



International Advocacy

HYBRID 10th WORKSHOP

31 August - 2 September 2022



Local Interventions & Good Practices 3



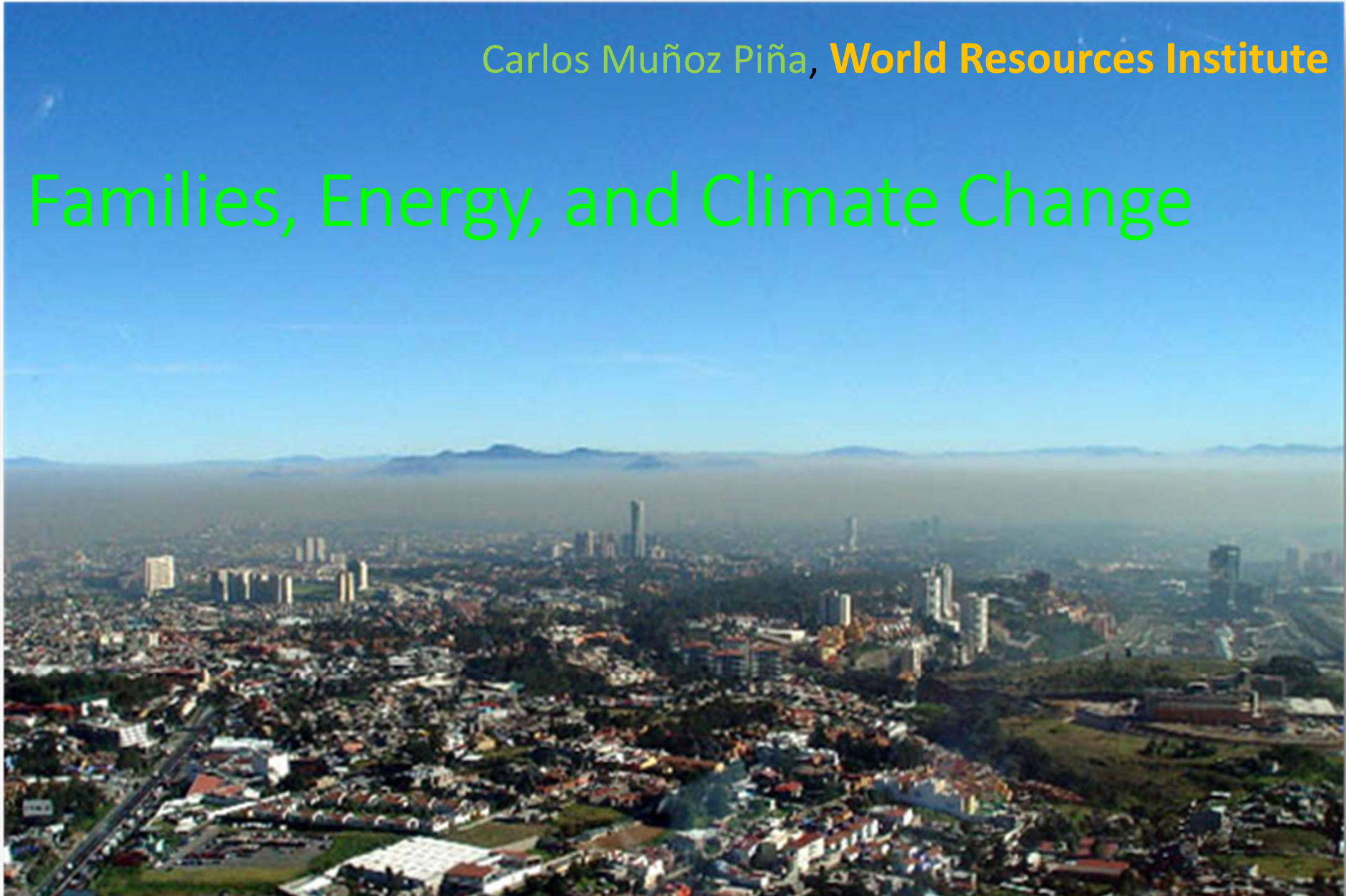
The Intersection of Environment and Human Development

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Families, Energy, and Climate Change



Families, Energy and Climate Change

- **Households** are one of the main consumers of energy in an economy. Both electricity, and fuel, with direct and indirect emissions.
- **Energy savings**, and new **technologies**, can reduce the burden on their budgets, and in aggregate, in their national economies and global emissions of GHG.
- Different to firms. No credit lines or specialized departments. But there are **public policies** that can help them take better decisions.
- Climate **resilience** and CC **adaptation** is a matter of nested strategies: families-communities-local-national government.

