Environmental resilience accelerator (aka “The Accelerator”)

Bill Collins, Director

We are all working for a better world

A world where…

- Cities run in harmony with the natural world
- Water is bountiful for all uses
- Farms and wildlands are fertile
- Industry prospers and air quality is pristine

We need to get to a world where humans thrive on a healthy planet, and we need to get there faster!

Need for a Solutions Accelerator

- Pace of environmental change is accelerating.
- We are entering into a “no analog” world.
- The rate and scale of change requires radically new types of “whole system” solutions.
- These solutions should be conceptualized and deployed by nimble and agile trans-disciplinary teams.

California's Challenge:

Pursue Mitigation and Adaptation

GHG Reduction	Adaptation/Resilience
California #1	California ??
• AB 32 (2020 GHGs) • SB 32 (2030 GHGs) • SB 350 (Buildings & Renewables) • SB 375 (land use/transportation) • Cap and Trade Program • Low Carbon Fuel Standard • RPS (utilities) • Vehicle standards (state now federal) • Natural/Working Lands GHG program (forest carbon plan, bioenergy plan, etc.) • SLCP Strategy	• SB 246 (coordination) • SB 379 (general plans) • 2015-16 Drought Regulations • 2013 Sea Level Rise Guidance
• Dedicated $$ (Cap/Trade, SGC, etc.)	
• Partnering with China, India, others	
Many Local Climate Action Plans (comprehensive)	Some Local Assessments (mostly single topics)

To get there, we need to move from...

laboratory scale → neighborhood scale

individual research → community wide partnerships

projects aiming for technical readiness → projects aiming for societal readiness

writing solutions →
implementing them

What we need is a ***Solution Accelerator***

Connecting the challenges from real-world partners with the powerhouse research capabilities of UC Berkeley and Berkeley Lab, **The Environmental Resilience Accelerator (Era)** will prototype and field test the solutions we need to get to a better world.

California is ideally suited to house this innovative endeavor, with its mix of community activism, state support, entrepreneurial spirit, and research excellence.

Overview of the Accelerator

A Catalyst for Resilience, Prosperity, and Equity

- **Mission:**
  - Accelerating comprehensive solutions to address the challenges caused by environmental change to ensure that our planet and our society can thrive.
- **Vision:**
  - The Accelerator solves the most urgent environmentally-driven problems by convening interdisciplinary teams from UCB and LBNL with partners from industry, government and non-profits, and by advancing their creation of actionable solutions with funding, connections, and oversight.

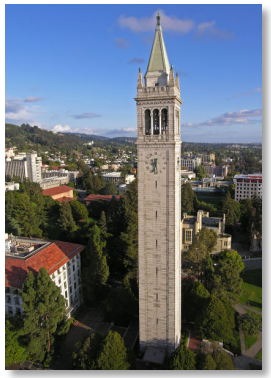



Features of Accelerator Projects

- **Accelerate positive transformation of our communities**, environment, and vital infrastructure in a single human generation
- **Integrate the complementary strengths of UCB and LBNL** and promote the research and educational missions of both.
- **Require a broad range of disciplines**, and would engage social scientists and professional school faculty in the design and execution of each project
- **Secure one or more external implementation partners from initiation**
- **Define clear metrics for success** and pursue time-delimited milestones on the path to completion
- **Sunset after five years** both to maximize the opportunities for new project teams to engage with the Accelerator and promote a constructive sense of urgency and focus on the most promising solution pathways

Goals of the Accelerator

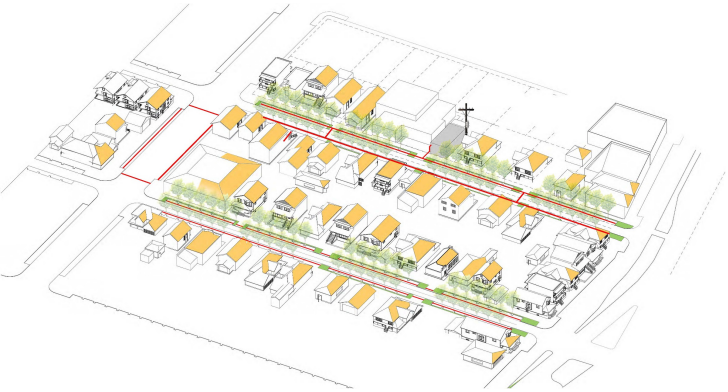
1. Identify, launch, and support one or more new projects annually
2. Manage ≥5 projects at full capacity, each with run times of up to 5 years
3. Deliver ≥1 implementation-ready projects each year to external partners
4. Support engagement of postdocs and graduate students in each project
5. Conduct an annual forum to discuss major environment-driven challenges and solutions

