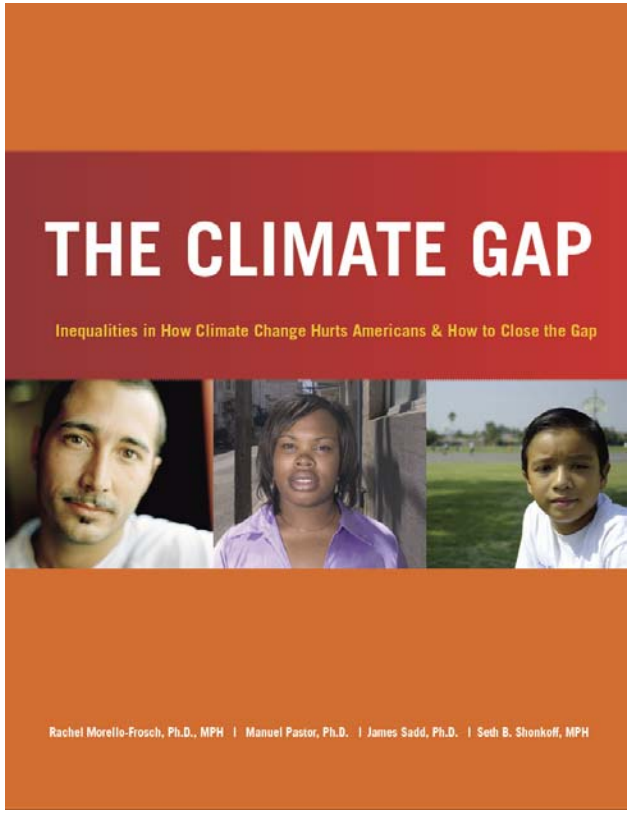

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