Families in India, solar experience

India, rooftop solar:

- 1.2 GW in 2018,
- 7.6 GW in 2022.
- Goal: 20 GW.
- Different from grid exp, requires active participation by households.
- Government of India launched a large subsidy program.



Photo by: Ashley Cooper pics / Alamy Stock Photo

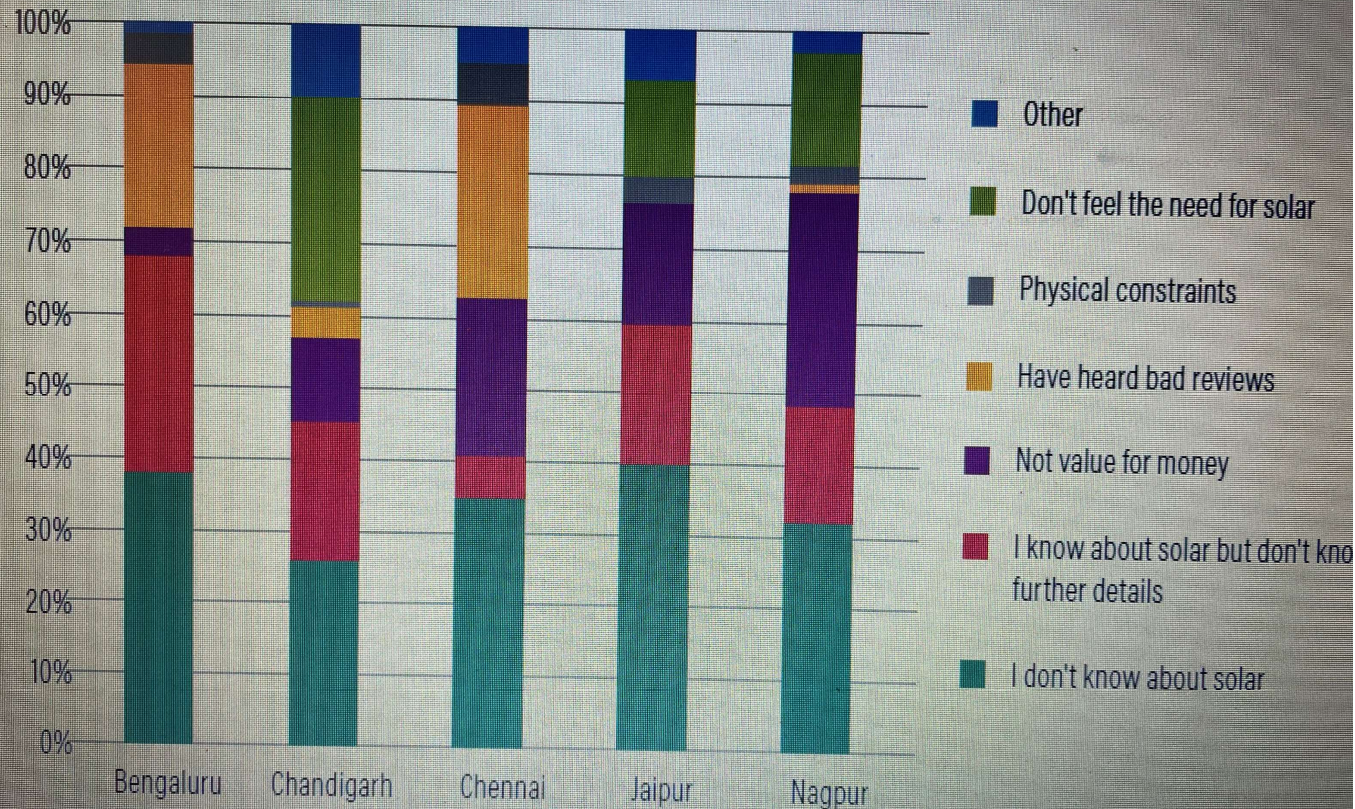
HERE COMES THE SUN: RESIDENTIAL CONSUMERS' EXPERIENCES WITH ROOFTOP SOLAR PV IN FIVE INDIAN CITIES

