

SPUR

AGENDA: 4

FOSSIL-FREE BAY AREA

A cleaner future for the region's energy

September 2016

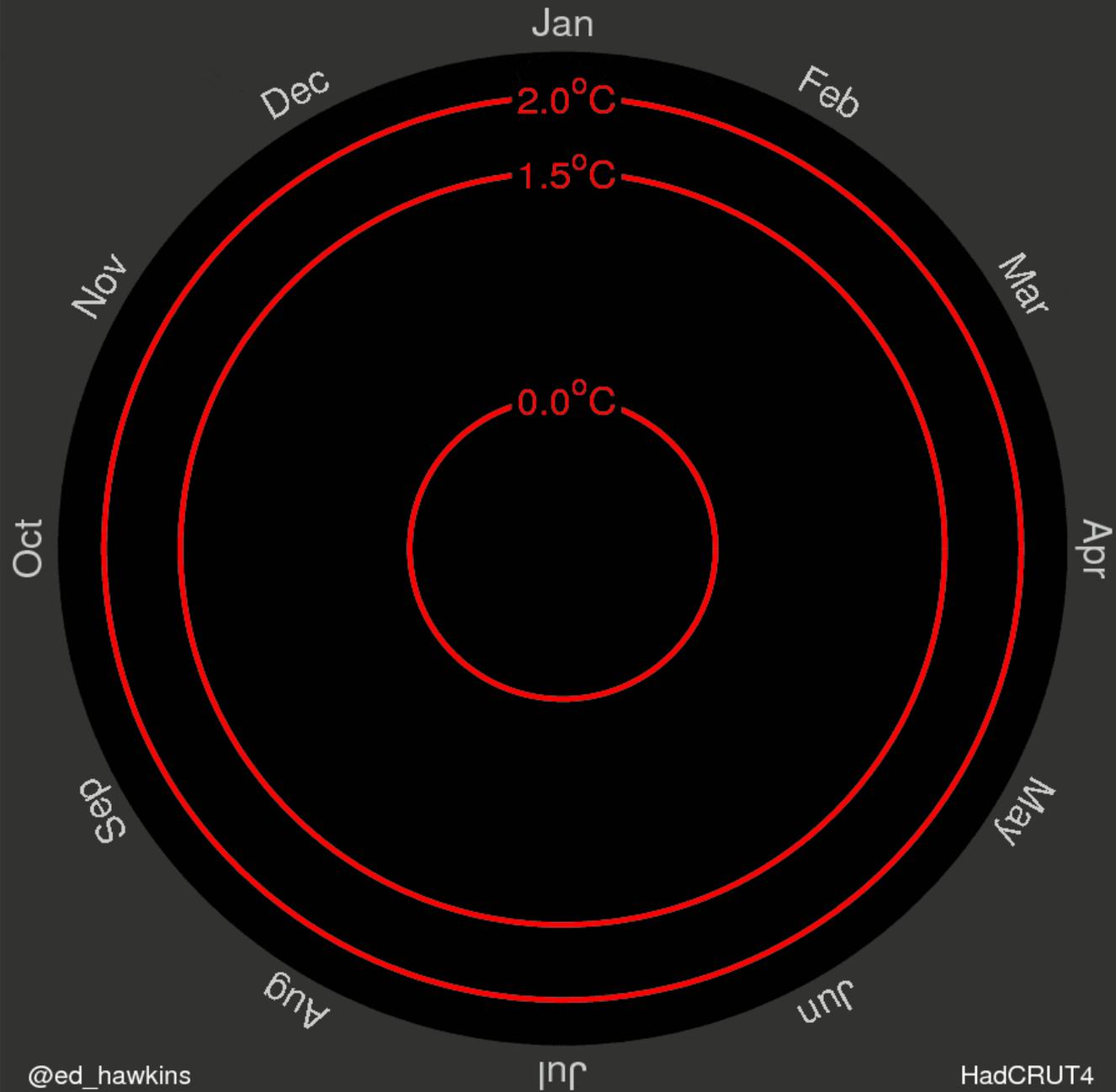
What can the Bay Area do to end our fossil fuel dependency?



