36,064	51,392
Construction	0	2,296	4,591	6,887	9,183	11,478	17,662	23,846	30,030	36,214	42,398	40,970	39,542	5,696	20,447
Industrial + Commercial	17,523	17,626	17,729	17,832	17,935	18,038	18,241	18,444	18,647	18,850	19,052	19,271	19,490	19,707	19,927
Other	6,822	7,081	7,339	7,597	7,855	8,114	8,408	8,702	8,995	9,289	9,583	9,915	10,247	10,661	11,018
Total of Above	1,073,014	1,056,660	1,127,161	1,110,752	1,056,351	997,397	982,948	991,951	993,466	973,232	977,446	937,429	911,651	832,739	796,402

Interim years extrapolated
Doesn't solve missing PG&E data gap!

We Manage What We Measure

Residential Gas Emissions

Passenger Vehicle Emissions

Truck Emissions

Nonresidential Electricity Emissions

We can't manage this directly!

Water & Wastewater Emissions

Nonresidential Gas Emissions

Methane Emissions in Landfills

Residential Electricity Emissions

Food Supply Chain Emissions

Refrigerants

Goods

Missed opportunities!

Air Travel by Community

Supply Chain Emissions

Building Material Supply Chain Emissions

Construction Site Emissions
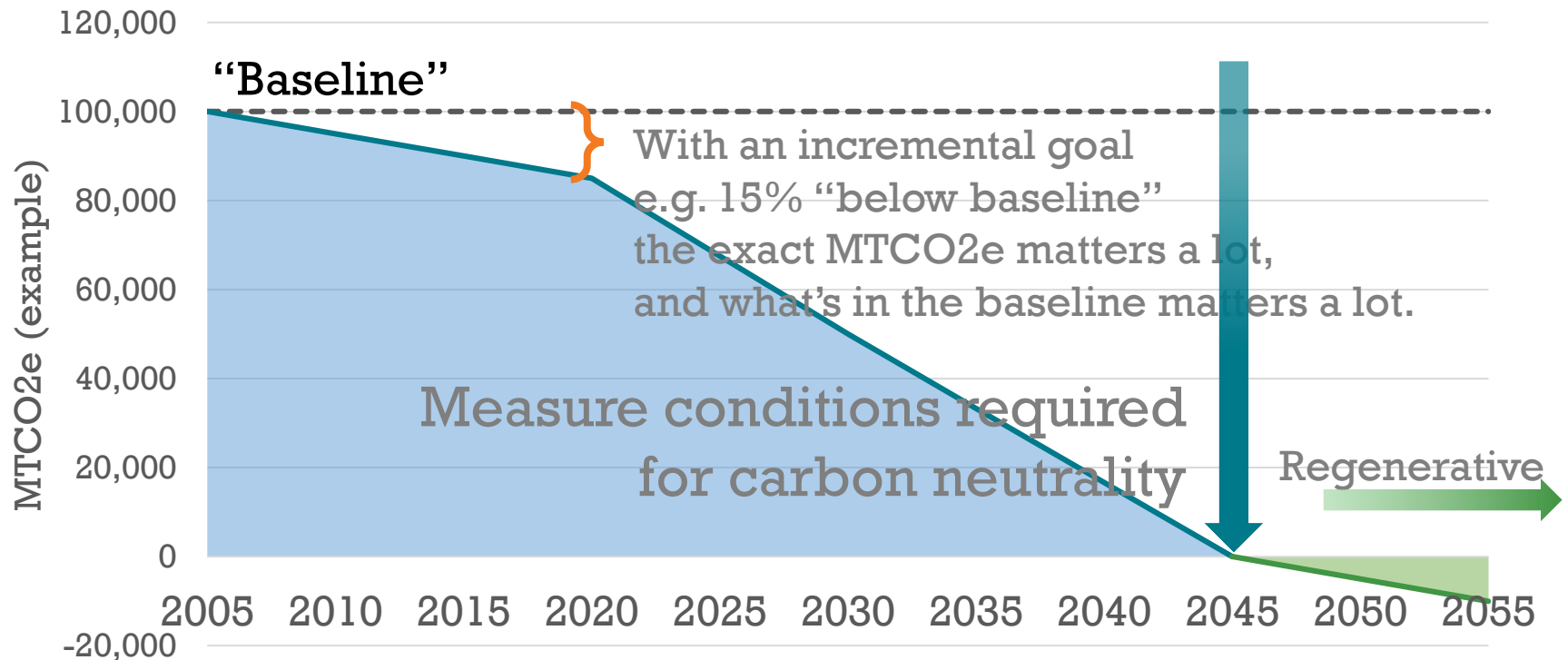
The Limitations of MTCO2e

- What is 1 MTCO2e?

