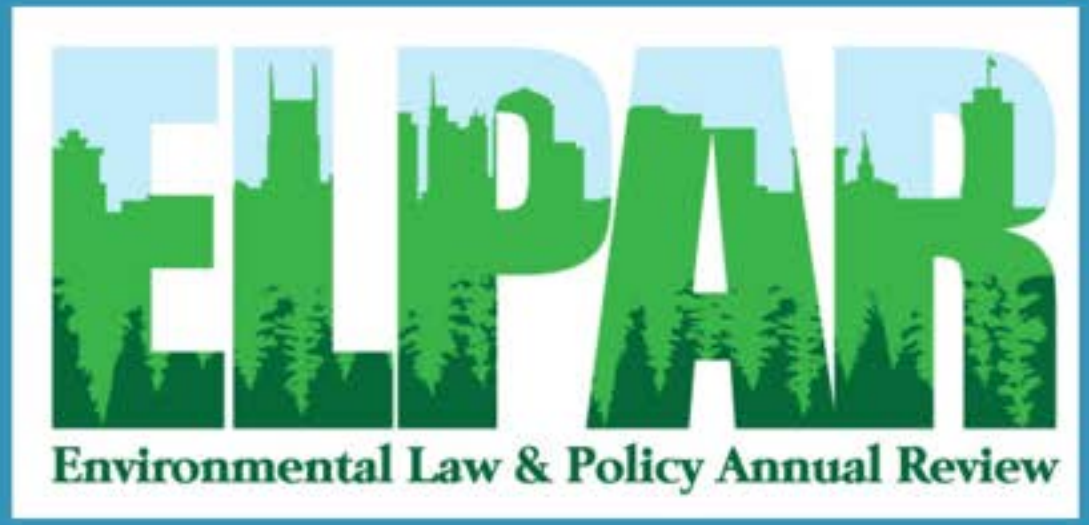
Environmental Law and Policy Annual Review Conference

April 9, 2021
9:30 AM – 3:30 PM EST

VANDERBILT
LAW SCHOOL

Cosponsored by: DC Bar Environment, Energy, and Natural Resources Committee and the Women's Council on Energy and the Environment

Analysis of Articles Originally Published in 2019-2020



2019-2020 Article Analysis

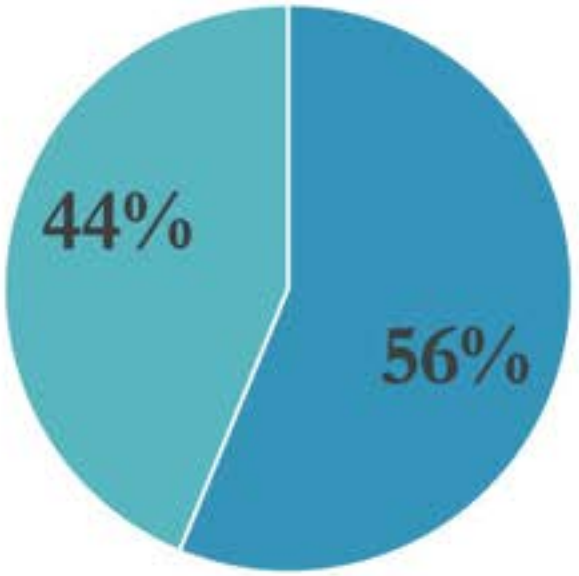
Methodology

- Detailed Methodology:
  - https://www.eli.org/sites/default/files/docs/2014_elpar_trends_methodology.pdf
- 224 Environmental Law Articles Catalogued

