ANYL4PSD REGIONAL TEACH-IN ON CLIMATE JUSTICE 12-13 MAY 2022

Renewable & Appropriate Energy Laboratory
RAEL

African Network of Young Leaders for Peace and Sustainable Development
ANYL4PSD

POWER AFRIC
A U.S. GOVERNMENT-LED PARTN

Operationalizing Climate Justice

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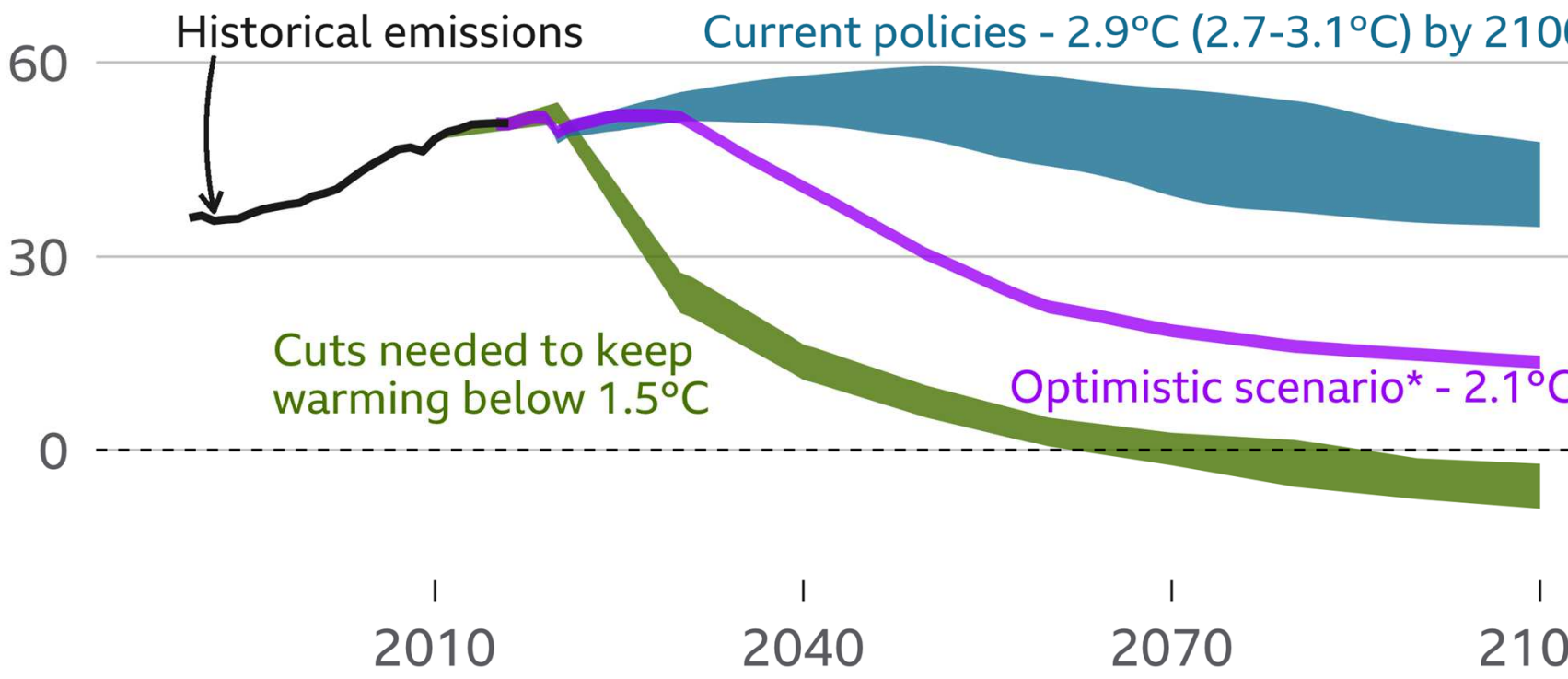
African Youth Leaders for Climate Justice - May 12, 2022

Greenhouse gas emissions projections

Gigatonnes of global CO2 equivalent emissions per year



*Based on new long term promises by China, US, EU and others

Source: Climate Action Tracker

BB

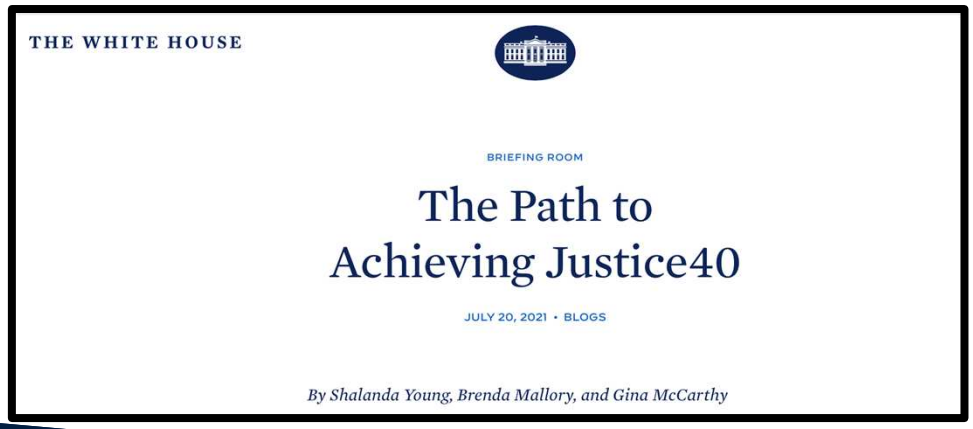
Justice Commitments

California: 35% of Cap & Trade Funds (> $11 billion/year) for under-served communiti