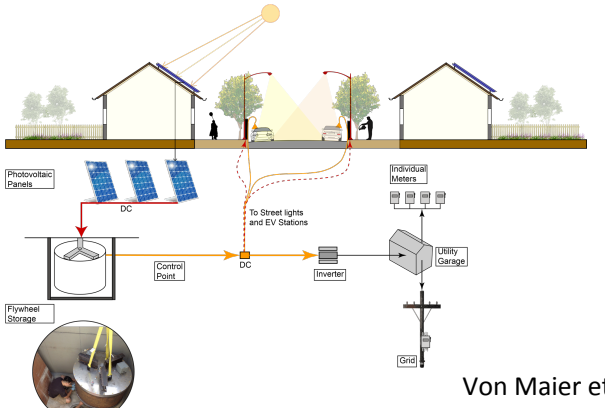


Early Projects

Oakland EcoBlock

Implement Urban climate adaptation through an integrated design solution

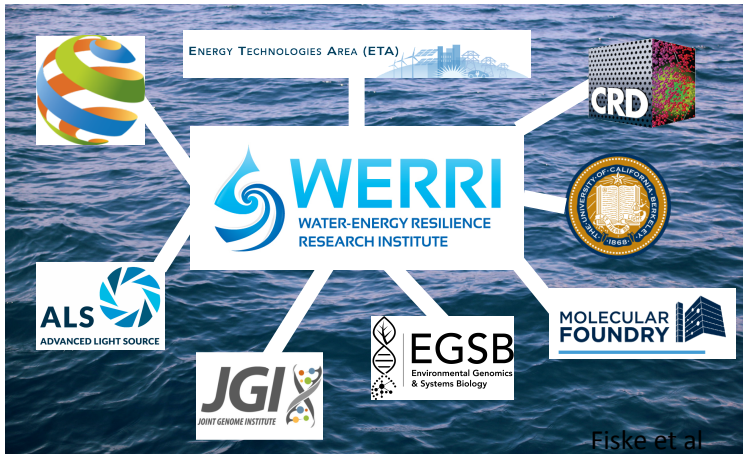




Von Maier et al

Water-Energy Resilience

Partner with Berkeley Lab around Energy Innovation Hub

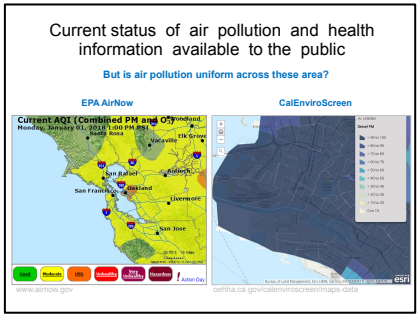


Fiske et al

Port of Oakland Decarbonization

Improve air quality, health, and environmental posture of Port and City of Oakland

