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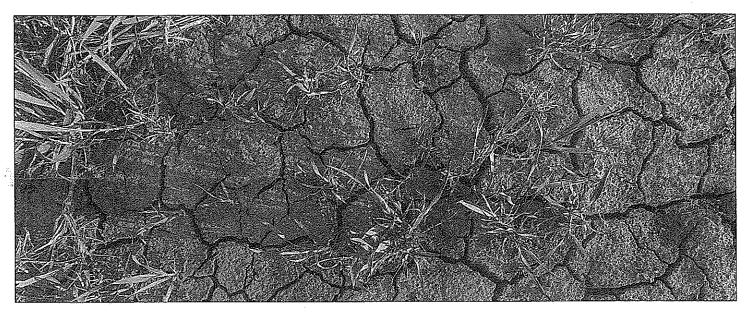


theCatalyst

Spring 2022



Reclaiming the future of food and farming



Climate Strategies Can't Ignore Pesticides

by Asha Sharma, Organizing Co-Director

After joining PAN last spring, I spent a lot of time getting up to speed on the policy landscape in California. I initially felt overwhelmed by the state's many regulatory strategies and plans to reduce or adapt to climate change. However, I quickly realized one glaring oversight — every single strategy excludes concrete reductions in chemical pesticide use.

Without decreasing pesticide dependency and investing in ecological pest management, California will fail to meet its climate goals — and the impacts of climate change and pesticide use will continue to fall disproportionately on people of color.

Research shows that climate change will most likely result in increased pesticide use in agriculture, both because of increased pest and disease pressures, and because pesticides will become less effective. This will increase exposure for rural communities and farmworkers — unless we begin to support and incentivize other forms of pest management.

Long-term exposure to pesticides can already cause a host of illnesses and diseases, from neurological disease to cancer. Higher temperatures under climate change will mean higher environmental toxicity and pesticide volatilization (when a liquid or solid turns into a gas), a primary source of pesticide drift. The compounded effects of increased pesticide use with increased volatilization could have disastrous health impacts — with people of color most affected.

Research has found that pesticide exposure occurs mainly along racial lines in California, with 95% of agricultural pesticide use taking place in communities with the highest proportion of residents of color.

Farmworkers in particular are on the frontlines of pesticide exposure, and the expected increases in pesticide use will add to other harmful effects from climate change, like extreme heat. When applying pesticides, farmworkers typically wear personal protective equipment like long sleeves, which increases risk from heat-related illnesses as temperatures rise because of climate change.

And...pesticides worsen climate change

In a particularly destructive cycle, not only is climate change likely to increase pesticide use, pesticides contribute to climate change as well. Many chemical pesticides release greenhouse gas emissions during their production, storage, transportation and application. Meanwhile, alternative agriculture systems that limit chemical pesticide use, like organic farming, can increase carbon stored in soils.

continued on back page



Inside This Issue

Going to Court—and Winning p. 2
Toxic Taters Fights for Clean Water p. 3

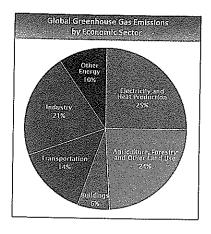
e change will likely result in increased pesticide and how pesticide use can increase greenhouse irgently need to reduce pesticide dependency, vize ecological pest management and clially just agricultural systems like agroecology, imicking natural ecosystems and building soil silience to prevent the need for pest control st place.

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primary overarching climate strategies in Calornia Air Resources Board's Scoping Plan, and ural Resources Agency's Climate Adaptation ly include chemical pesticide reduction targets

ge. Specific reduction targets would help nvestments in incentives for farmers experinative crop and pest management practices, echnical assistance providers who specialize in tagement and agroecology.

lalifornia Department of Food and Agrioils Program, meant to incentivize cliulture practices, leaves out any incentives for esticide use.



Experts estimate that industrial agriculture (orange) — with its heavy pesticide use — contributes nearly a quarter of greenhouse gas emissions. (2014 IPCC report)

To be successful, our climate strategies must acknowledge the power of shifting to alternative agricultural systems that reduce chemical dependency, like agroecology or diversified organic agriculture. A systems-level approach will have a much larger impact than current strategies that focus on oversimplified measures like changes to single farming practices, and reducing chemical pesticide use would finally begin to address the historical legacy of environmental racism and ecological disaster inherent in chemical-intensive agriculture.

Read Asha's full blog post at bit.ly/PesticidesClimate.

a little liberty to gain a little security will deserve neither and lose both."

Let's all be brave! Let's work hard to preserve our rights to farm, to have access to clean healthful food, to make decisions about health for our families, to have access to natural "alternative" healthcare, and our right to speak out against what is wrong with the world.

Erin Matica Worthington, Massachusetts

FALLACY AND REALITY

California has announced a statewide initiative to phase out or ban the sale of internal combustion engines by 2035 and replace them with electric vehicles powered by solar- and windgenerated electricity. In his Executive Order N-79-20, California Governor Newsom is following the global environmental playbook and throwing in a little coronavirus justification to boot. The third paragraph of the order states, "Whereas the COVID-19 pandemic has disrupted the entire transportation sector, bringing a sharp decline in demand for fuels and adversely impacting public transportation. . " Aside from its human health effects and societal disruption capabilities, the Covid-19 virus is most cunning. Unbeknownst to us, it also infects machines and as such provides political justification for remaking California's transportation sector.

Here's the question: can California support the transition to an all-electric fleet of light duty vehicles (LDVs) using only solar- and wind-generated electricity? Assuming that California would need 15,000,000 LDVs, requiring 300 watt-hours per vehicle per mile for an average of 10,000 miles per year, each vehicle would need 3 megawatt-hours per year.

Using current technologies, you need 7.5 acres of land to produce 1 megawatt-hour from solar and 5 acres of land to produce 1 megawatt-hour

from wind turbines for an average of 6.5 acres for 1 megawatt-hour from solar and wind, or .001 square miles per megawatt-hour.

At 3 megawatt-hours per year, the electricity needed for 15,000,000 light vehicles is 45,000,000 megawatt-hours per year, thus requiring 45,000 square miles. The land area of California is 163,696 square miles so the conversion to all-electric vehicles would require 27.5 percent of California's total land area.

In addition to the transition to allelectric vehicles, California has competing initiatives to phase out natural gas and nuclear power generation.

Currently, California generates 102,000,000 megawatt-hours from natural gas and nuclear. All told, California would need something on the order of 150,000,000 megawatt-hours of new solar and wind generation capacity to support these dual initiatives over the next fifteen or twenty years, requiring 150,000 square miles of land area or 91.5 percent of California's total surface area!

Never mind the fact that California's forty million citizens need somewhere to live and that large swaths of the state are either desert or mountains and impractical for large scale commercial electric utility generation. (Desert is good for solar, but it tends to be remote from the grid and lacks transmission lines and substations needed to support large scale commercial electric development.) Maybe the yet unannounced secret plan on the part of California is to annex Nevada and Alaska to support their all-renewable electricity generation cloud dream.

Actually, California knows that its grand plans are impractical. If you visit the website poweringcalifornia. com, they ask the same question: how much land would it take for California's utilities to go all renewable? This is even before the additional electricity

demand from an all-electric vehicle fleet. The state's own conclusion: "The Manhattan Institute, a policy research think tank, took a deep-dive look at the math behind the 100%-renewable-energy concept and found it unrealistic, particularly when it comes to land use."

On the upside, California wouldn't have to worry about wildfires in this future state as a key ingredient for wildfires, namely vegetation, would be totally eradicated to support wind and solar farms.