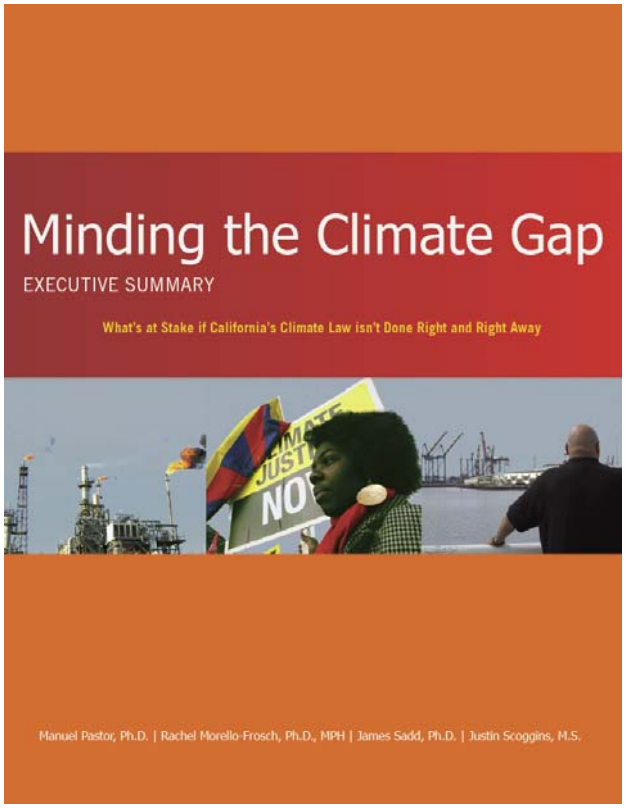
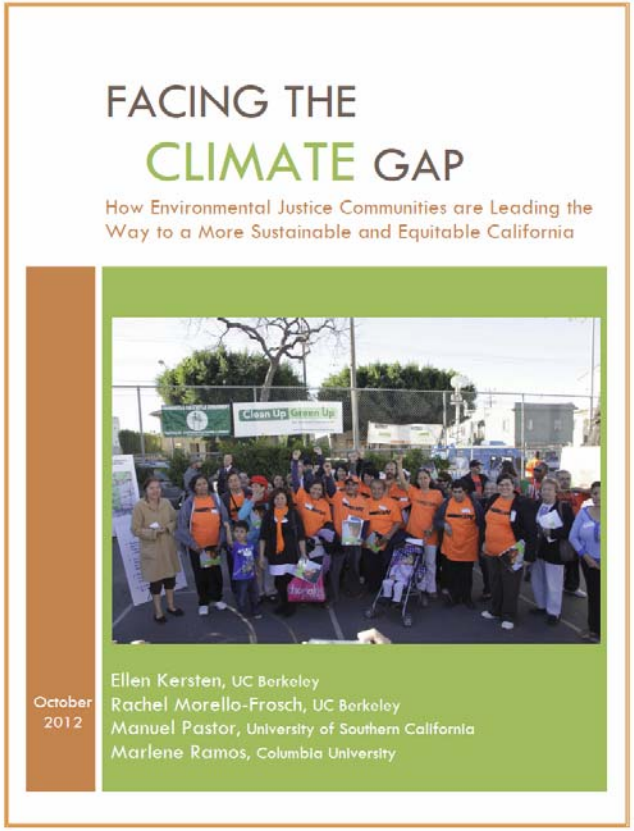
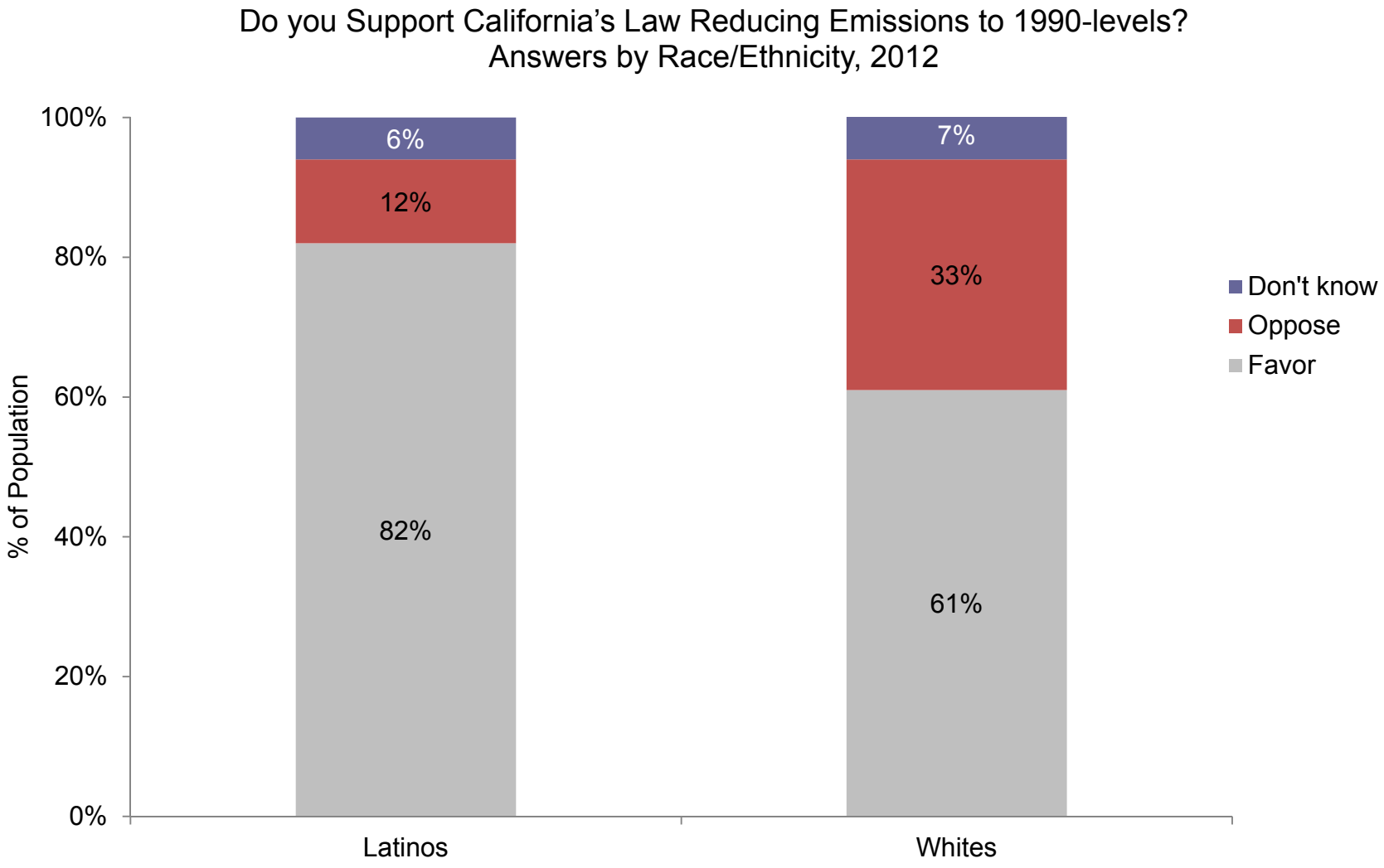