POTUS: 40% of infrastructure spend on under-served & marginalized communities

- *Justice40*
- https://www.whitehouse.gov/omb/briefing-room/2021/07/20/the-path-to-achieving-justice40/
- White House Environmental Justice Advisory Council

Justice / Climate Commitments: Nigeria (2060); JETP (South Africa)


THE WHITE HOUSE

BRIEFING ROOM

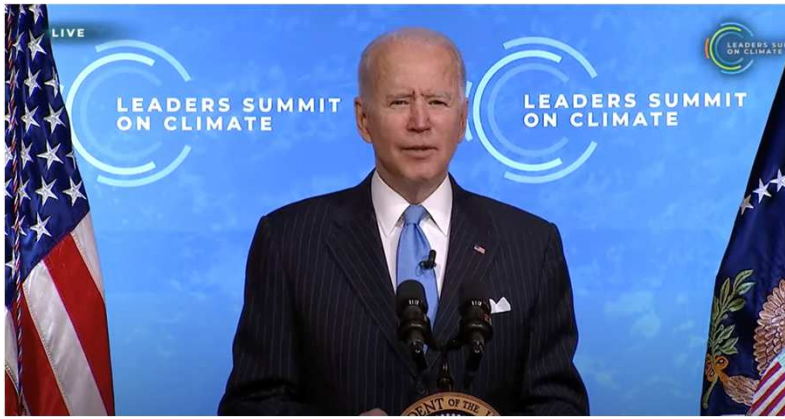
The Path to Achieving Justice40

JULY 20, 2021 • BLOGS

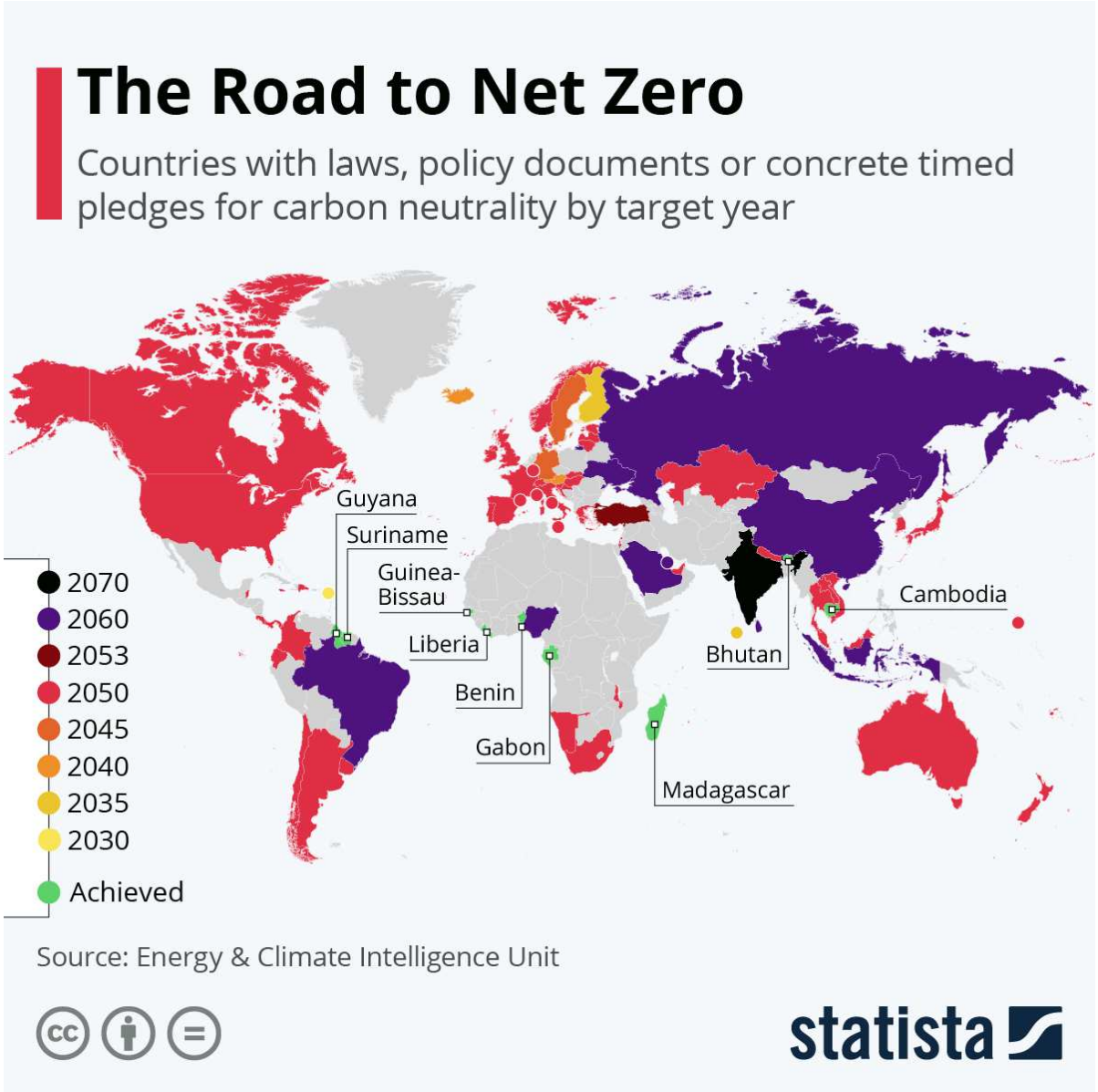
By Shalanda Young, Brenda Mallory, and Gina McCarthy

2021 Climate Leaders Summit: Focusing on Justice

GRID CEO Erica Mackie on stage with President Biden, Sec. of Energy Jennifer Granholm
SPEC John Kerry, & Domestic Climate Leader Gina McCarthy
https://www.youtube.com/watch?v=-wjkHVq1S9E