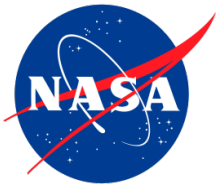
East Bay Times



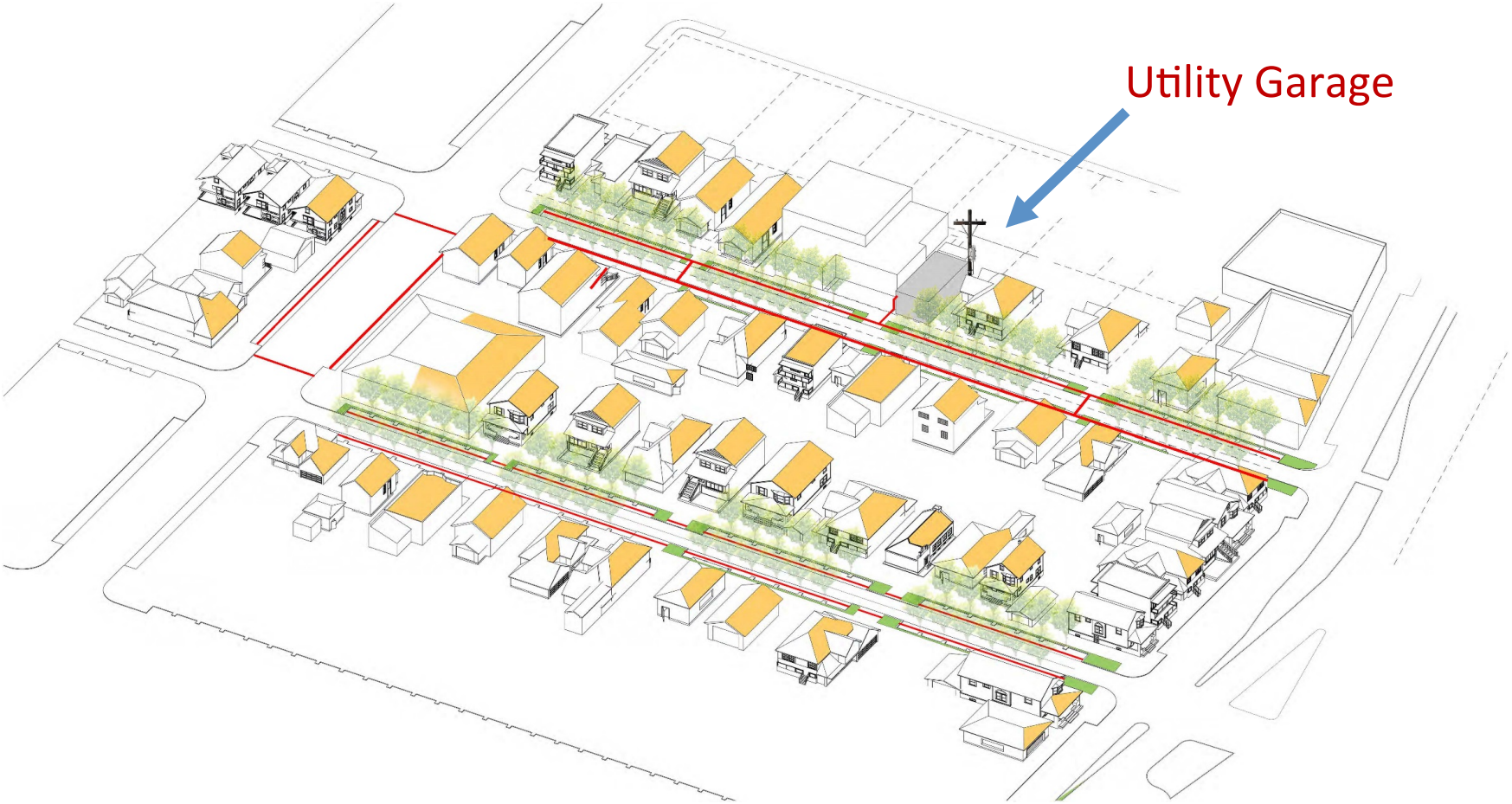
Oakland EcoBlock

Implementing Urban climate change adaptation by means of an integrated design solution