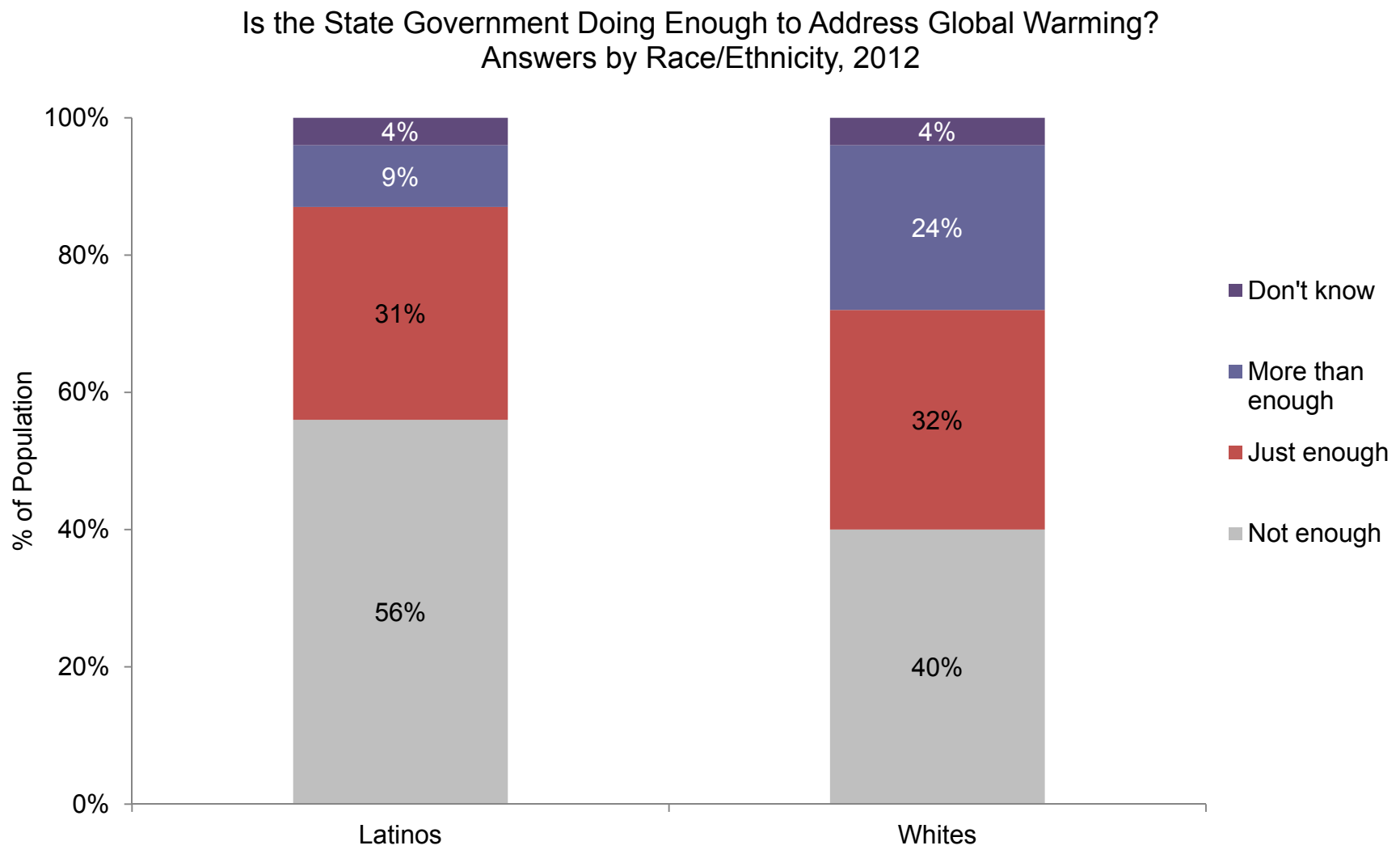
Collaborators:
Manuel Pastor, University of Southern California
James Sadd, Occidental College