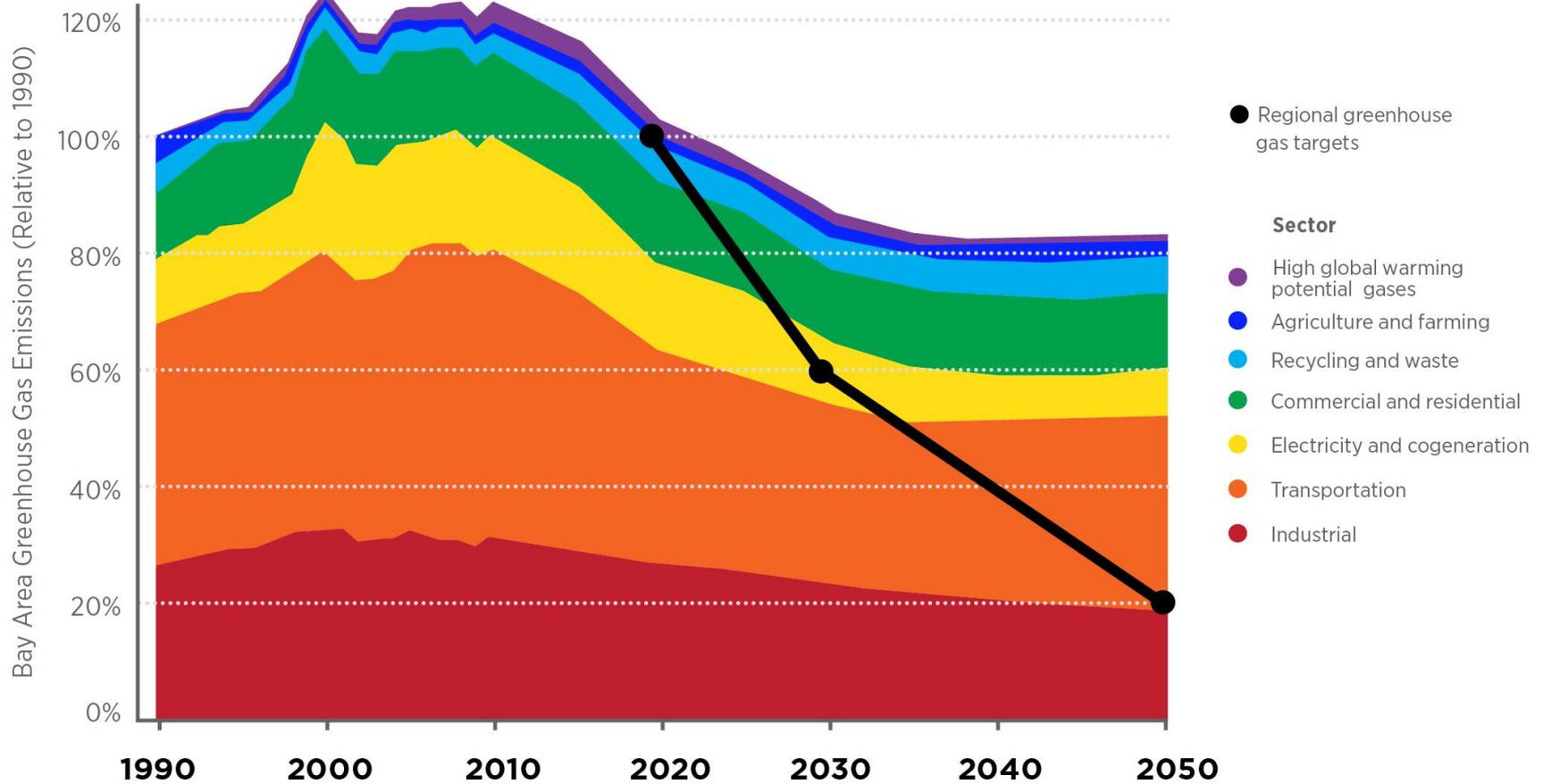
Three Big Ideas:

1. **Consume less fossil fuel** by eliminating waste and improving efficiency of buildings, the transportation system, and land use
2. **Electrify most energy uses** including vehicles and buildings
3. **Generate renewable electricity** to meet almost all energy needs with 100% renewable sources

Global temperature change (1850–2016)



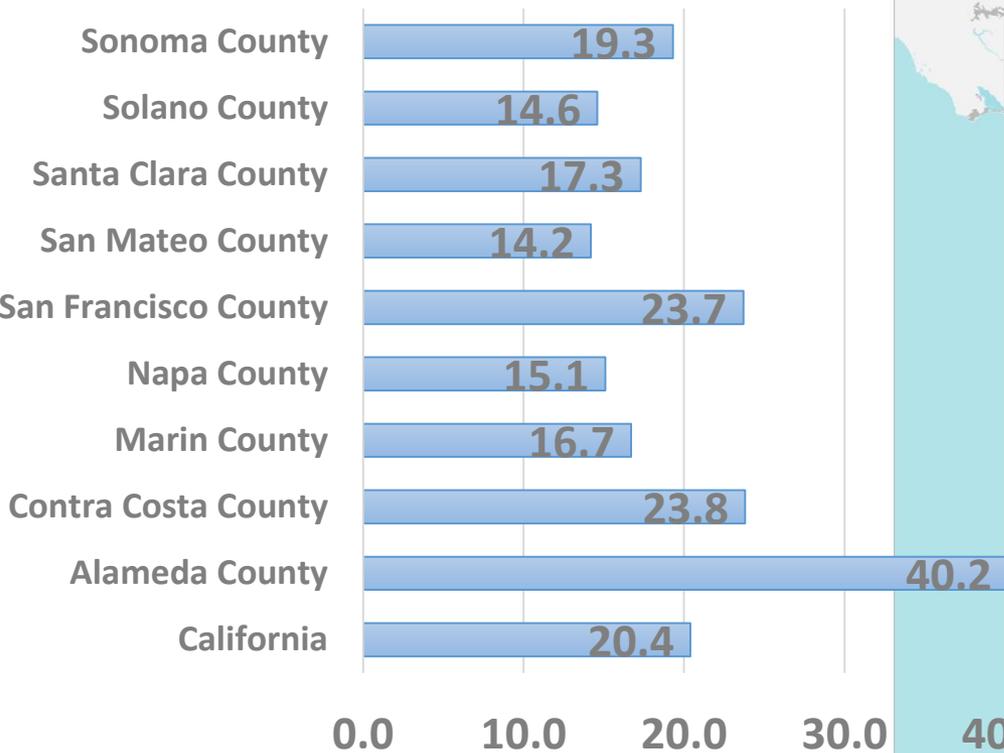
Reaching the Bay Area's emissions goals requires new policies and programs