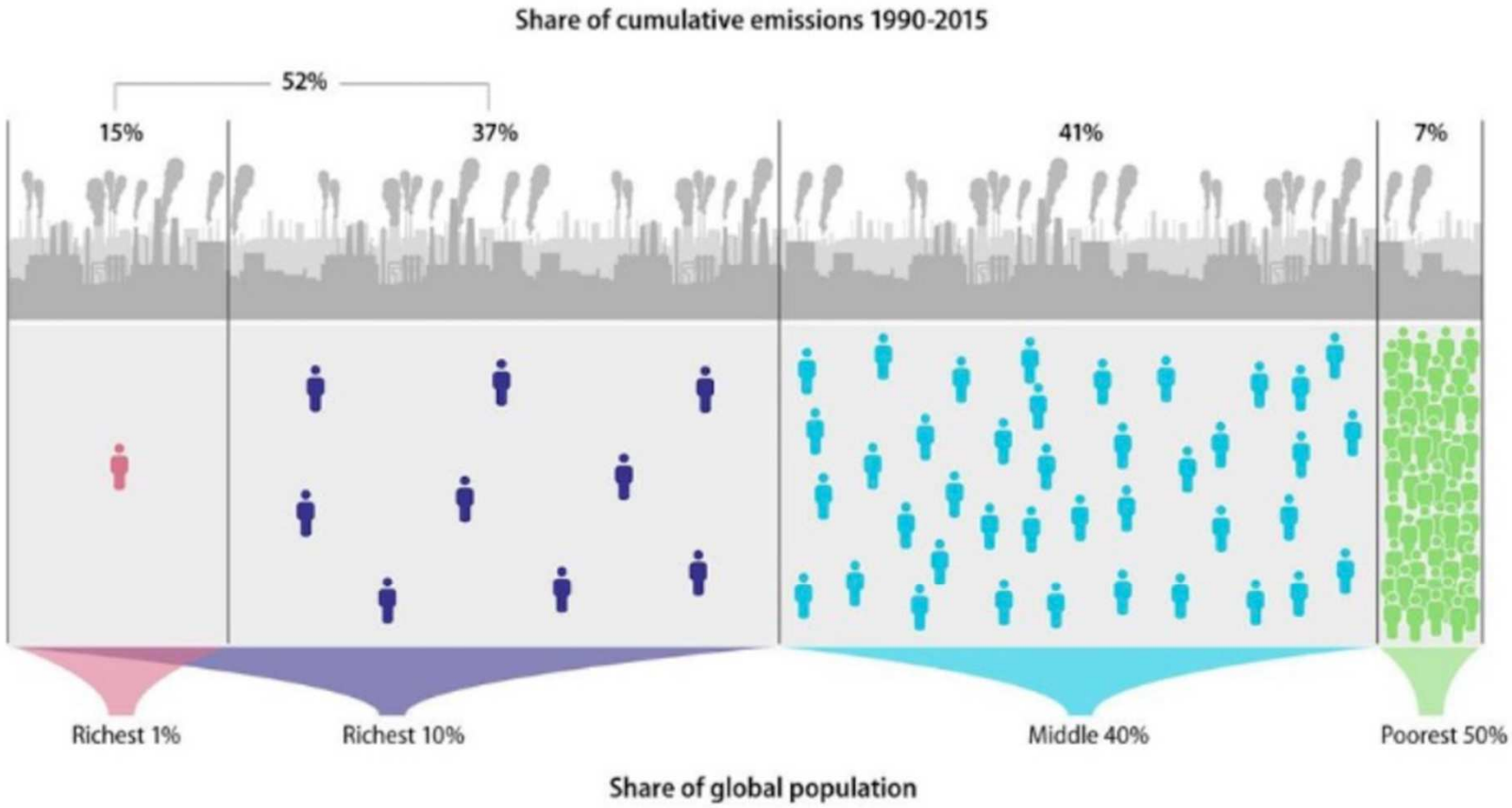


https://zerotracker.net



Our Paris Climate Accord Commitments

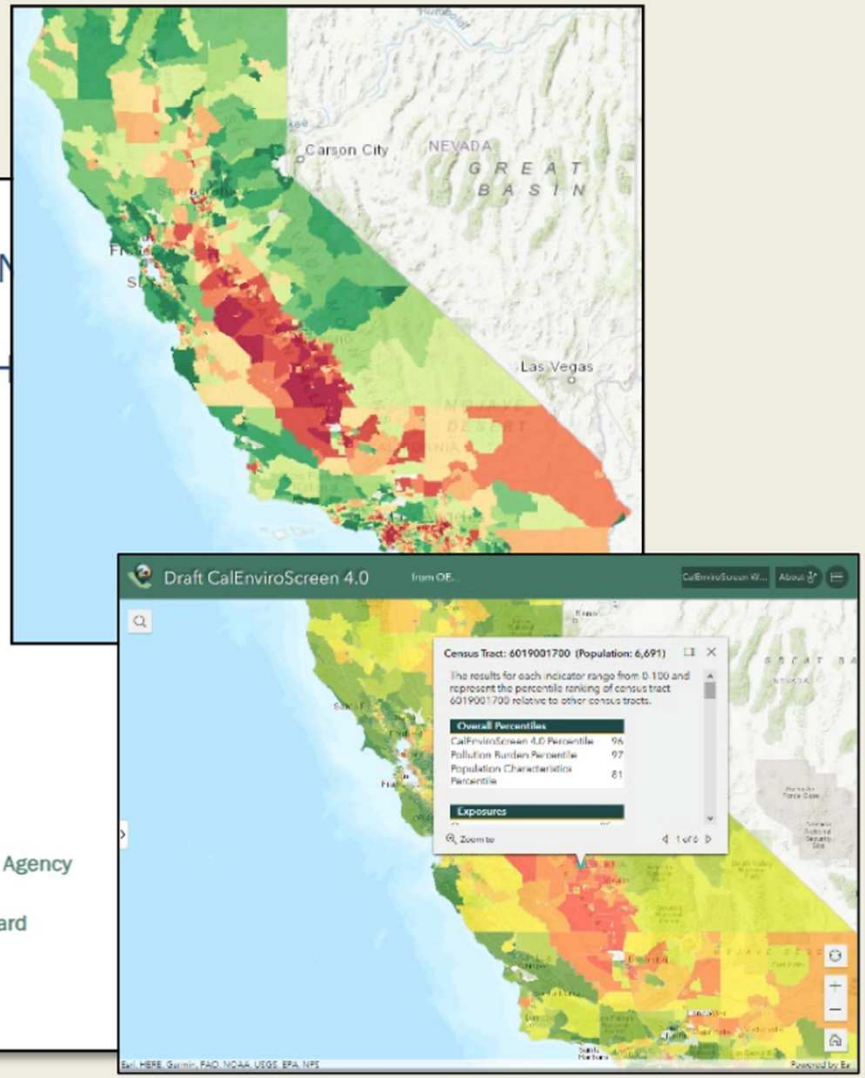
e future of climate protection is Justice (data: 1990 – 20