OPINION ON ADDRESSING CLIMATE CHANGE



Source: Public Policy Institute of California, July 2012.

OPINION ON ADDRESSING CLIMATE CHANGE

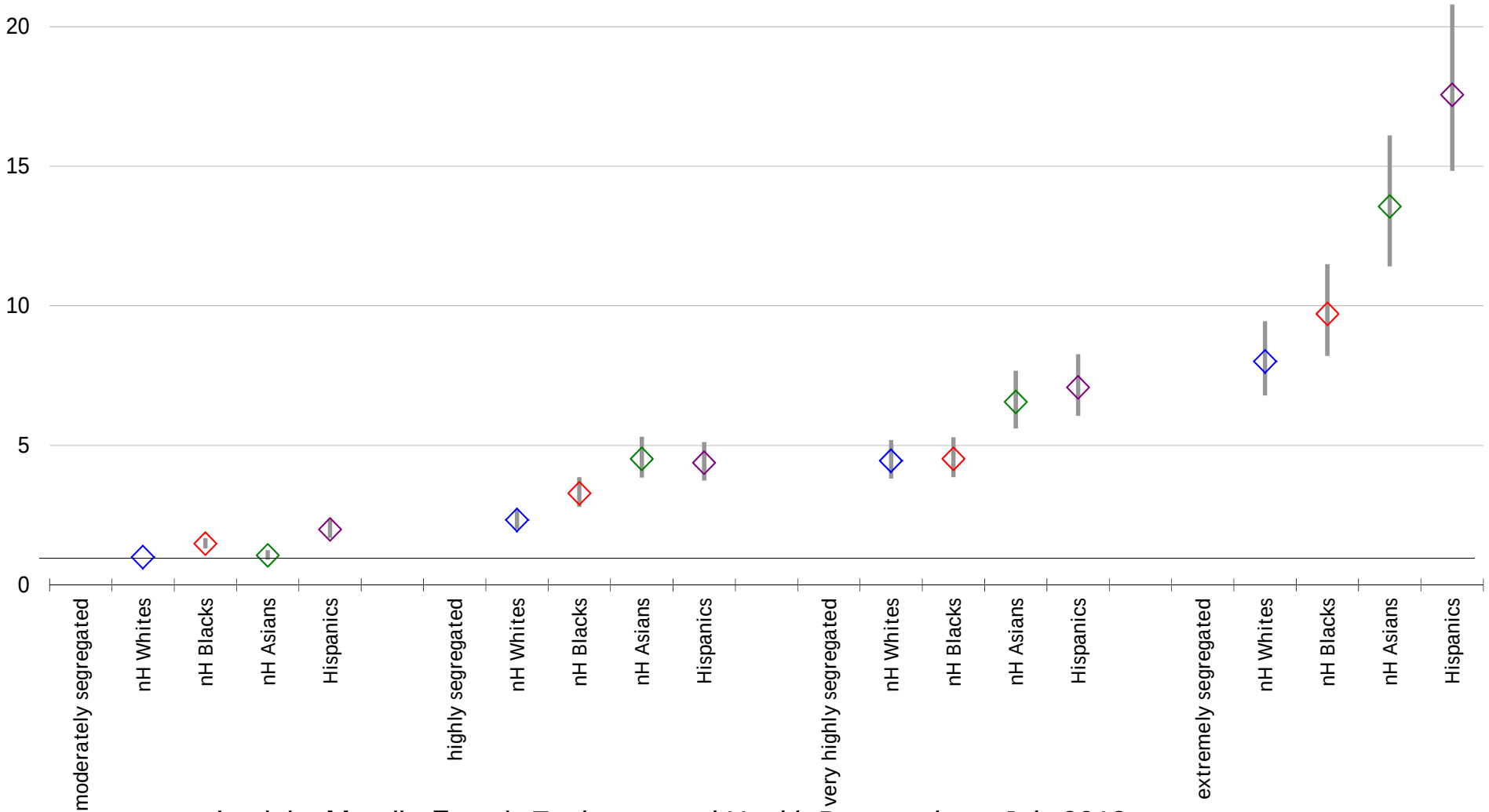


Source: Public Policy Institute of California, July 2012.

SEGREGATION, RACE/ETHNICITY AND HEAT ISLAND RISKS -- US

Odds ratio of living in a block group without contiguous tree canopy and mostly covered by impervious surface by race/ethnicity and segregation, relative to non-Hispanic Whites in moderately segregated areas

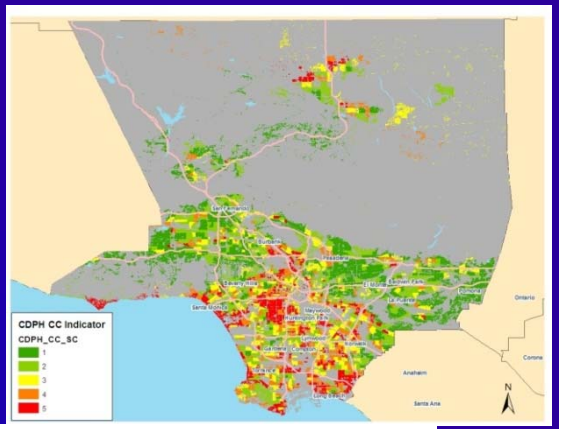
(Adjusted for Omernik ecoregion, average rainfall, and rainfall in driest month--304 US Metro Areas)