- Cannot be directly managed

- Doesn't relate to co-benefits

- Abstracts the problem

- Puts onus on climate staff, not all staff

Incremental Reduction vs. Zero or Regenerative

"Baseline"

With an incremental goal
e.g. 15% "below baseline"
the exact MTCO2e matters a lot,
and what's in the baseline matters a lot.

Measure conditions required
for carbon neutrality

Regenerative

Y-axis: MTCO2e (example), values 120,000 / 100,000 / 80,000 / 60,000 / 40,000 / 20,000 / 0 / -20,000

X-axis: 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055

What Should We Measure? Just a few examples…

Currently used to calculating MTCO2e	More meaningful for implementation
Modeled total annual VMT (100% of in-boundary + 50% of origin/destination)	Modeled average daily VMT per resident, or per in-bound commuter (in the same VMT data)
County level average MPG	EV registrations (available from DMV)
Total nonresidential kWh (usually missing data for privacy)	Businesses using 100% clean energy (MCE/EBCE)
Residential therms	Electrified, efficient, healthy homes (not tracked)

EBEW Inventory Data

Average residential therms per household
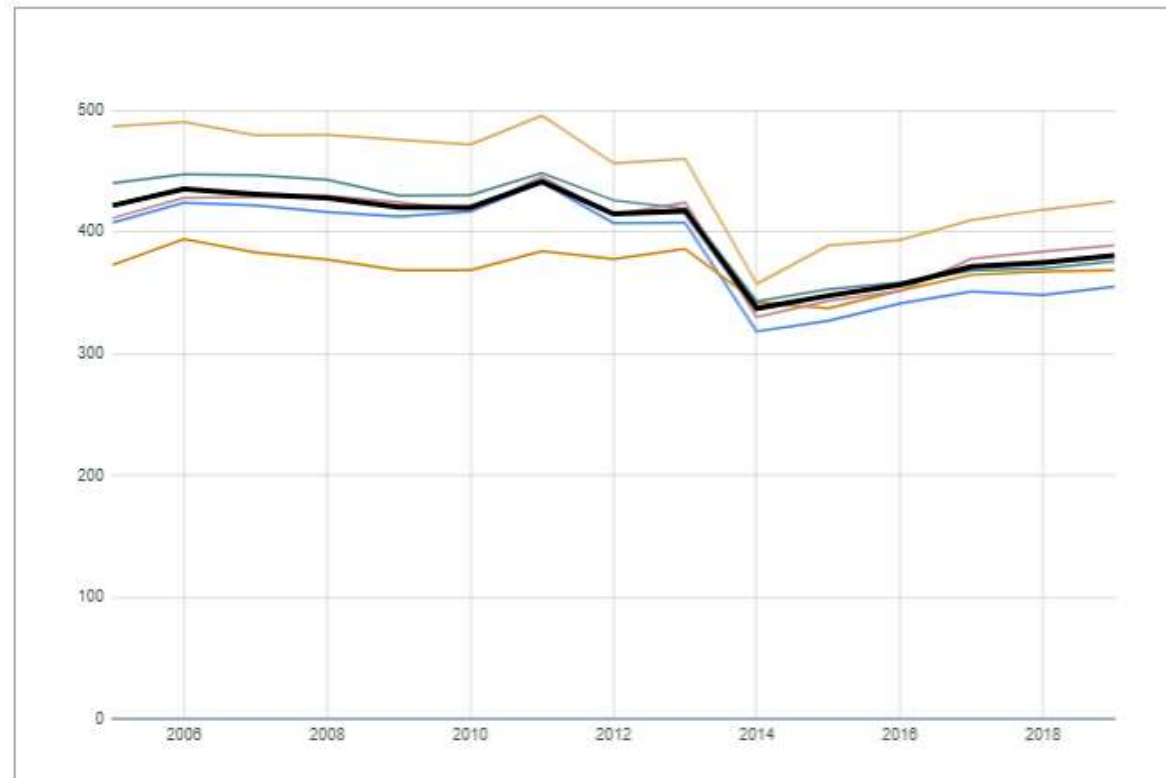
SELECT SECTOR AND METRIC
Sector   Energy
Metric   Residential therm usage
Per   Per household