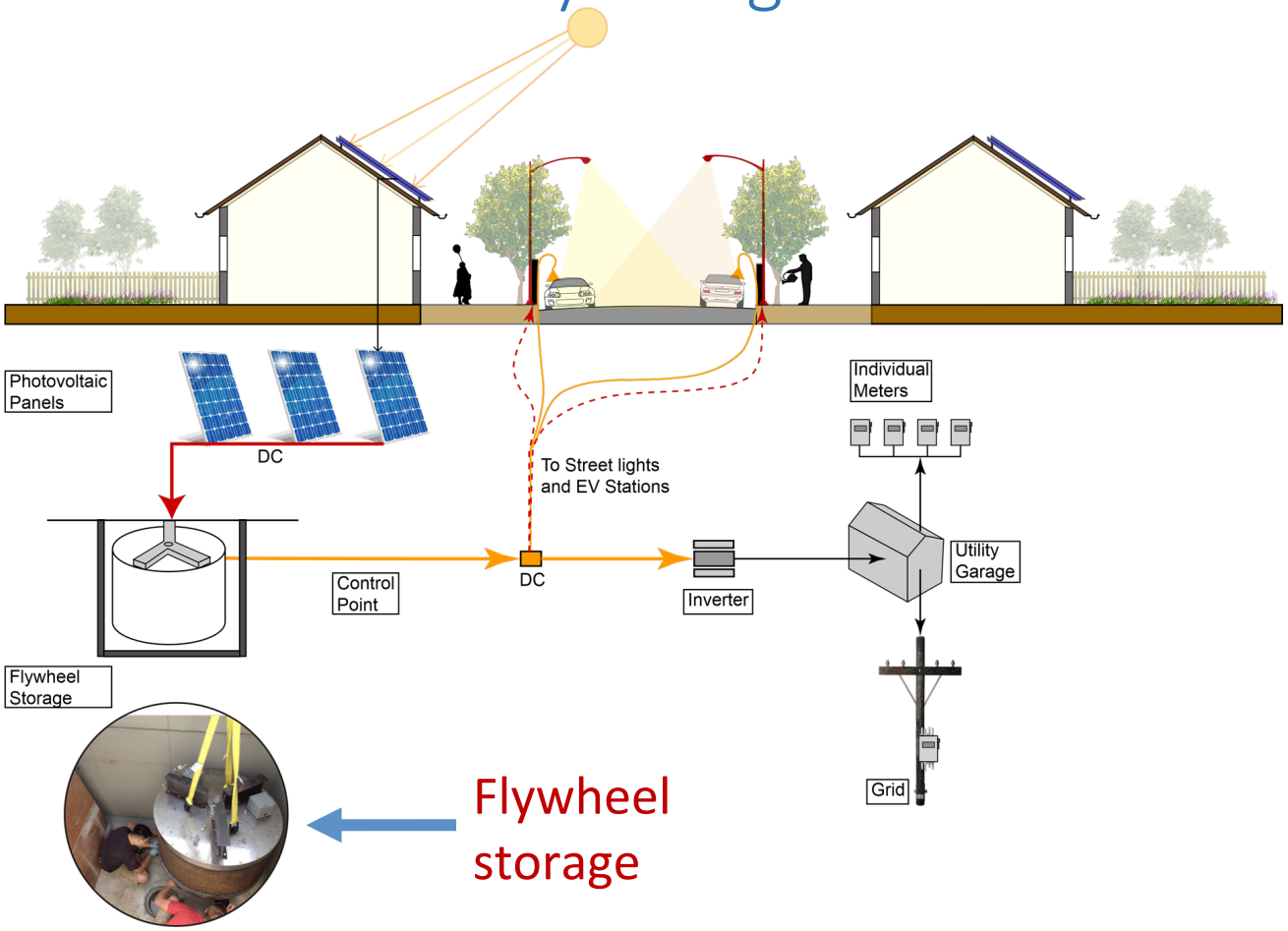
Lawrence Berkeley National Labs – 30 Sept, 2018