AMALA DEVI, UTTARA NARAYAN & TIRTHANKAR MANDAL

Survey of 1.8k households in 2018. Findings:

- **Information** is given mainly by vendors & government sites. But people trust/rely more on their friends, families, & neighbours that have previously installed solar panels in their homes.
- **Financing** is complicated.
 - Tariff structures make it not profitable for some households to install, despite its real climate, social and system-level profitability.
 - Collaterals were too high for the value of the asset in household's experience.
- **Institutions** have inertias or divergent objectives:
 - Utility in Chennai saw rooftop solar as competing with its sales.
 - Architecture regulations in Chandigarh made installation of panels complicated.
 - Bureaucracy, and officials with not enough information.

Figure 3 | Top Reasons for Not Considering Rooftop Solar PV

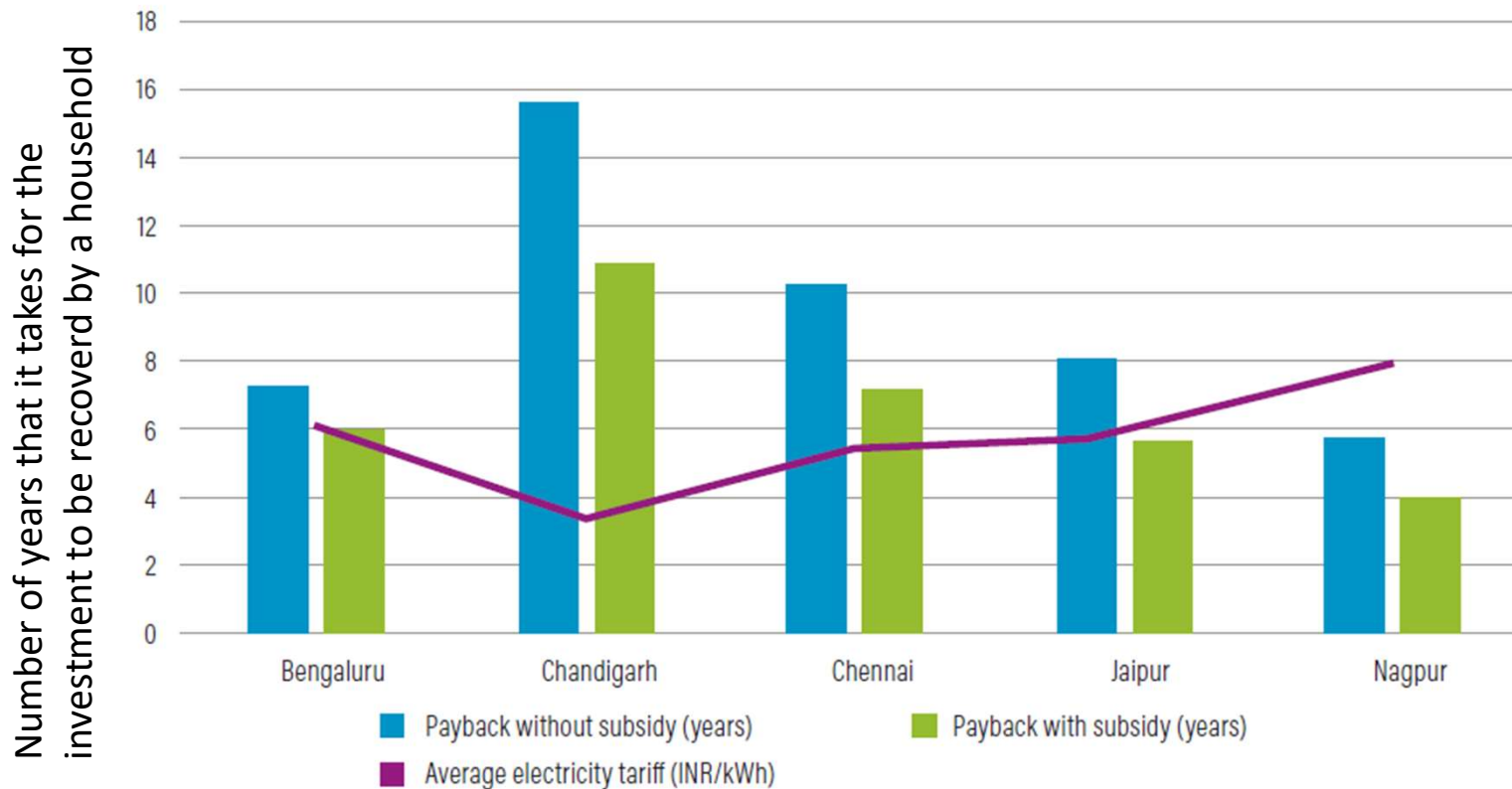


Source: WRI Survey Analysis.

- More than **40%**, and up to **68%** of the reasons for not considering Solar PV is **lack of information**.
- The **economics** of solar explains 20pp of the main reasons for no interest.
- What other reasons would you act upon?

A family-economics story.

Figure 8 | Difference in Payback Periods with and without Subsidy (See Appendix B for Calculations and Assumptions Used)



- Higher electricity tariffs mean households save more and recover investment in less years.
- Subsidies reduce 1+ years the time to recover investment.

ADDRESSING ENERGY EQUITY IN THE UNITED STATES: *Policy Considerations for Federal Investment*

GREG CARLOCK, JILLIAN NEUBERGER, LESLY CALLE, AND EVANA SAID.