EBEW Inventory Data

Average daily miles driven by residents (regardless of boundary)
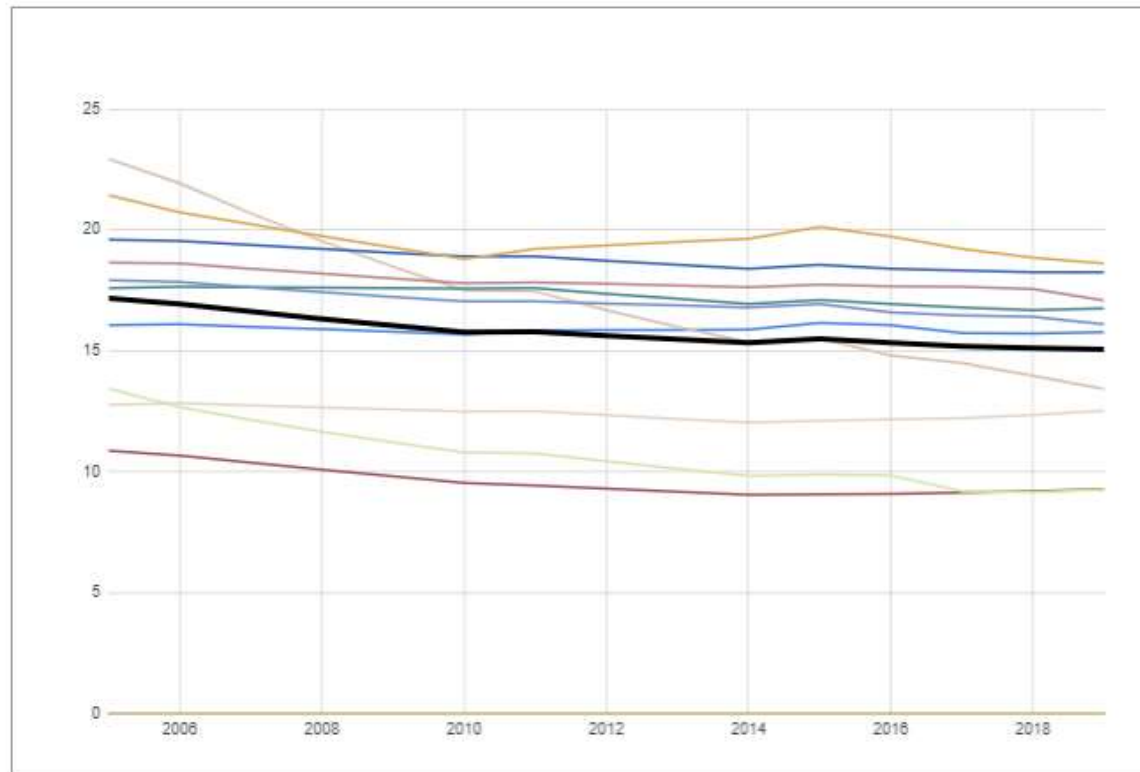
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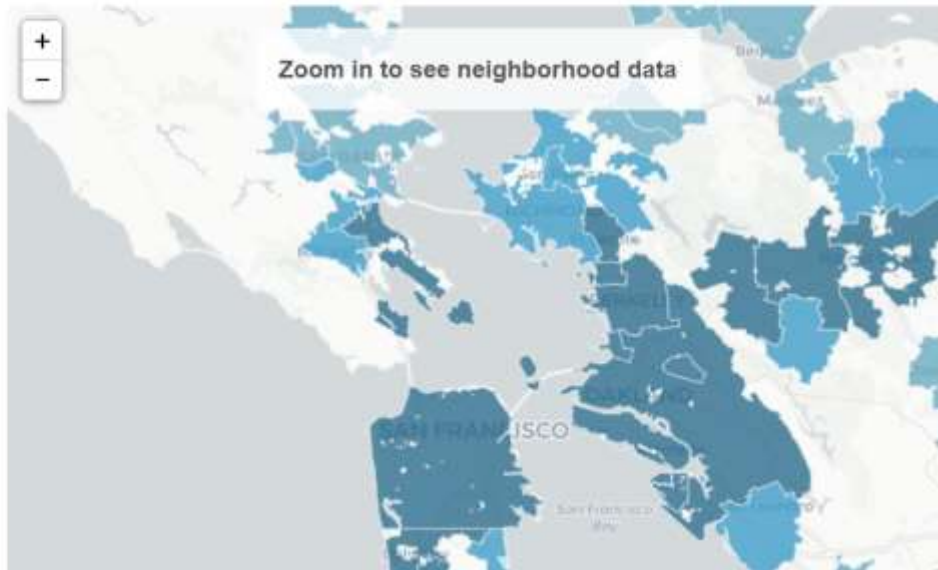
vitalsigns.mtc.ca.gov