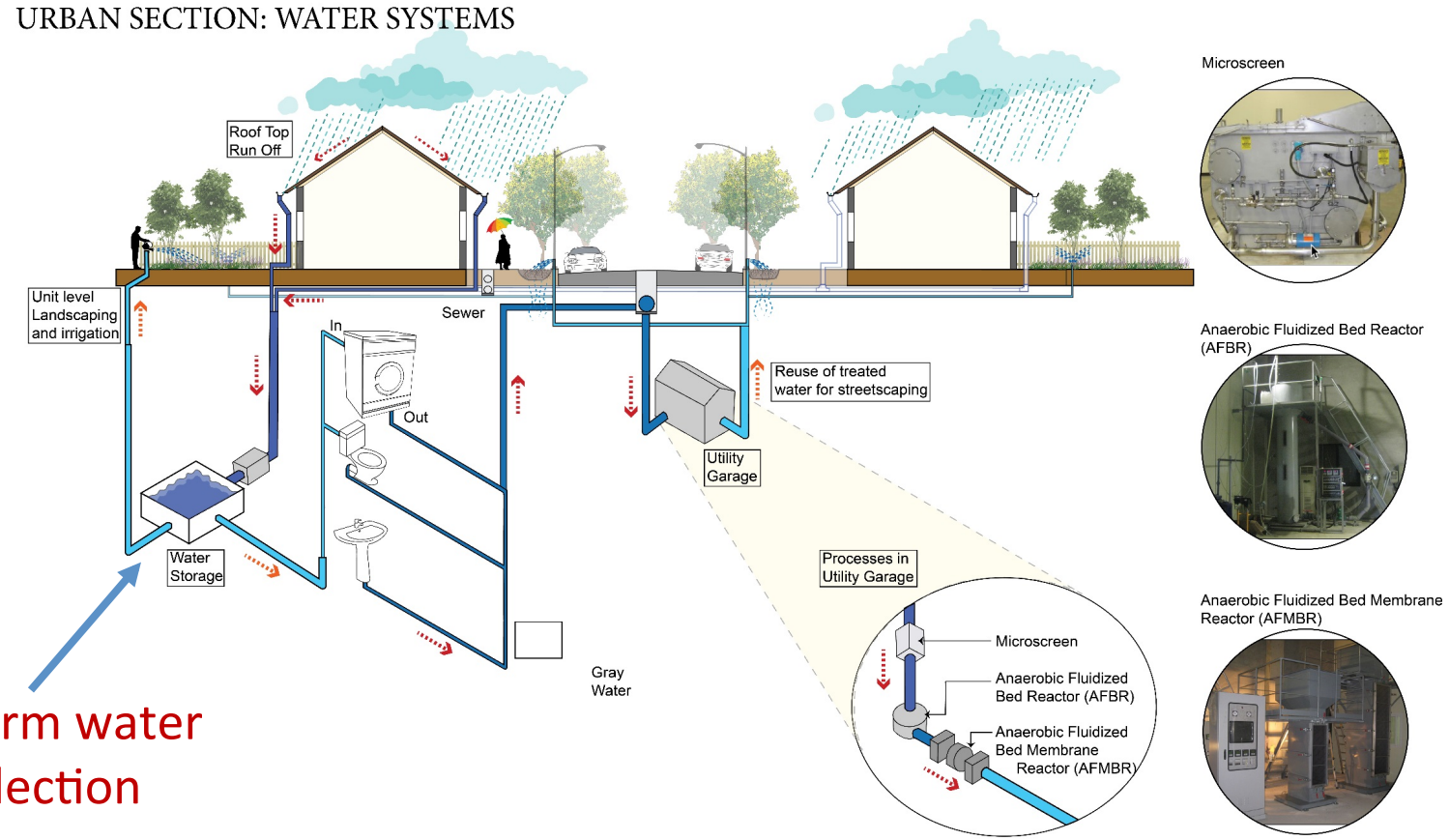
Electricity: communal, solar rooftop microgrid system