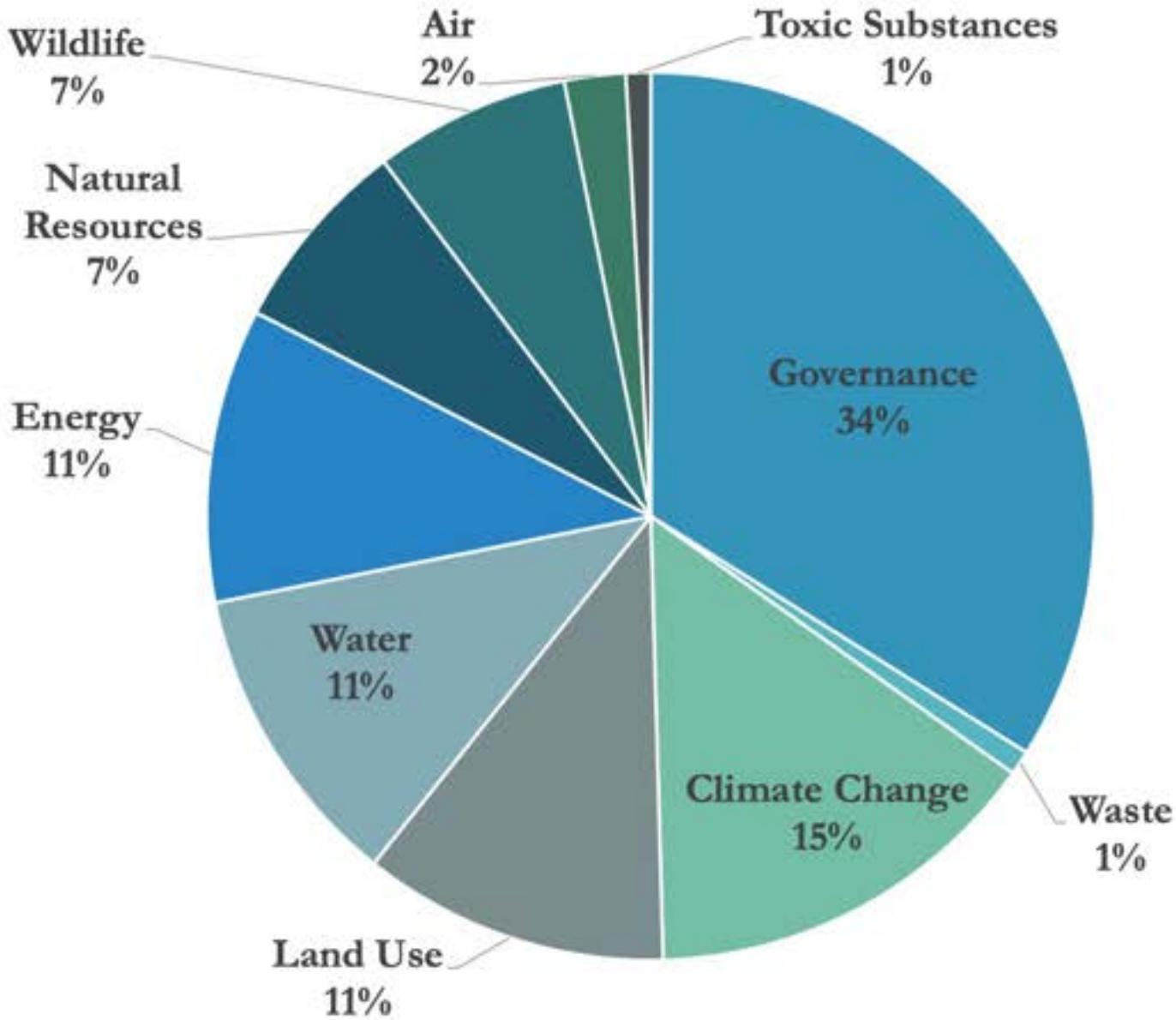
2019-2020 Article Analysis

General vs. Environmental Journals

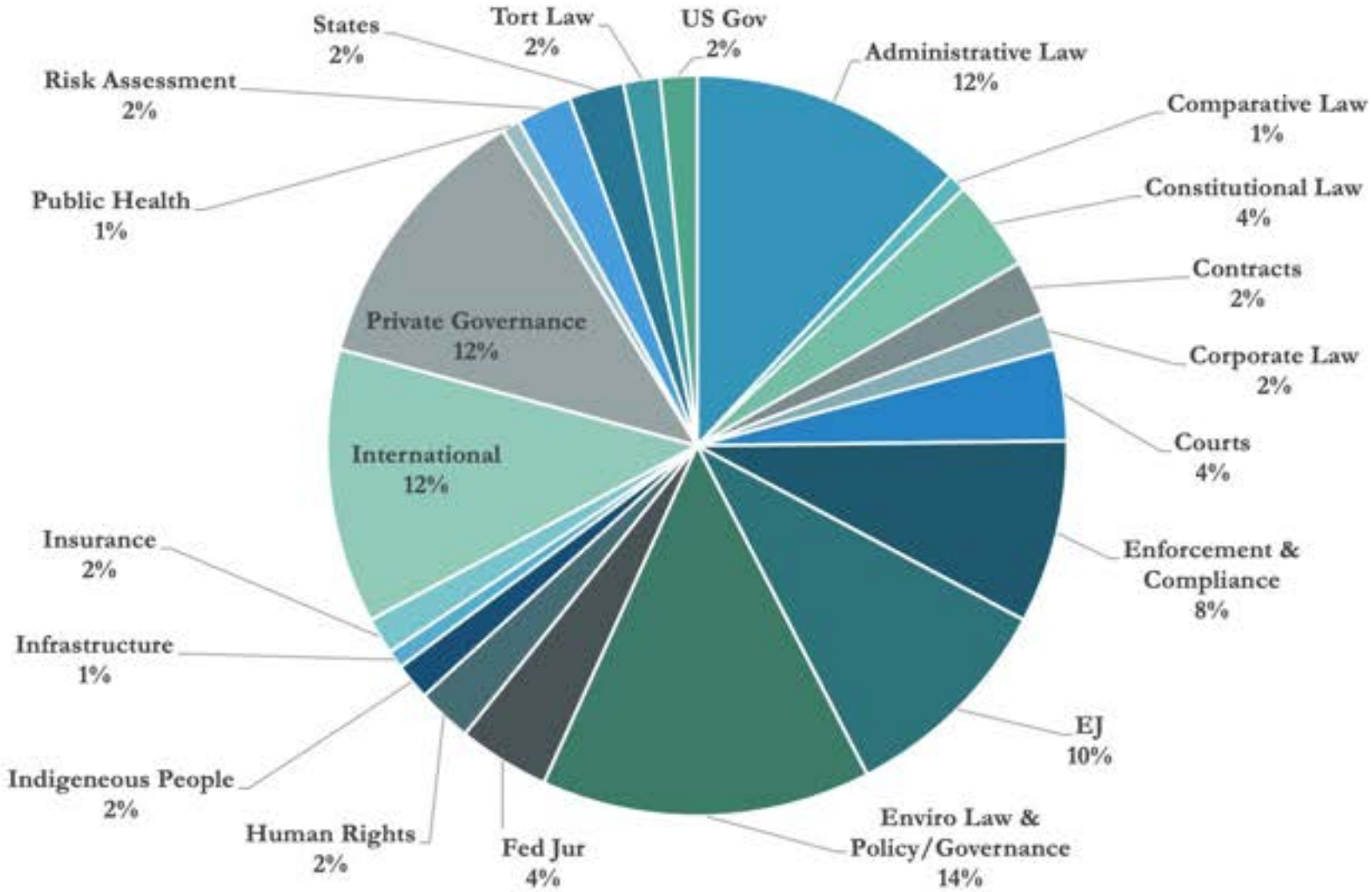
- 224 Environmental Law Articles Catalogued
- General Law Reviews: 99 (44%)
- Environmental Law Journals: 125 (56%)