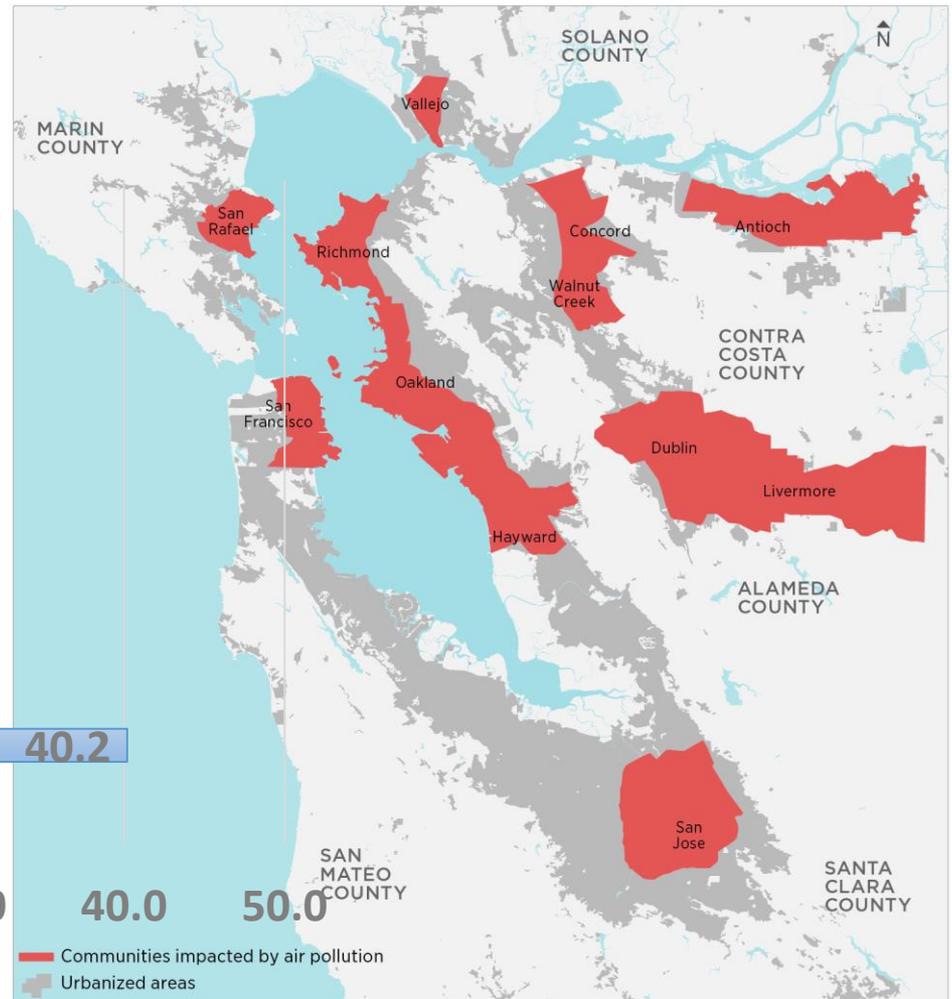
Source: BAAQMD, 2015

Cleaner air is a direct local benefit of going fossil-free

**Asthma hospitalization rates by county:
0-4 year olds, per 10,000 (2013)**