wri.org

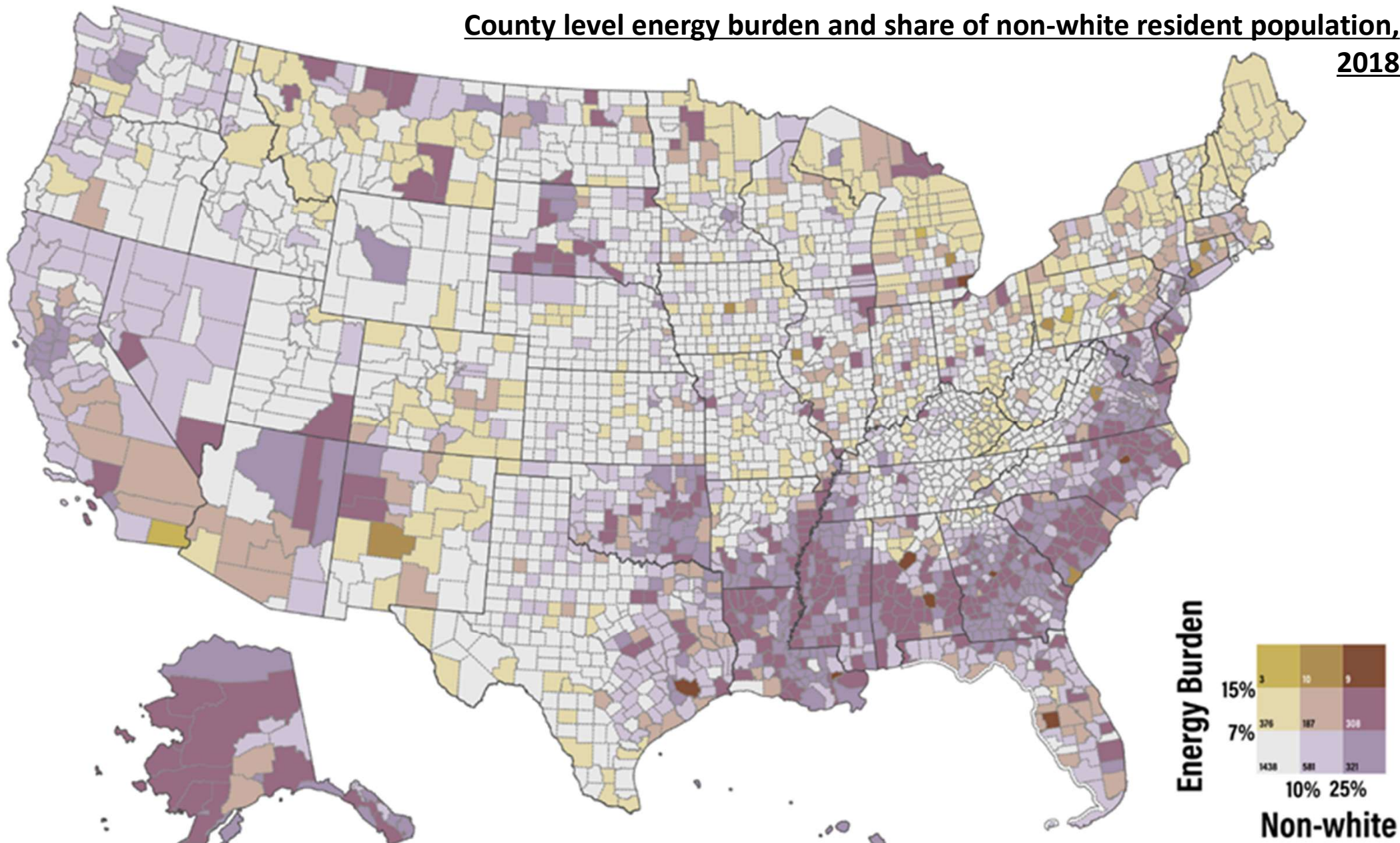


US: unequal energy burdens

High energy burden: spending at least 6 **percent** of the household **income** on electric, natural gas, and other heating **bills**. More than 10% of income is considered a *severe* energy burden.

Household Type	Share having a <i>high</i> Energy Burden	Millions of households with High Energy Burden	Share of total U.S. households	Share of households with a high energy burden
All Households	25%	30.5	--	--
Black Households	36%	6.0	13.6%	19.6%
Native American	36%	0.5	1.2%	1.8%
Hispanic	28%	4.6	13.6%	14.9%
White (non-Hispanic)	23%	18.5	66.3%	60.5%
Renters	30%	13.2	36.2%	43.5%
Owners	22%	17.2	63.8%	56.5%
Low-income	67%	25.8	31.7%	83.2%
Mid & High income	6%	5.2	68.3%	16.8%

County level energy burden and share of non-white resident population, 2018



US: Programs for households, reinforced.

- Weatherization, of homes. Especially those within 200% poverty level.
- Energy efficiency; investments not affordable at low income levels.
- Tax credits and subsidies to install solar panels. States, active.

Combine direct subsidies, loans and guarantees, and tax credits.

- **Single Family Housing Repair Loans and Grants program**
- **Weatherization Assistance Program (WAP)**, operated by the Department of Energy (DOE)
- **The Nonbusiness Energy Property Tax Credit (25C)**,

...

Targeting and outreach tools:

U.S. EPA's Environmental Justice Screening and Mapping Tool (EJSCREEN) is an open data tool that combines and displays environmental, demographic, and justice-related indicators and indices (EPA 2019)