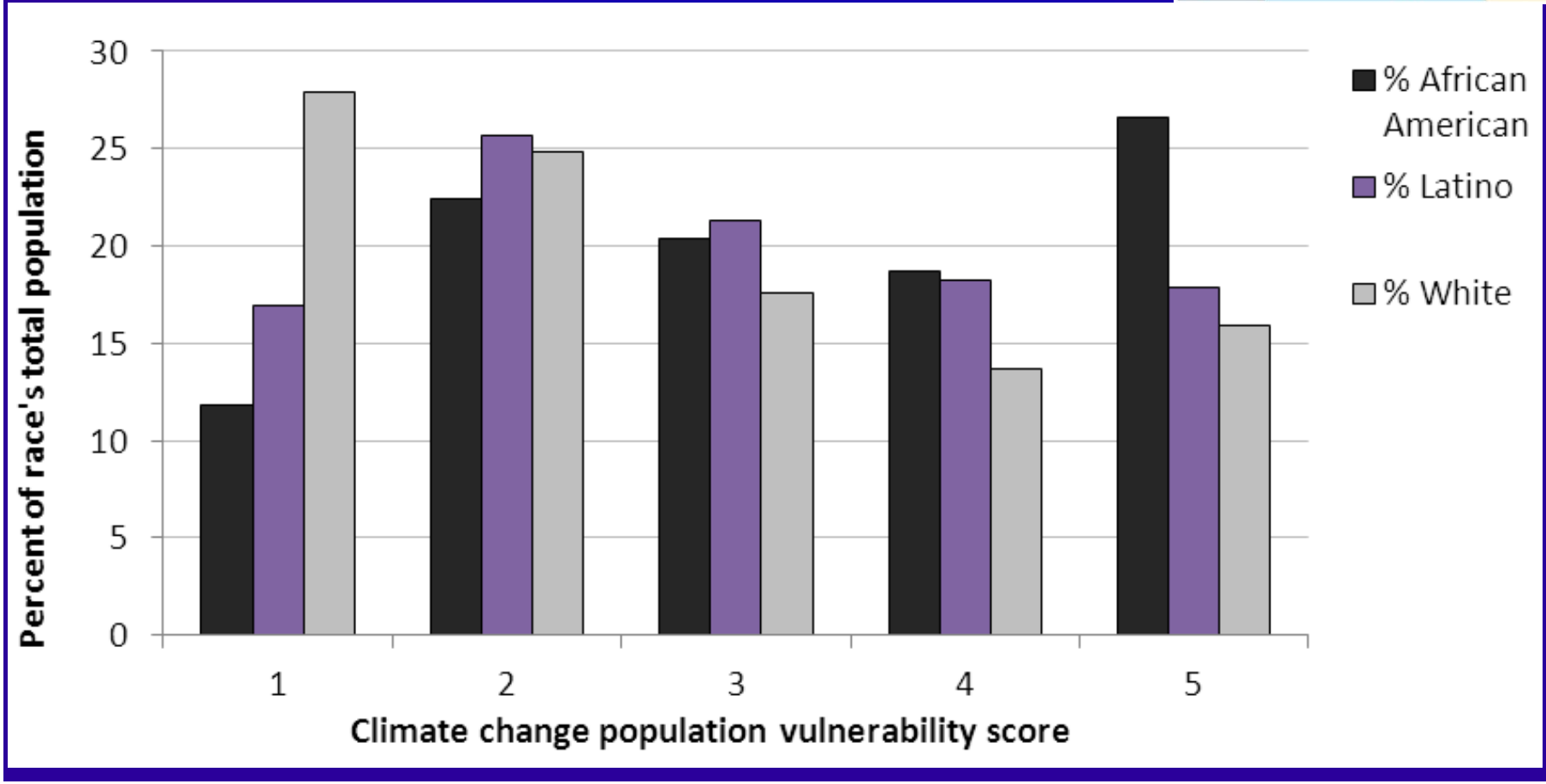


Jesdale, Morello-Frosch *Environmental Health Perspectives, July 2013*

CLIMATE CHANGE VULNERABILITY AND RACE IN LOS ANGELES COUNTY:

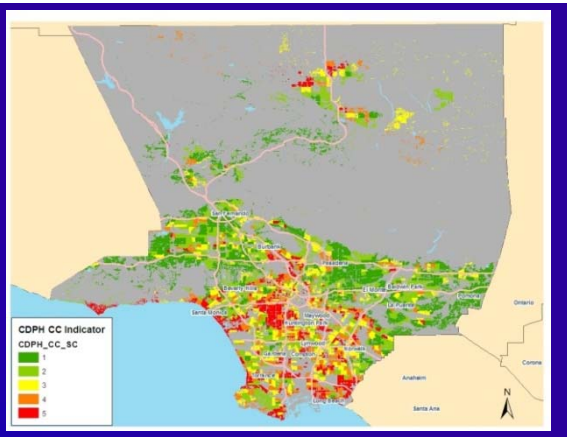
46% of African Americans and 36% of Latinos reside in the two highest risk categories compared to 30% of whites