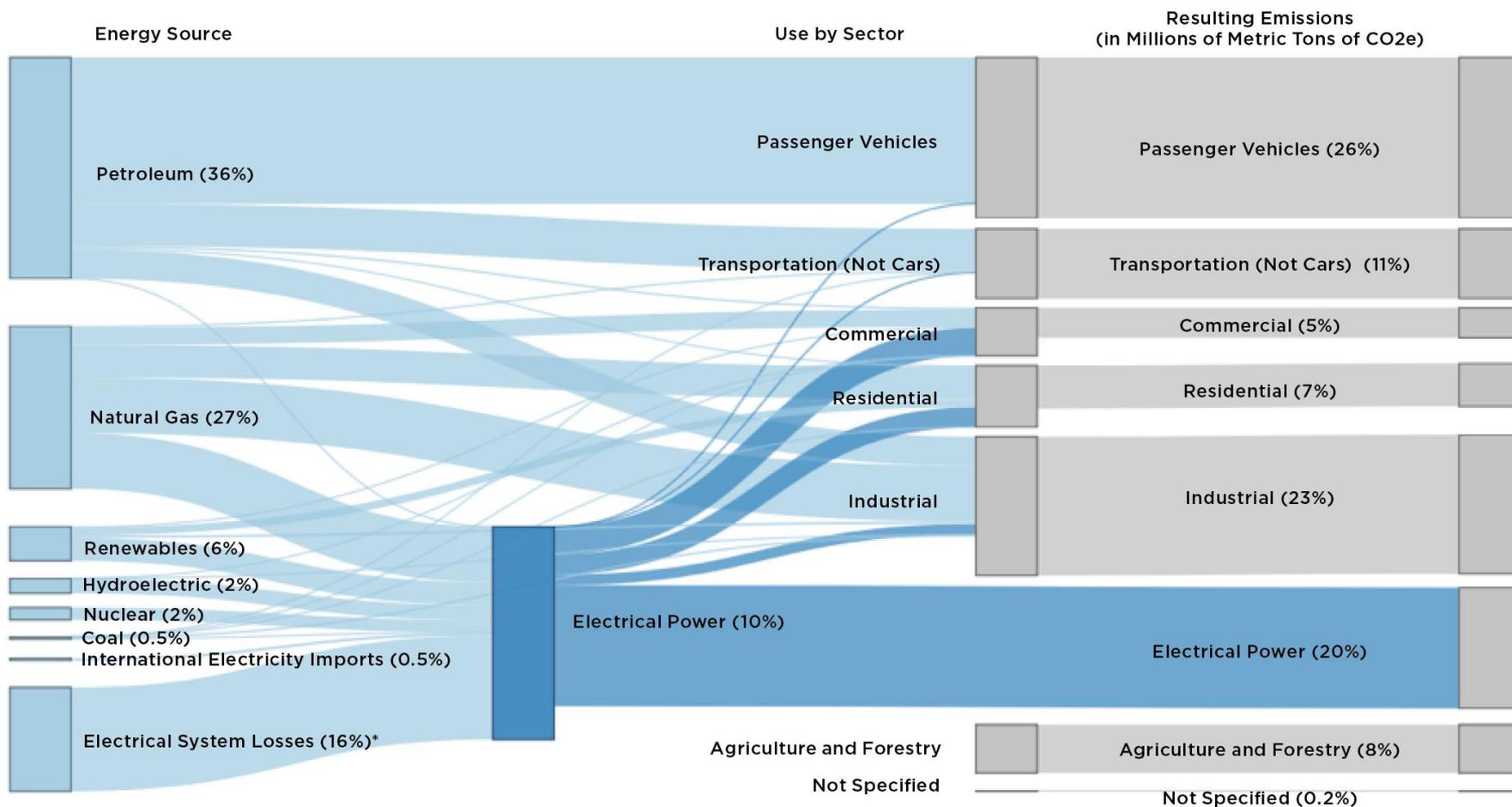


Source: Kidsdata.org



Source: BAAQMD, 2015

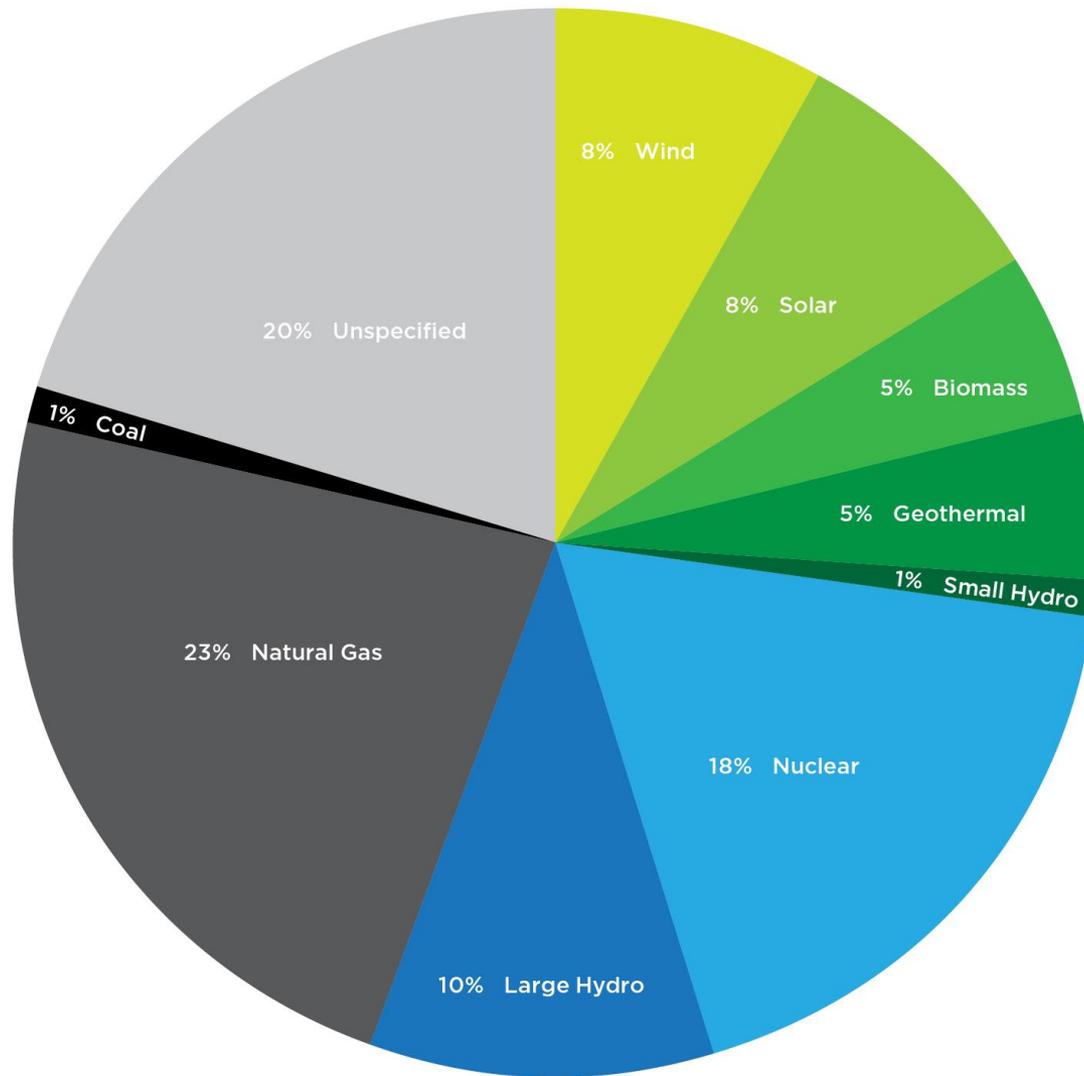
California consumes more petroleum than any other energy source