All solar electricity: integrated overview

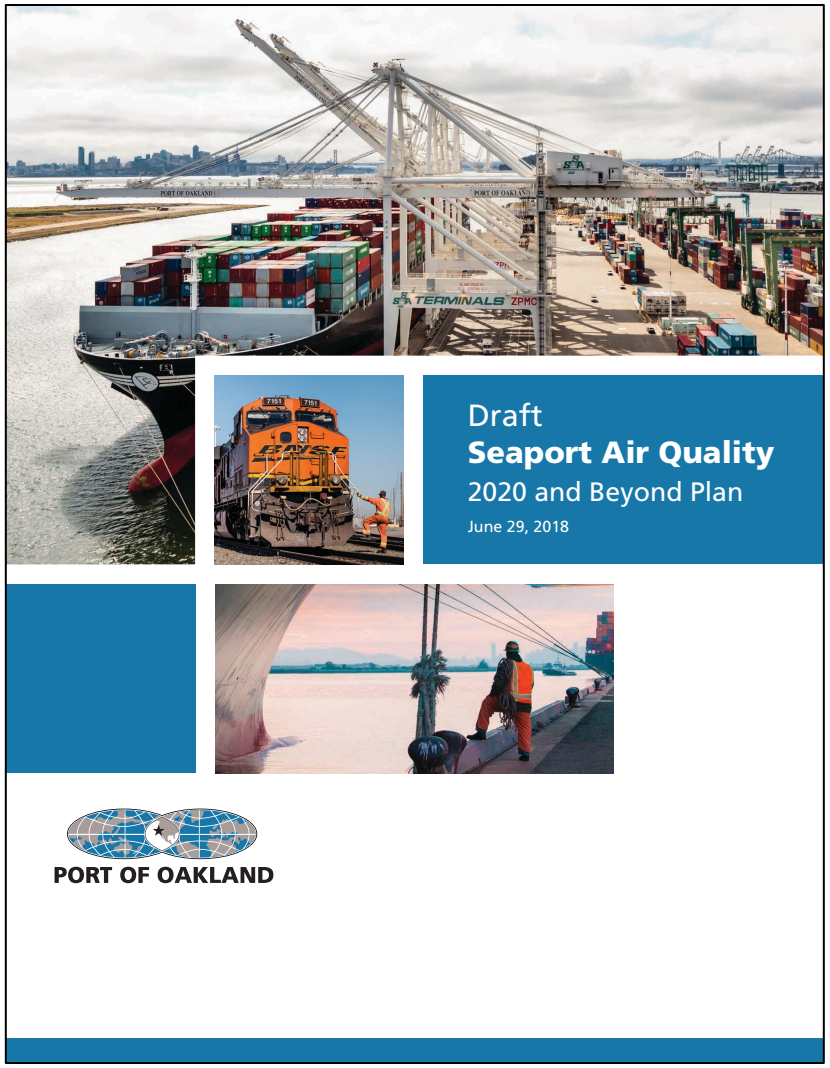


Water, storm water & wastewater



Storm water collection

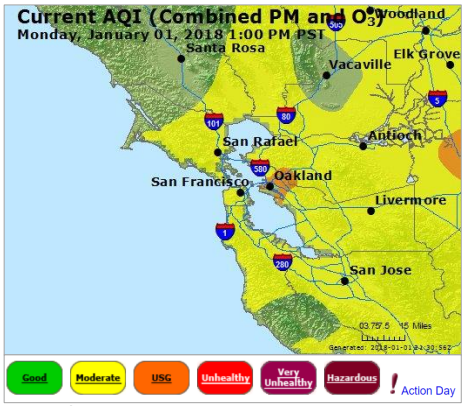
Decarbonizing Port of Oakland



Current status of air pollution and health information available to the public

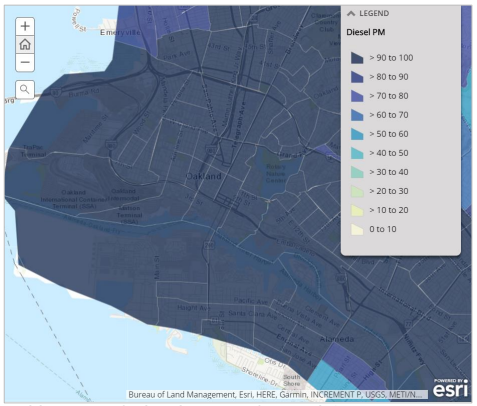
But is air pollution uniform across these area?

EPA AirNow



www.airnow.gov

CalEnviroScreen



oehha.ca.gov/calenviroscreen/maps-data

Why is This Time Different?

- Advantageous timing of launch
- Multi-institutional commitment
- Investment in development of funding streams
- Leadership
- Transparency
- Focus on demonstrable impact

Questions and Discussion?

I would welcome the chance to talk with each of you about the accelerator.

Please contact me at:

- **wdcollins@Berkeley.edu** or
- **ksopher@lbl.gov** (my Admin.)