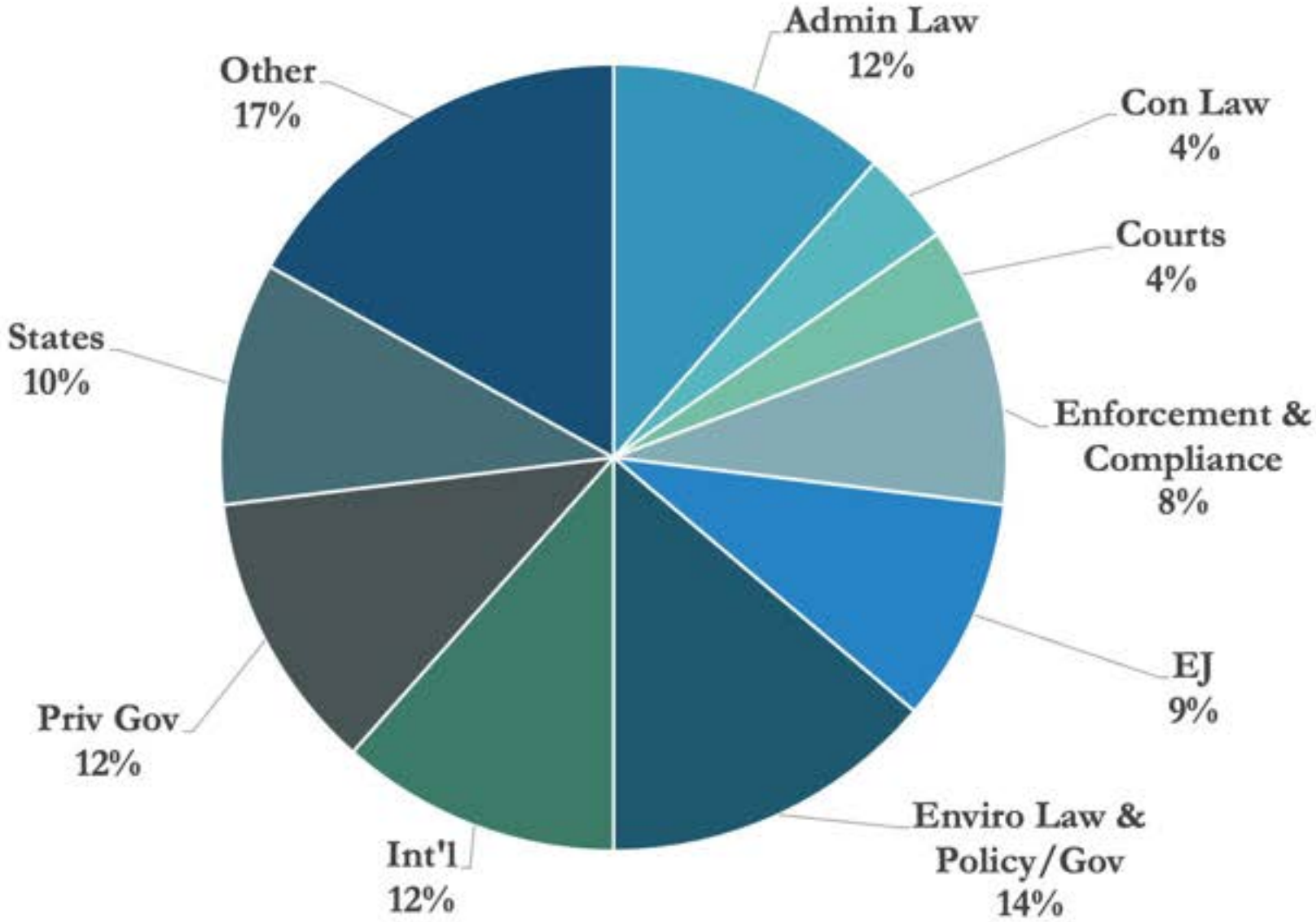
2019-2020 Article Topic Areas



Governance Sub-Topics



Governance Sub-Topics With <4% Categories Combined into "Other"



Top 20 Article Analysis

Environmental Journals vs. General Law Reviews

- Articles Selected from Environmental Journals: **10**
- Articles Selected from General Law Reviews: **10**

Top 20 Article Analysis

Primary and Secondary Topics

Primary Topics	
Governance	7
Land Use	1
Climate Change	7
Energy	4
Wildlife	1

Secondary Topics	
Governance	4
Climate Change	5
Land Use	1

Top 20 Article Analysis

Policy Proposals

- 6 articles called for action by state and local governments as a part of their proposal
- 6 for action by the federal government, whether executive agencies, legislative branch, or judicial
- 2 articles for updates to federal or international law.
- 6 articles for private governance measures.

Panel 1: *The Law and Science of Climate Change Attribution*

Vanderbilt Law Articles Editor: Nathan Campbell
Authors: Michael Burger, Jessica Wentz, and Radley Horton
Commenters: Steve Goldstein, Joanne Spalding,
Stacey VanBelleghem

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The Law and Science of Climate Change Attribution