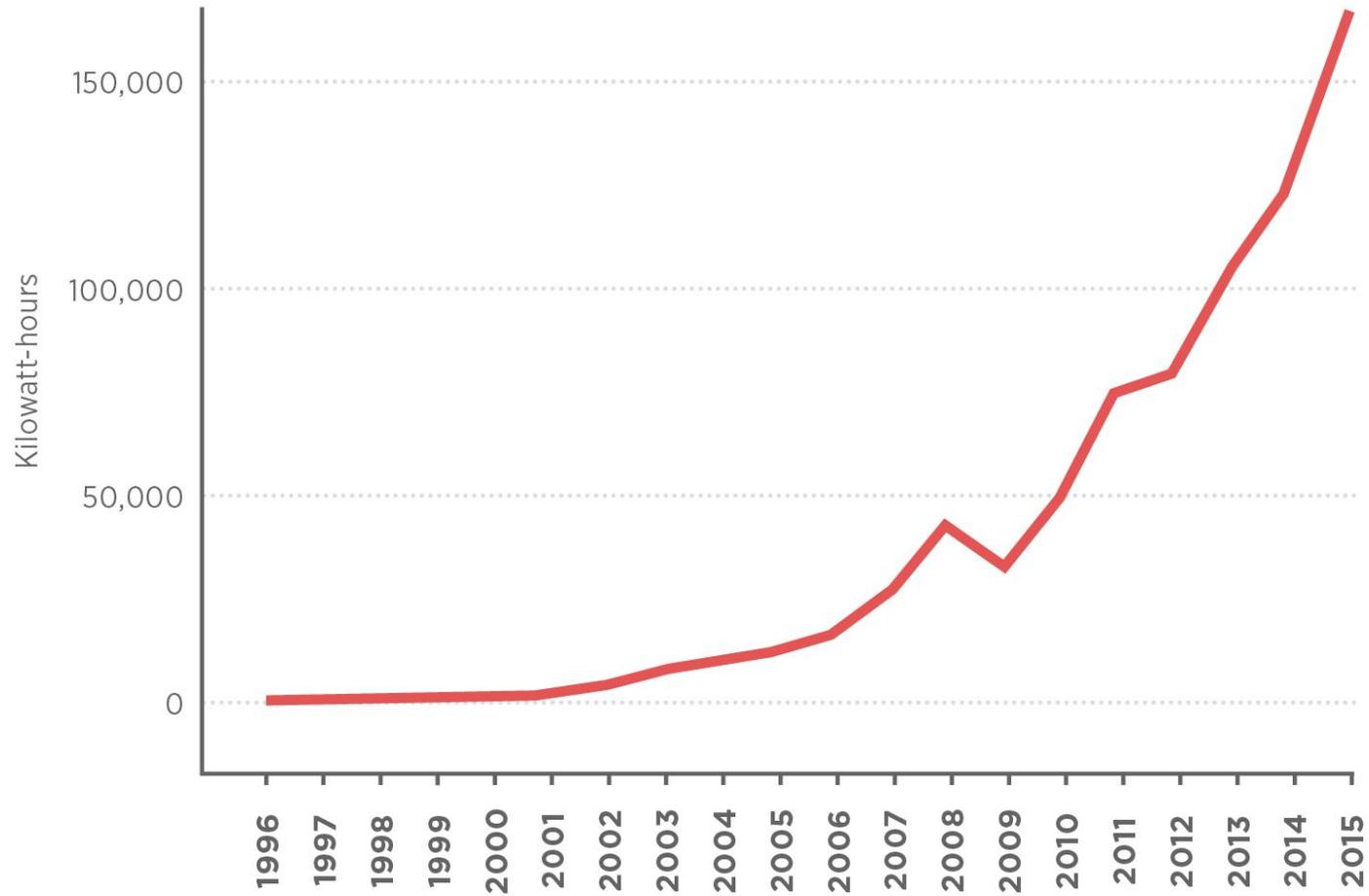
Key observations

- The Bay Area's electricity power portfolio is continually getting cleaner
- Natural gas boilers, heaters, and chillers are the combined 2nd largest source of GHG emissions, with little being done to directly reduce NG use or shift demand to non-fossil sources
- Transportation is the greatest single and fastest-growing source of fossil fuel use across all counties

More than 50% of Bay Area electricity is fossil-free, and about 27% is renewable



Rooftop solar is growing exponentially



Source: California Solar Initiative

Top sources of Bay Area GHG emissions

Source	Million Metric Tons of CO ₂ e annually
Passenger cars and trucks	28.5
Oil refineries	14.2
Electricity generation and co-generation, including imports	12.1
Commercial natural gas boilers/heaters	8.4
Residential natural gas	6.4
Refrigerants/ozone-depleting substances	4.7
Medium/heavy duty trucks + buses	4.3
Off-road transportation, including trains, ships, boats and all aviation	3.4
Waste management	1.6
Agriculture	1.3
Off-road equipment	1.3
<i>Everything else combined</i>	2.4

Source: BAAQMD, 2015

CA has a very robust climate policy framework

- AB 32 (2006) – Global Warming Solutions Act
- AB 2021 – Utility energy efficiency targets
- Renewable Portfolio Standard – 50% renewable electricity by 2030
- Clean Car Standards – 42.5 mpg fleet avg by 2020
- Title 24/CALGreen – energy codes, new residential must be net-zero by 2030, commercial by 2030
- Low Carbon Fuel Standard
- SB 350 – Double efficiency of existing buildings by 2030
- SB 375 – Regional planning of housing and transportation to reduce auto-related GHG
- SB 32 – extending AB 32 to 2030 and 40% below 1990

What can the Bay Area do?