The richest 1% must reduce their emissions by a factor of *thirty* while the poorest can increase thei emissions by a factor of *three* for the world to stay within the global carbon budget in a fair way.

This is arguably the most important finding of the past decade (or two).

What is CalEnviroScreen?



UPDATE TO THE CALIFORN
COMMUNITIES
ENVIRONMENTAL HEALTH
SCREENING TOOL:

CALENVIROSCREEN 4.0

PUBLIC REVIEW DRAFT

CalEnviroScreen

February 2021

California Environmental Protection Agency

Office of Environmental Health Hazard Assessment

- Mapping tool that helps identify California communities burdened by multiple sources of pollution and population vulnerability
- 21 indicators combined into a single score
- Census tract scale
- The draft of CalEnviroScreen 4.0 was released for public comment in February

://oehha.ca.gov/calenviroscreen

Draft CalEnviroScreen 4.0 Indicato

Pollution Burden

Exposures


Ozone


PM2.5


Diesel Particulate Matter


Drinking Water Contaminants


Toxic Releases from Facilities


Traffic


Children's Lead Risk from Housing


Pesticide Use

Environmental Effects


Solid Waste Sites and Facilities


Cleanup Sites


Groundwater Threats


Impaired Water Bodies


Hazardous Waste Generators and Facilities

Population Characteristics

Sensitive Populations


Asthma


Cardiovascular Disease


Low Birth Weight Infants

Socioeconom Factors


Educational Attainment


Housi Burd


Linguistic Isolation


Poverty

Unemplo

The social cost of carbon now in use in the USA

ITE HOUSE

BRIEFING ROOM

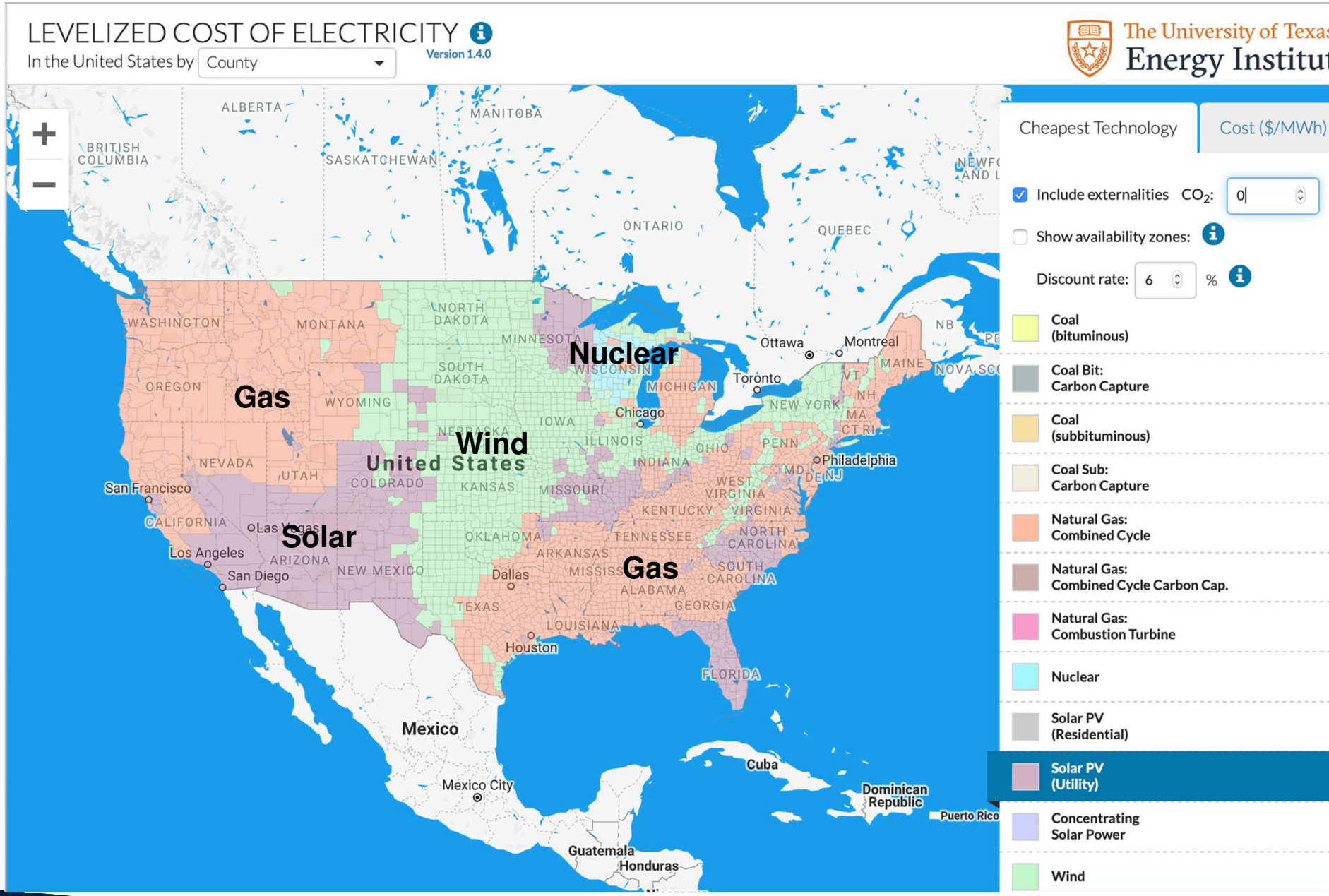
Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis

JANUARY 20, 2021 • PRESIDENTIAL ACTIONS

Sec. 5. Accounting for the Benefits of Reducing Clim
Pollution. (a) It is essential that agencies capture the f
costs of greenhouse gas emissions as accurately as poss
including by taking global damages into account. Doing
facilitates sound decision-making, recognizes the bread
of climate impacts, and supports the international
leadership of the United States on climate issues. The
"social cost of carbon" (SCC), "social cost of nitrous oxi
(SCN), and "social cost of methane" (SCM) are estimate
the monetized damages associated with incremental
increases in greenhouse gas emissions. They are intend
to include changes in net agricultural productivity, hum
health, property damage from increased flood risk, and
value of ecosystem services. An accurate social cost is
essential for agencies to accurately determine the socia
benefits of reducing greenhouse gas emissions when
conducting cost-benefit analyses of regulatory and othe
actions.

Overnight
ergy costs:

0/tCO$_2$



Renewable & Appropriate Energy Laboratory
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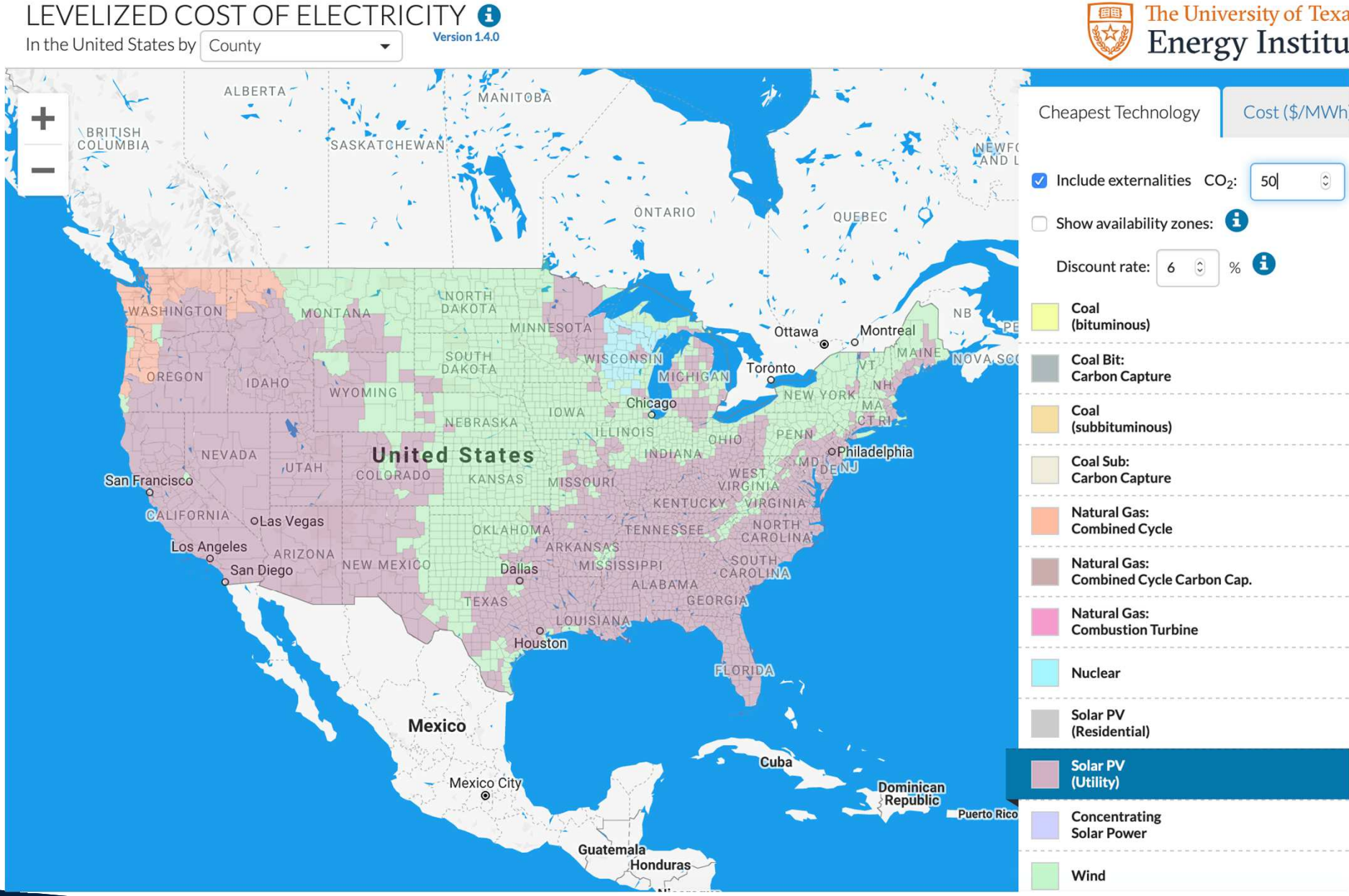
Berkeley
UNIVERSITY OF CALIFORNIA

http://rael.berkeley.edu

ocial Cost of
Carbon:

