A LOCAL CLIMATE ACTION PLAN April, 2024

Before I left California I joined neighbors seeking to improve the Climate Action Plan (CAP) update. The CAP is a guide for how the town will reduce heat-trapping greenhouse gas emissions to address climate change. The CAP inventories emissions, sets targets consistent with limiting warming, and compiles strategies to achieve the targeted reductions. It maps out a path, with a 2030 waypoint, to reach net zero emissions by 2050. (Net zero means no more heat-trapping gases go into the atmosphere than can be taken out; emissions and removals are balanced.) What does the pathway look like?

The town's emissions already dropped 29% from 2005 to 2020, largely from increased renewable energy in the electricity mix and decreased energy use. In the CAP inventory, half of the town's emissions come from transportation. The town aims to push up the share of zero-emission electric vehicles (EV) from 10% to 45% by 2030, through incentives, education, and building out EV charging infrastructure. EV chargers in multifamily residences can help renters. California has set a goal for 100% of new vehicle sales to be zero-emission by 2035. The town CAP also supports the Bicycle and Pedestrian Master Plan, a Safe Routes to School Program, and e-bikes and e-scooters. It's a fact that more than half of trips taken in the US are three miles or less. Could walking, biking, and public transit get us where we want to go?

Electrification of buildings, for example by requiring new residential and commercial construction to be all-electric, eliminates fossil fuel pollution and increases energy efficiency. The town continues to electrify its own municipal structures and fleet. Solar and battery installations will be facilitated by streamlining permits and reducing or eliminating fees. A green building ordinance will reduce the use of resources and energy through new construction techniques and materials. Other strategies in the CAP include decreasing organic waste in landfills, community education (with tips on "what you can do"), and purchasing carbon offsets if needed.

Our workgroup, building on a detailed draft and borrowing from nearby CAPs, proposed cool roofs and pavements, green spaces, a resilience hub with a solar mini-grid to provide power and emergency supplies during outages, inclusion of social equity concerns, and a Sustainability Coordinator. Most of our ideas were adopted. I saw town government in action! High school student, renter, small business owner, plant promoter – our voices were heard in three-minute public comments at Council meetings.

Achieving climate goals and decarbonizing transportation and buildings may seem daunting, but on the plus side, renewable energy costs have fallen, we have expanding choices for clean and quiet EVs, and modern high-efficiency electric heat pumps, induction stoves, and water heaters are readily available.

One limitation noted in the CAP is that its inventory of greenhouse gas emissions is based on activity within town borders, ignoring emissions associated with food, goods, and services consumed by residents, and also ferry and airplane emissions outside town borders. These consumption-based emissions are major, but difficult to calculate. Adaptation strategies for sea-level rise and other hazards are also important; these are not in the CAP but are covered in a separate town document.

What progress has been made in a little over a year? The newly-hired Sustainability Coordinator gave us an update. The town has identified an EV charger site and specified an all-electric HVAC system for the Town Hall. It is part of countywide development of an EV plan and green building codes. The Sustainability Coordinator spoke of her role in communication and support; to educate and help folks find available resources, incentives, and rebates, while being sensitive to socio-economic needs. I think she is right to emphasize the importance of outreach. The success of the CAP rests not only on incentives and ordinances from Town staff but on involvement by the whole community.

Many places may not have a CAP yet still address climate change. What is happening in your town?

SELECTED REFERENCES (my comments in italics)

A few strategies

>> Safe Routes to School (https://www.saferoutespartnership.org/safe-routes-school); *Barcelona version* (https://www.npr.org/2021/10/22/1047341052/barcelona-bicibus-kids-parents-bike-ride-to-school)
>> *Cool pavements* (https://www.phoenix.gov/streets/coolpavement*) and cool roofs use reflective, high albedo material for roadways, parking lots, sidewalks, and roofs to lessen urban heat.* (https://newscenter.lbl.gov/2019/08/14/cool-roofs-can-help-shield-californias-cities-against-heat-waves/)
>> Reducing urban heat islands: trees and vegetation (https://www.epa.gov/sites/default/files/2014-08/documents/treesandvegcompendium_ch2.pdf)
>> Resilience Hubs (https://rmi.org/weathering-climate-disasters-with-resilience-hubs/) *overview;* (https://parachuteearth.substack.com/p/street-notes-4-the-case-for-baltimore) *Baltimore story*
>> City Climate Corner podcast *(no transcripts)* (https://cityclimatecorner.com) – *Hear about microgrids in Fremont and Menlo Park CA or about SOUL (Save On Utilities Long term) in LaGrange GA, a Pay As You Save program to reduce utility bills in low-income homes through energy efficiency improvements.*

Climate Action Plans

>> Marin Climate & Energy Partnership (https://marinclimate.org) – *from the home page, links to town CAPs (click Our Climate Goals), Marin progress tracker, and countywide EV strategy*
> The Long-Term Strategy of the United States: pathways to net-zero greenhouse gas emissions by 2050, J Kerry and G McCarthy, November 2021 (https://www.whitehouse.gov/wp-content/uploads/2021/10/US-Long-Term-Strategy.pdf) *US strategies; not a formal CAP*

The numbers

>> In California, my town's 2020 emissions were 43,430 MTCO2e, decreased 29% from 2005 levels. To meet the 2030 target (50% below 1990 levels), state actions will reduce 4,496 and local strategies 16,476 MTCO2e. The largest share of local reductions (7,465 MTCO2e) will be from low carbon transportation.
>> I now live in a small city with industrial and agricultural activity and a population 10 times bigger than where I lived in California. From 2000 to 2021, the population here grew ~30% and emissions fell 5% to 731,825 MTCO2e, missing the 2020 target. Implementation of the 2021 climate plan is ongoing.
>> The EU uses 1990, when its emissions began decreasing, as a baseline. The UK, for example, has cut emissions to 46% below 1990 levels as of 2022. US greenhouse gas emissions kept rising until ~2007 and the US uses 2005 as a baseline. In 2022, emissions in the US were 15% below 2005 levels (2% below 1990 levels). The US is targeting a 50-52% reduction by 2030. What is needed is to quickly get halfway to zero by 2030, on the way to net zero emissions by 2050.
(https://en.wikipedia.org/wiki/List_of_countries_by_greenhouse_gas_emissions)

Miscellaneous

>> Models suggest that to reduce US emissions by 50% by 2030, the electricity grid needs to run on 80% clean energy and the majority of vehicles sold by 2030 need to be electric. Electrification of buildings and industries is also important. Coordinated state and federal policies are needed. Advances in wind, solar, and energy storage technologies help with costs. Reduced pollution has health and environmental benefits. (https://energyanalysis.lbl.gov/news/heres-how-us-can-achieve-50-reduction)
>> (https://www.energy.gov/eere/vehicles/articles/fotw-1230-march-21-2022-more-half-all-daily-trips-were-less-three-miles-2021) *By all modes of transport in 2021, 52% of all US trips were less than 3 miles.*
*>> Mitigation, adaptation, and resilience are three terms used to describe options for reducing the risks of climate change. **Mitigation** is reducing climate change by reducing emissions of heat-trapping gases or enhancing carbon sinks (such as oceans, forests, soil) that accumulate and store these gases. **Adaptation** is how we adjust to the effects of climate change. **Resilience** is building the capacity to bounce back.*
>> Electrification and community renewal (https://www.quarterlyessay.com.au/essay/2023/03/the-wires-that-bind/extract) – *excerpt from The Wires That Bind, Saul Griffith; a vision of Australian electrification*