Big Idea #1. Consume less fossil fuel

Increase the energy performance of new buildings, and improve code enforcement

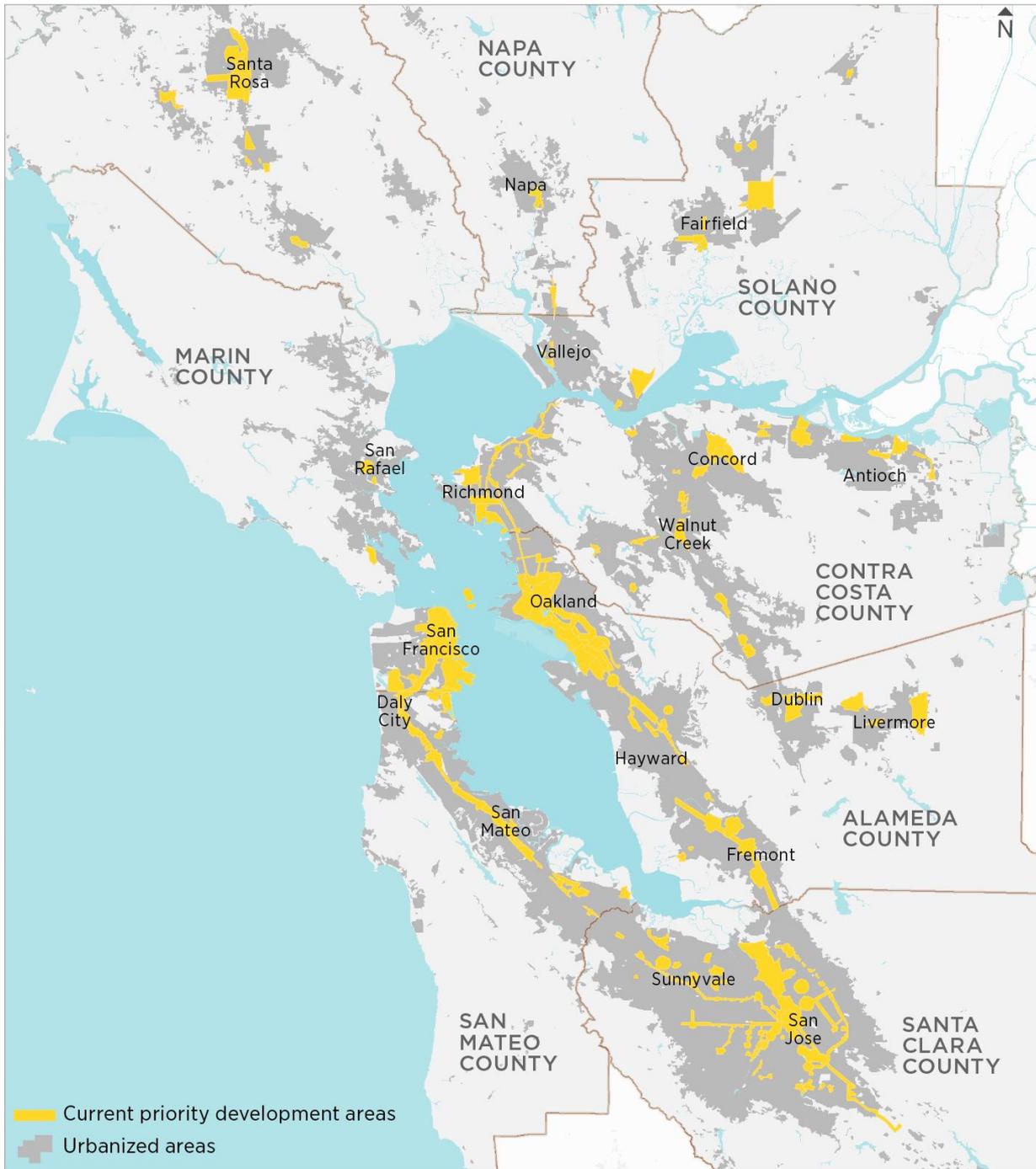


Require systematic energy retrofits of existing buildings



Control sprawl by protecting open space, supporting infill development, and increasing density in places served by transit





Make communities walkable, bikeable, and transit-accessible