$50/tCO$_2$



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UNEP Small Grants Program: Explicit Gender and Socioeconomic Scoring

SMALL GRANTS PROGRAMME

Global Environment Facility's (GEF) Small Grants Programme (SGP),
y the United Nations Development Programme (UNDP), has been
il society organizations and community-based organizations
ld to take action to address global environment and
elopment challenges.

JT SGP

I: SGP is an incubator of innovative solutions to safeguard
ironment;

USION: SGP invests in social inclusion to maximize global
benefits and to empower most vulnerable and marginalized
ncluding indigenous peoples, women, youth, and persons
s;

is a strategic and evidence-based platform for community-based
n be scaled up, are sustainable and in synergy with other
greater impact.

THEMATIC COVERAGE (2016-202

SGP's portfolio takes an integrated approach and has multi-focal areas impact.
These figures only indicate the primary focal area of SGP projects.

40%
BIODIVERSITY

21%
CLIMATE CHANGE

20%
LAND DEGRADATION

4%
CHEMICALS AND WASTE

4%
CLIMATE CHANGE ADAPTATION

3%
INTERNATIONAL WATERS

- Recognition
- Inequality awareness
- Data roadmap
- Inclusive decision-making

ob creation and community empowerment is fundamen achieving a decarbonized energy sector by 2035

ergy Source	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
& natural gas	0.8	2.9	2.3	**5.2**
al	1.9	3.0	3.9	**6.9**
lding retrofits	7.0	4.9	11.8	**16.7**
ss transit/ rail	11.0	4.9	17.4	**22.3**
art grid	4.3	4.6	7.9	**12.5**
mass	7.4	5.0	12.4	**17.4**
ar	5.4	4.9	8.4	**13.3**
nd	4.6	4.4	9.3	**13.7**

Table 1: Job creation per million $ spending across fossil fuel (grey), infrastructure (blue) and renewable energy (green). Data is compiled from a range of sources including annual updates of the Wei, Patadia and Kammen (2010) paper, and the U. S. Department of Energy (2017) *Energy and Employment Report.*

The Coal Exit Now & Gas Exit Next …

l's weight in our net zero journey

~40%
Of global installed power generation capacity

2040
Deadline to phase out all unabated coal to reach net zero by 2050

By 2030, 99%
Of new renewables will beat existing coal (LCOE)
(77% today)

l in emerging markets

~75%
Of coal installed capacity is in EMDEs

A just transition issue

7.41 jobs/MW
Jobs created by Solar PV
(vs 1.01/MW created by Coal)

>55%
Coal Workers can be employe
the solar sector with no re-trair

est developments on coal

Coal prices surged **100+%** globally in 2021 as a result of post-COVID economic activity and decline in hydro and wind generation

UN CLIMATE CHANGE CONFERENCE UK 2021
IN PARTNERSHIP WITH ITALY

40+ countries committed to phase out coal, inclu
5 of the word's top 20 producers. However, overall agreement was to **'phase down' vs 'phase out'** coal

We must make justice the new 'business normal'

l (Spain)

capacity of coal plant: 1,050MW
posed into:
5 MW of Renewables (1,585 MW solar (largest plant under truction in Europe) and 139 MW wind)
e-scale energy storage system of up to 159.3 MW

d approach:
rch 2022-June 2023 / while dismantling
struction of 50 MW solar photovoltaic facility, built on-site
MW wind farm, installed in near-by town
allation of 235 MW of solar PV and 54.3 MW of battery storage
in perimeter of current plant)

2023-early 2026
0 MW of photovoltaic power, 90
of wind power and 105 MW of
ery storage built in Andorra,
risa, Alcañiz, Calanda and Híjar.

Just Transition Program
100% of workers benefitted from program
(financed via own balance-sheet) **including:**
- Reskilling/up-skilling (26'000 hours of training)
- Relocation plan promoting the return to the site of origin (R (43%)
- Voluntary departure agreements (46%)
- Early retirement (11%)