EcoDataLab
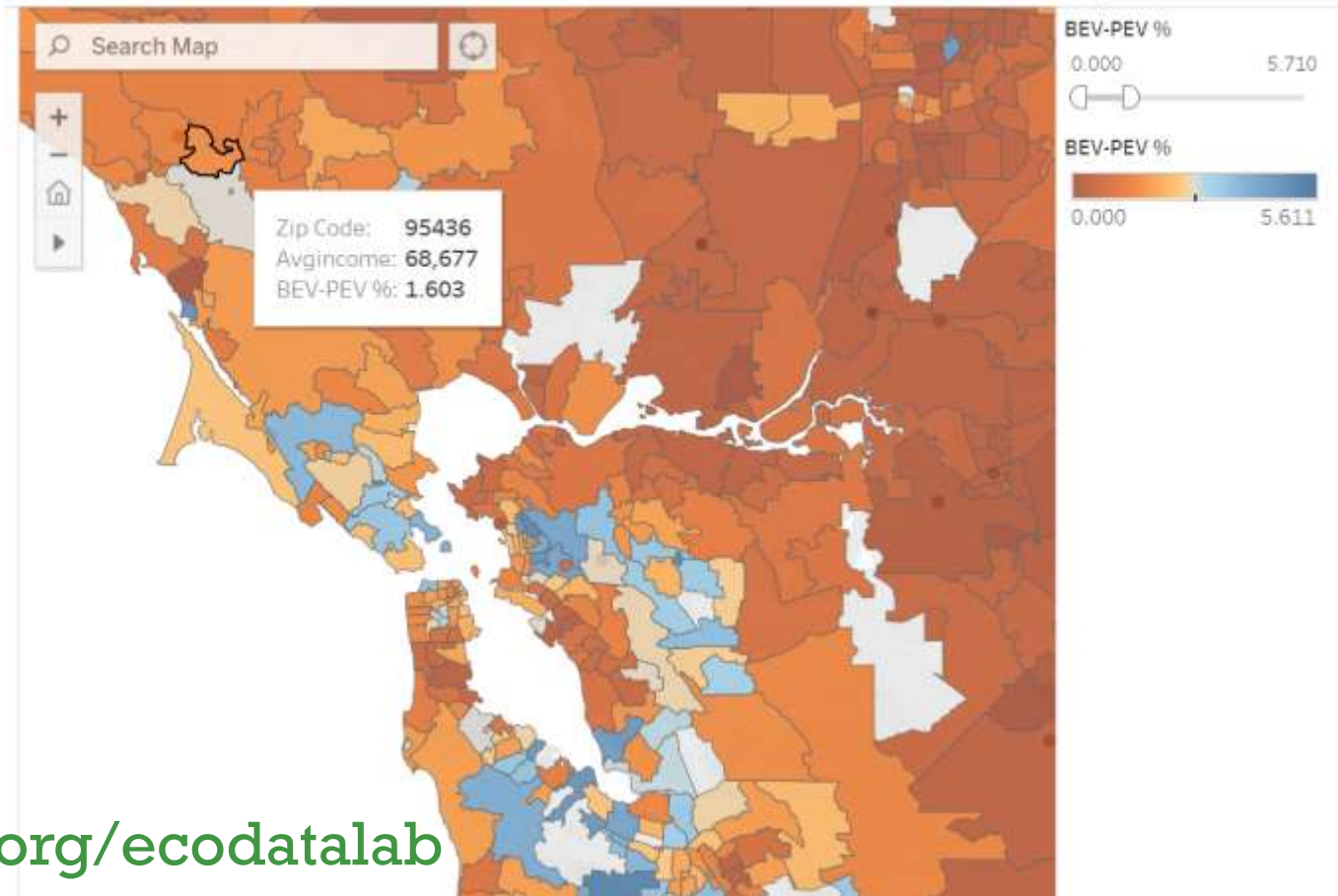
coolclimate.org/ecodatalab

What do you need to know to get to carbon neutrality?