Use policy and pricing tools to make less carbon-intensive modes of travel easier, safer, and cheaper than driving



Big Idea #2. Electrify Most Energy Uses

Electrify passenger vehicles and scale-up infrastructure that supports them



Electrify buildings



Big Idea #3. Decarbonize the electricity grid

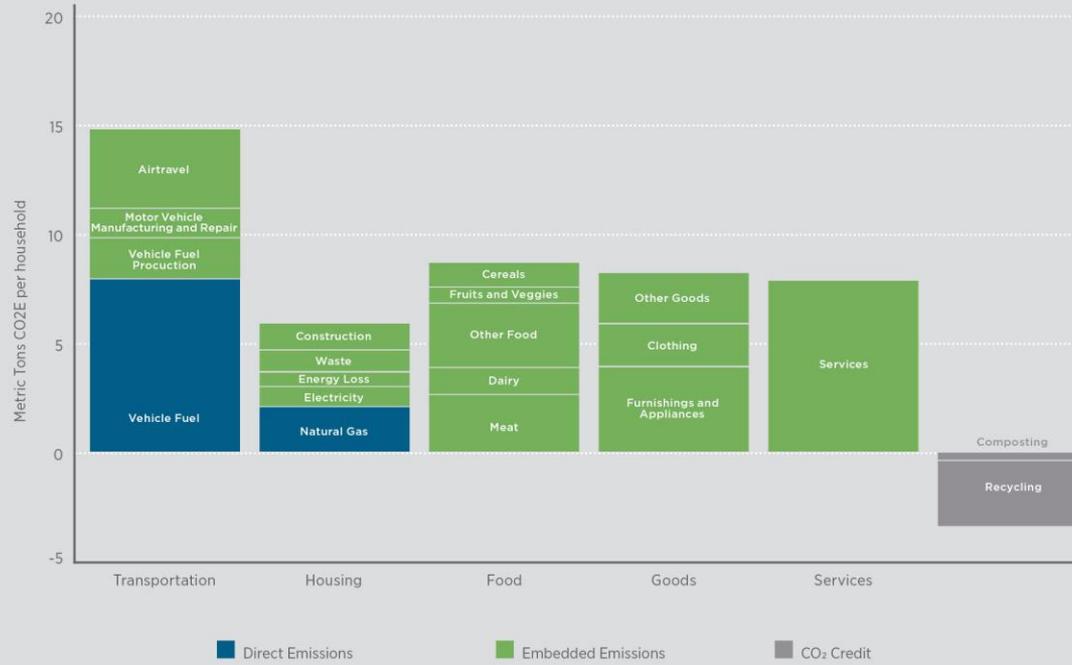
Allow new renewable power facilities to be built quickly by expediting permitting and reviews, providing targeted incentive programs, setting requirements and leading by example