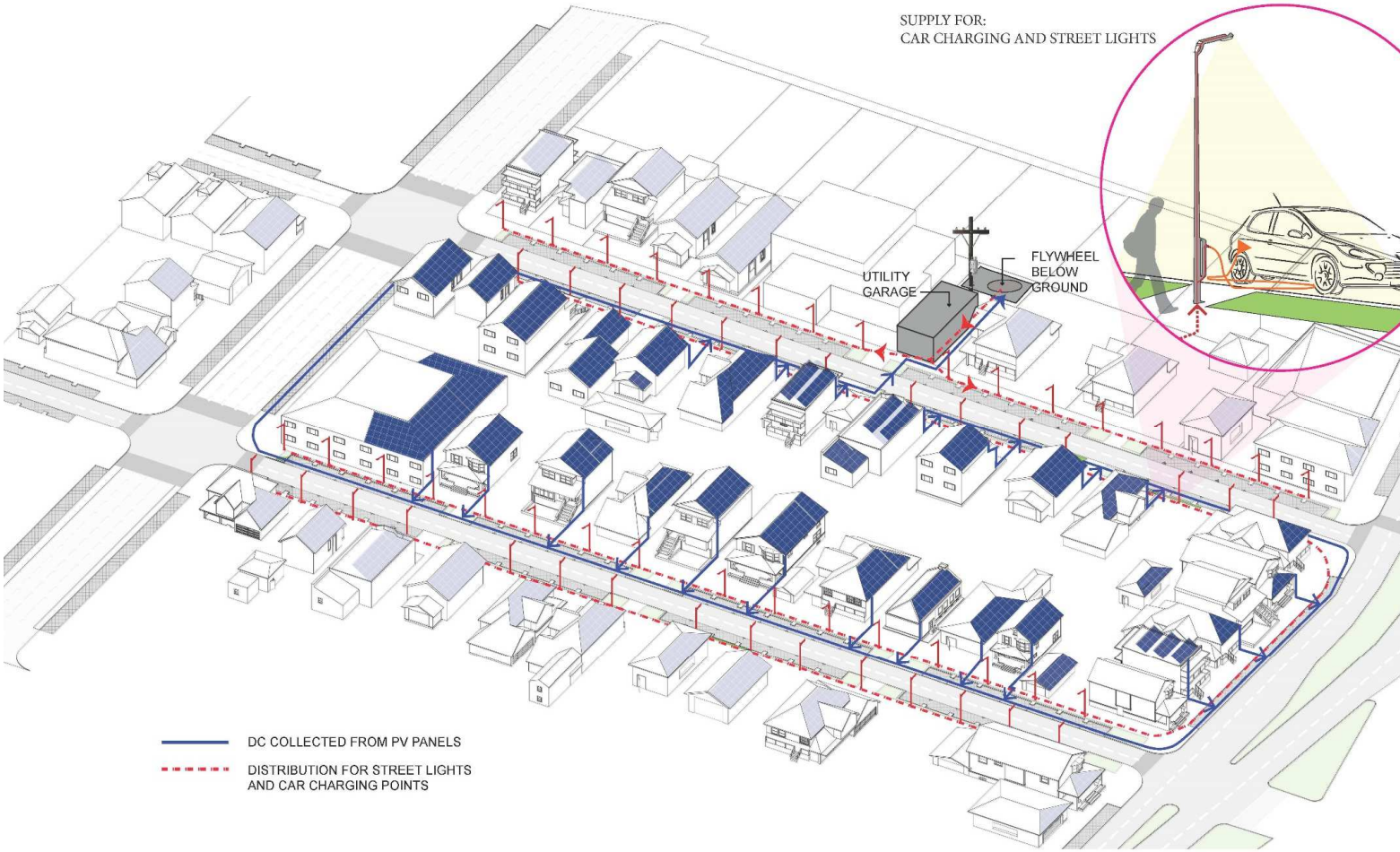
Health Facility Electrification:
SDG and Justice Metrics (coordination and conflict)

EcoBlock Vision: A Multi-Customer Microgrid Solution

ectrical system combines ER

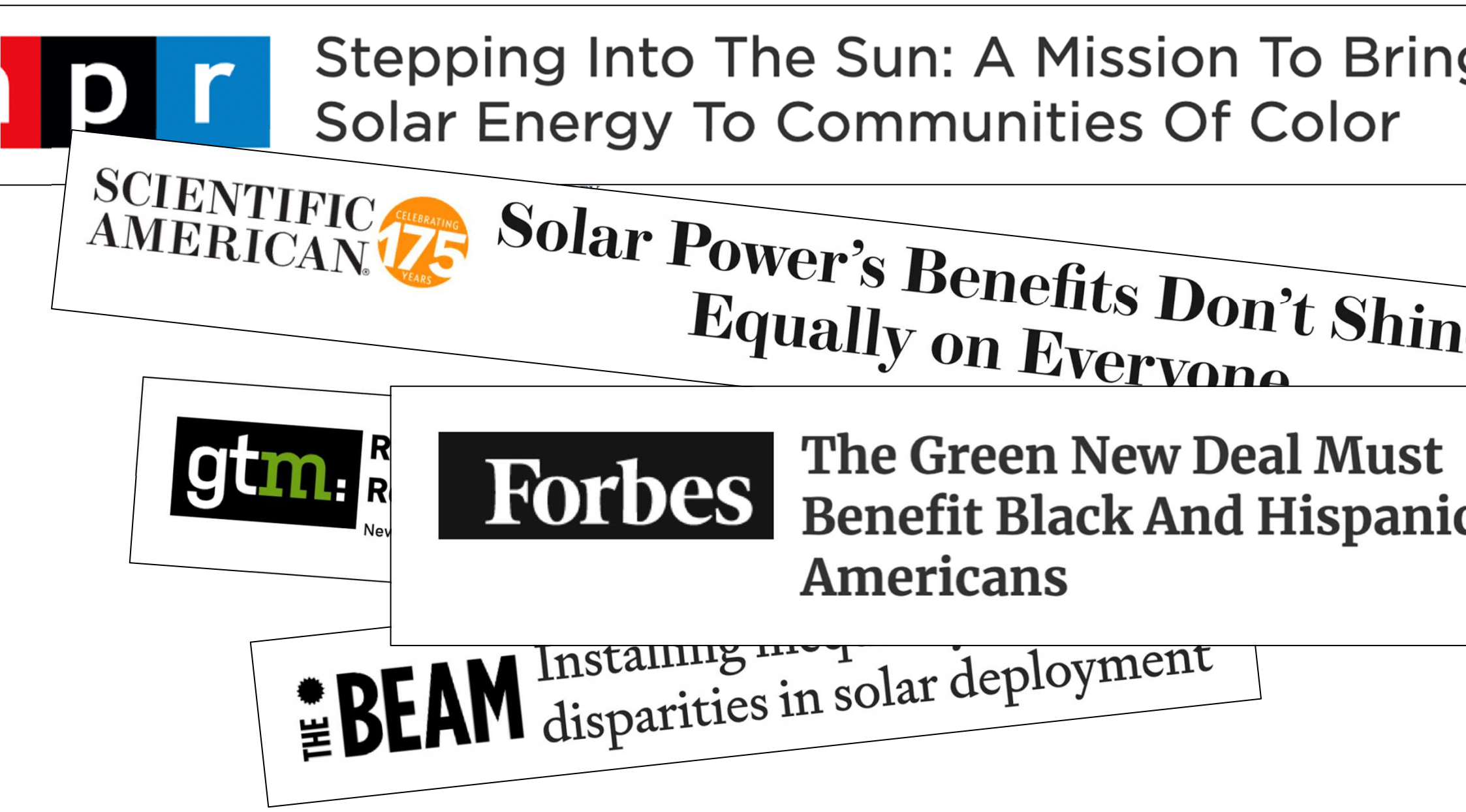
- Communal rooftop solar PV
- Communal energy storage system (flywheel and/or battery)
- Intelligent loads and electric demand response
- Shared Electric vehicle (EV) charging
- Smart controls in a direct-current (DC) microgrid infrastructure