U.S. DOE's Energy Justice Dashboard (BETA) is a recently established pilot data visualization tool that combines environmental indicators from EJSCREEN with DOE cost data from fiscal year 2019, and energy burden information from the Low-Income Energy Affordability Data (LEAD)



Nature-Based Solutions.

- Restoring watersheds can enhance water security,
- Increasing tree cover and green space in cities can reduce extreme urban heat island effects and mitigate urban flood risk,
- Protecting mangroves and reefs can reduce coastal flood risk.

Mexico: building climate resilience for families

- Even as global action ramps up, there will be climate change impacts.
- We are experiencing the impacts of the current climate, and the induced change in climate by the degree of warming already experienced. **<2°C**

WRI-Mexico collaborates in climate resilience projects:

1. **Restoring mangroves** in the Yucatan Peninsula. This will be done with community participation, families joining the restoration process guided by and complementing experts.
2. Improving **resilience to storms** in Cintalapa, Chiapas through an **early alert system**, land **restoration** and **zoning**. Families protecting other families through cascade action. A municipal plan. Funding?
3. Helping cities plan to plant **urban trees** whose shade helps to avoid **heat islands**. In Monterrey, Naucalpan, and others. Want to join?

Carlos Muñoz Piña, **World Resources Institute**

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Publications referenced can be found at:

<https://www.wri.org/resources>

Projects in Mexico: <https://wrimexico.org>

Other related research:

<https://www.researchgate.net/profile/Carlos-Munoz-Pina>