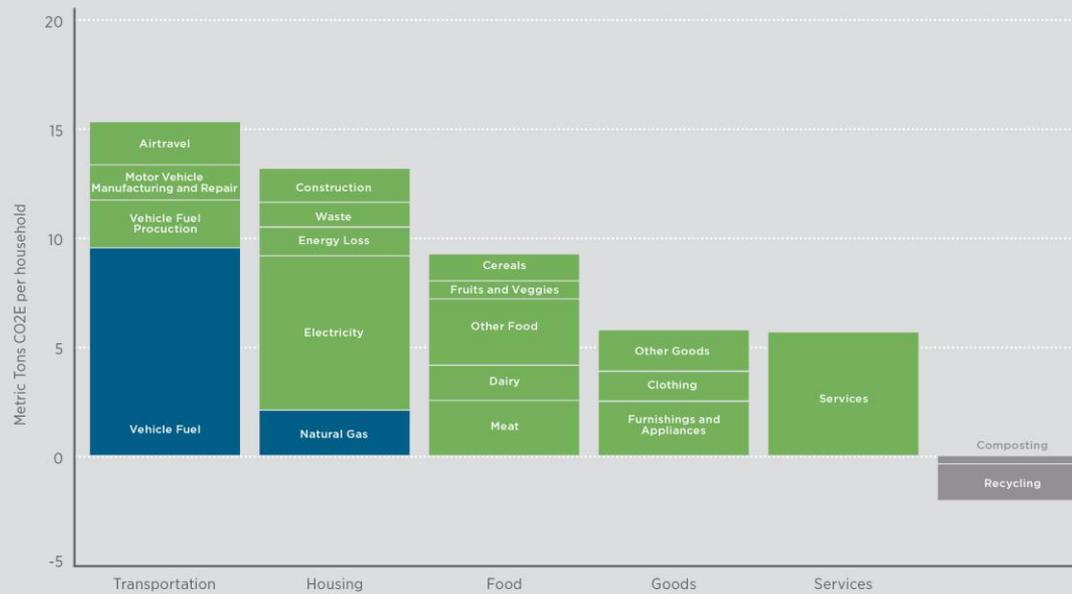
Decarbonize fuels that will be hard to electrify in the next 20 years



**Average Bay Area Carbon Footprint
(44.3 metric tons per year)**



**Average American Carbon Footprint
(49.8 metric tons per year)**





Thank you



Air District Support for Local Government Climate Protection Activities

Climate Protection Committee

March 22, 2017

**Abby Young
Manager, Climate Protection Program**

Air District Climate Program Launched in 2005

- Advisory Council recommends that Board of Directors establish a Climate Protection Program
- Board established Program, and created Climate Protection Committee
- Local government action identified as a critical component and key driver of the Program



Support Climate Action Plans

Early support focused on accelerating Climate Action Plan (CAP) development

- County-based GHG inventory trainings
- More accessible data
- Guidance on how to develop strong climate action plans
 - Best practices, innovative policies
 - Model policies/programs for all community sectors
- CEQA guidance

Supporting the Implementation of CAPs

- \$3 million in Climate Protection Grants (2007)
 - Climate plan development
 - Innovative projects/policies
 - Permanent staffing capacity
- \$4 million in municipal energy efficiency and renewable energy deployment (Conoco settlement, 2009)
- \$17 million invested since 2010 in electric vehicle infrastructure



Long-term Impacts of Grants

- Established a culture and standard for local climate action planning
- Permanent climate staff provide critical coordinating functions
 - San Mateo award-winning RICAPS program
 - Sonoma County coordinated county-wide CAP
- Innovation grants have fostered game-changing initiatives
 - First Community Choice Energy Program - Marin Clean Energy
 - Launched Property-Assessed Clean Energy (PACE) programs
- Established EV programs as highly successful programs in local CAPs



Where We Are Today

- 65 adopted climate action plans – the most of any metropolitan region!
- Four Community Choice Energy programs established, two more to launch in 2017
- Multiple EV funding programs
 - Funded over 1,300 charging stations
 - 2017 *Charge!* Program just launched
- Accelerating solar on schools with KyotoUSA
- Building youth climate education (YES Conference)



Implementing *Spare the Air – Cool the Climate*

Much of the Plan's success depends on local action

Local governments have a key role to play in moving us toward a post-carbon society:

Green buildings

Zero waste communities

Zero emission vehicles

Public outreach

Trip reduction

Renewable energy

Energy and water conservation

Youth education

The Air District will accelerate action by providing:

Model ordinances

Best practices

Funding resources

Networking opportunities

Tools and guidance

Training and expertise



Looking to the Future

- Support the launch and expansion of Community Choice Energy programs
- Launch Model Solar Ordinance Toolkit as prototype for future policy-driving projects with local governments
- New policy work with local governments in key areas:
 - Buildings
 - Transportation
 - Land use
- Help connect communities with State climate funding
- Make updating CAPs easier for local govt staff
- Launching Technology Implementation Office



Looking to the Future

New Climate Protection Grant Program

- \$4.5 million proposed in FY2017/18 budget
- Implement control measures by supporting local GHG reduction strategies
- Focus on innovation, replicability, co-benefits and leadership
- Desired outcomes include:
 - Accelerated implementation of local climate action plans
 - Investments in disproportionately impacted communities
 - Leveraging efforts of key partners (businesses, community groups, regional agencies, etc.)

Yes We Can!

We have all the elements of success:

- Support at the State level
- Dedicated elected officials
- The most committed populace
- A culture of innovation
- A progressive business community
- A vast network of dedicated community organizations



**Our Plan provides the blueprint for the first steps
in this journey**