ehind a single terconnection with PG&E



right University partnered with USAID's Engendering Industries program to deliver Workforce Gender Equality Accelerated Program.

ndering Industries has trained over 6,000 women on technical and foundational skills, inclu at Vietnam Electricity Company (EVN), which is only ~ 20% women in the workforce


npr
Stepping Into The Sun: A Mission To Bring Solar Energy To Communities Of Color
SCIENTIFIC AMERICAN
CELEBRATING 175 YEARS
Solar Power's Benefits Don't Shin Equally on Everyone
gtm:
Forbes
The Green New Deal Must Benefit Black And Hispanic Americans
THE BEAM
disparities in solar deployment

Nuru Solar Hybrid Mini-Grid: Goma, Democratic Republic of Congo

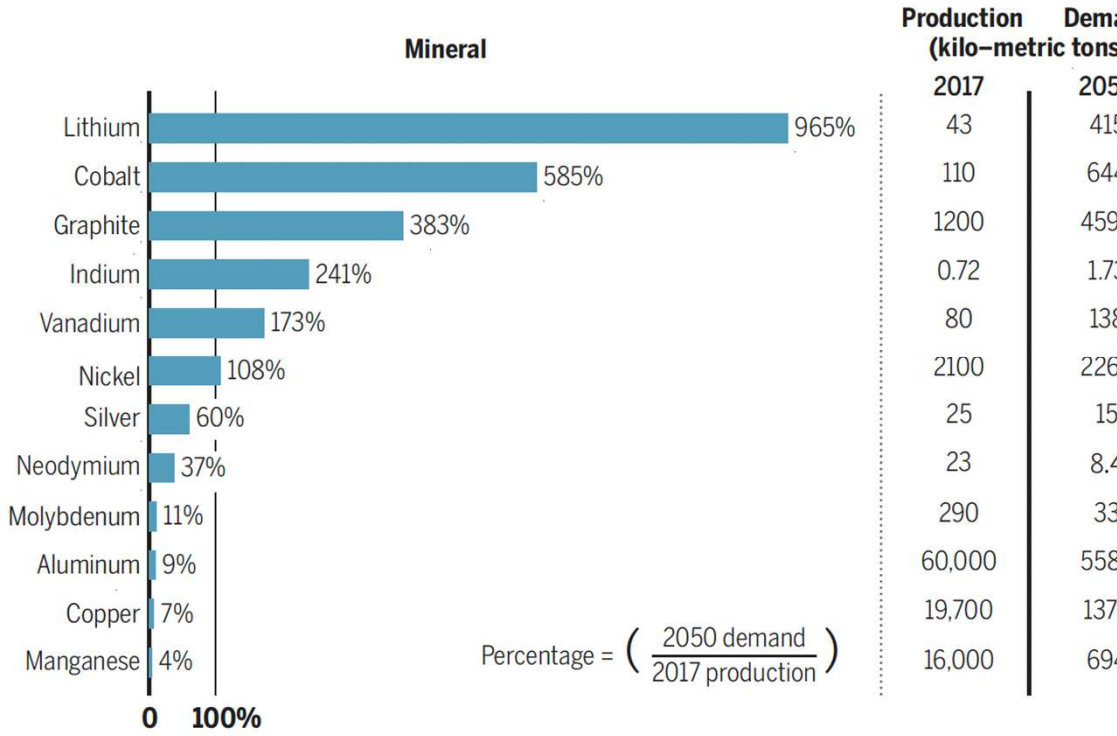
u Goma Phase I Hybrid Mini-Grid Project:

- .3 MW solar hybrid mini-grid (largest off-grid in SSA)
- naugurated February 4, 2020
- Quartier of Ndosho, in the city of Goma - an area of Goma ot served by the existing grid – a fragile grid/conflict zone
- **Peace Renewable Energy Credits (P-RECs)** issued for olar generation
  - Encourages renewable energy investments in conflict-affected areas
  - Community project component: Revenue has supported installation of streetlights to improve safety and security in the community

Critical Materials and the Just Energy Transition
The search for best practices & metrics

A creuseur, or digger, descends into a Congolese copper and cobalt mine in Kawama. Wages are low, and working conditions are dangerous, often with no safety equipment or structural support for the tunnels.

Growth in mineral needs for low-carbon energy technology



All production and demand data reflect annual values. 2017 data reflect annual production for all uses. 2050 data reflect estimated deman low-carbon energy technology uses. Data from (*7*).

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Thank you