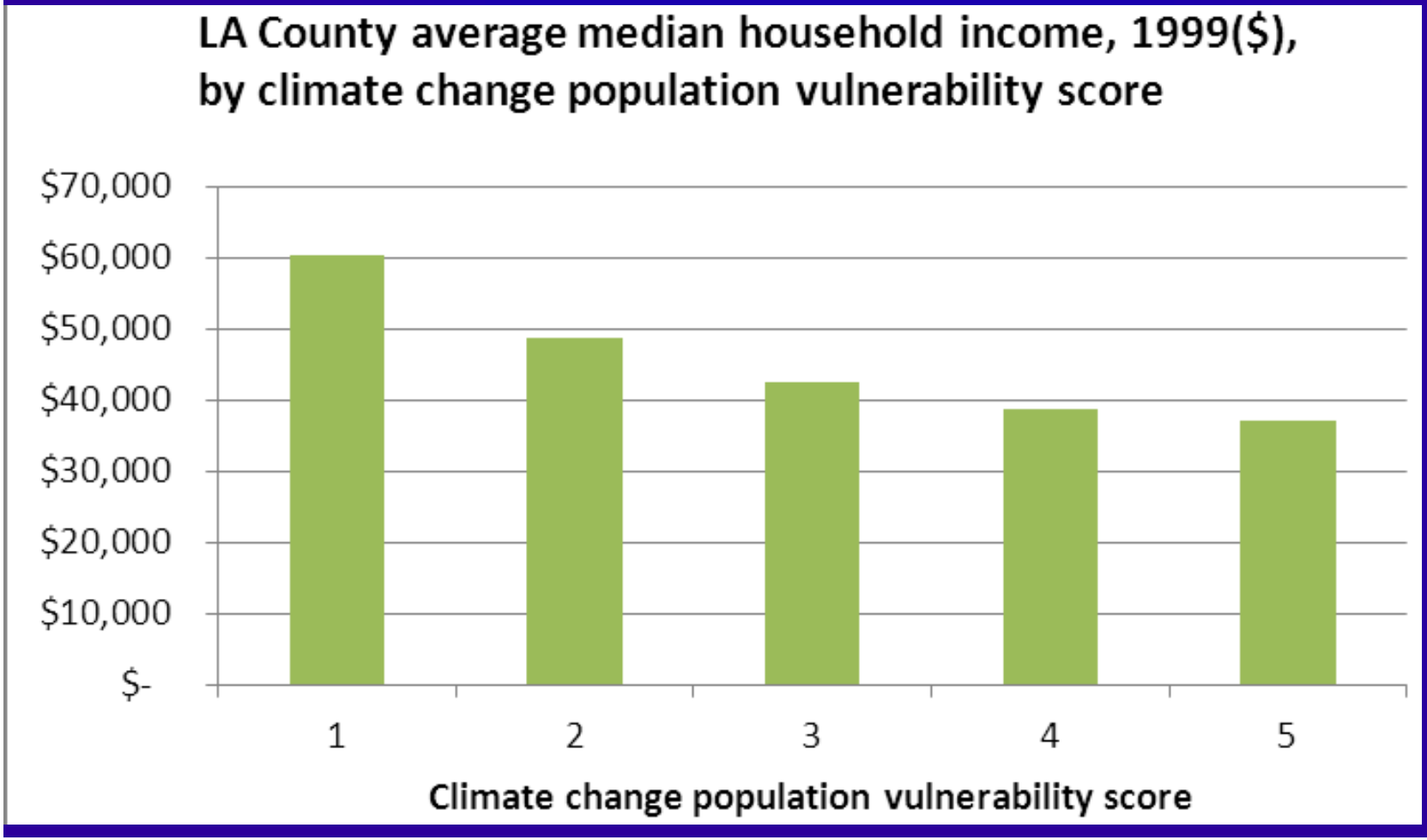




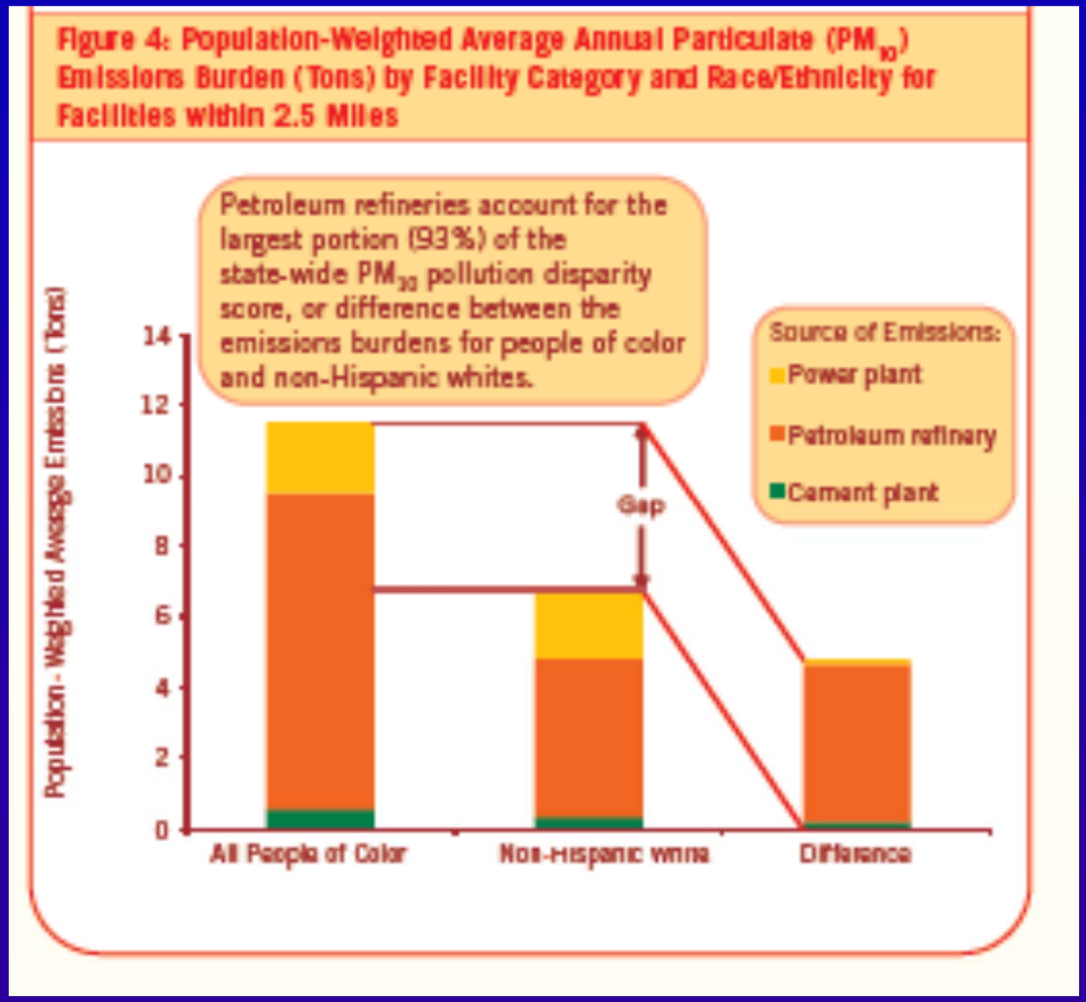
CLIMATE CHANGE VULNERABILITY AND INCOME IN LOS ANGELES COUNTY:

Median income in the highest risk area is 40% lower than the lowest risk area





Short-term Health Benefits of Carbon Reduction



Refineries are biggest driver of racial disparities in particulate emissions burdens

Cap and Trade Concerns

Cap and Trade Concerns

- Oversight and accountability
- "Co-pollutant intensity" varies across regions, sectors and polluters
- Market systems could perpetuate or exacerbate disparities in pollutant burdens because of failure to price in co-benefits (e.g. PM reductions)
- No system to ensure that GHG reductions occur in communities that could benefit most from co-pollutant reductions.
  - Getting the "biggest bang for our carbon reduction buck"

WHY CO-BENEFITS MATTER

The intuitive case…

Power plant near Bakersfield, California

PM emissions: 50 tons/yr
Population within 6-mi radius: 600

Oil refinery in Torrance, California

PM emissions: 350 tons/yr
Population within 6-mi radius: 800,000

Policy strategies-moving forward

- Restrict allowance allocations
  - Trading and offset use – or fee options – among facilities/sectors responsible for the worst health impacts.
- Create trading zones
  - To incentivize pollution reduction in the areas with the dirtiest air.
- Use revenues to improve air quality
  - In highly polluted areas and enhance the ability of local residents to adapt to climate change impacts.
- Create a climate gap neighborhoods fund
  - To protect most vulnerable communities
- Community engagement in Clean Power Plan implementation (SIPs)
  - Renewables
  - Investments in efficiency
  - Shifts to cleaner sources

LOOKING FORWARD

Clear the air

Think *locally*

Cool the planet

Act *globally*