Michael Burger

Executive Director, Senior Research Scholar

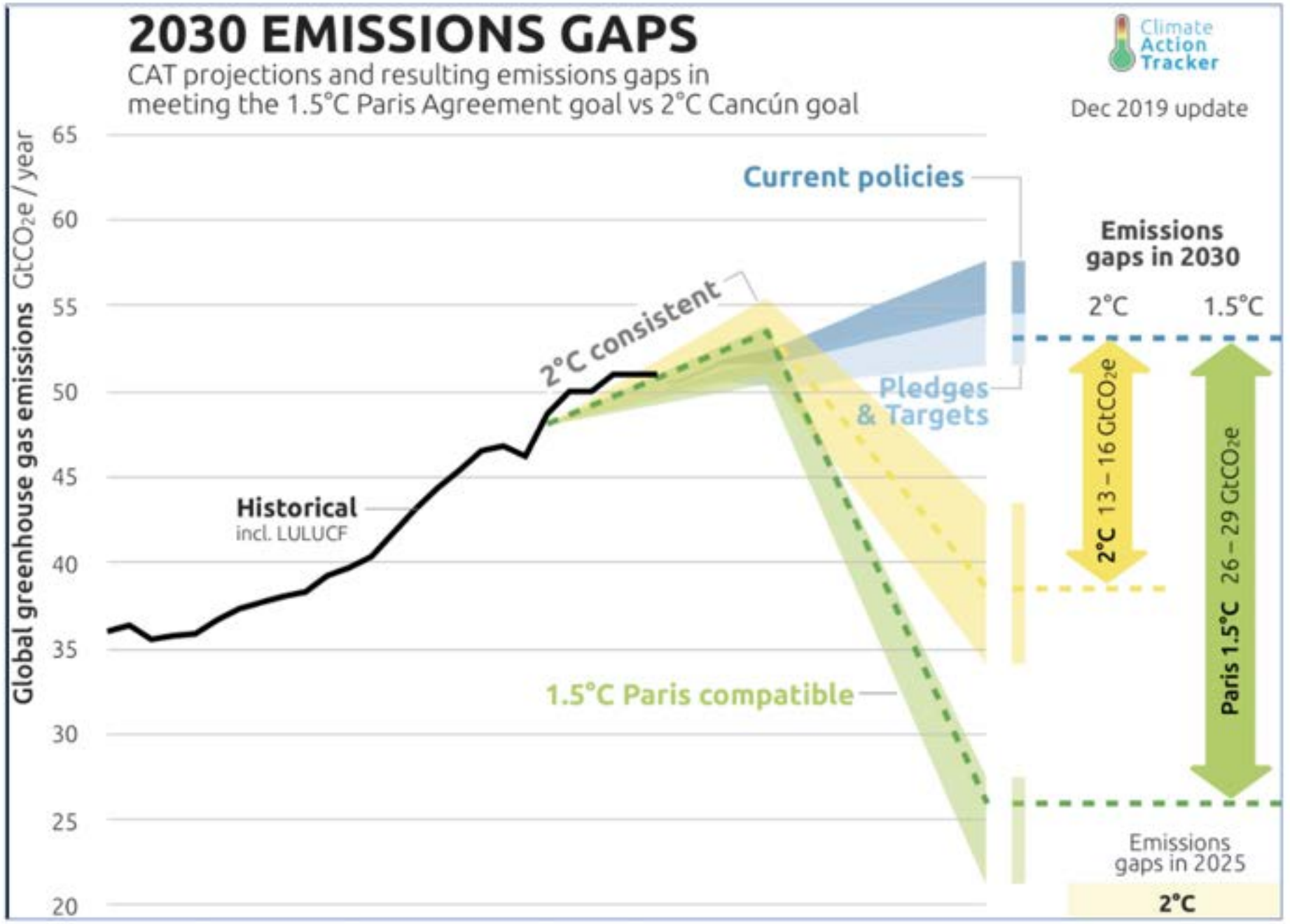
Radley Horton,

Lamont Research Professor

Columbia Law School

SABIN CENTER FOR CLIMATE CHANGE LAW

Environmental Law and Policy Annual Review
April 9, 2021


2030 EMISSIONS GAPS
CAT projections and resulting emissions gaps in meeting the 1.5°C Paris Agreement goal vs 2°C Cancún goal
Climate Action Tracker
Dec 2019 update
Global greenhouse gas emissions GtCO2e / year
65
60
55
50
45
40
35
30
25
20
Current policies
2°C consistent
Pledges & Targets
Historical
incl. LULUCF
1.5°C Paris compatible
Emissions gaps in 2030
2°C
1.5°C
2°C 13 – 16 GtCO2e
Paris 1.5°C 26 – 29 GtCO2e
Emissions gaps in 2025
2°C

Climate change litigation by jurisdiction

Country	Number of Cases
Argentina	8
Australia	115
Austria	2
Belgium	1
Brazil	10
Canada	25
Chile	2
Colombia	2
Czech Republic	1
East African Court of Justice	1
Ecuador	1
Estonia	1
European Committee on Social Rights	1
European Court of Human Rights	2
European Union	55
France	11
Germany	7
Guyana	1
India	2
Indonesia	1
Inter-American Commission on Human Rights	3
Inter-American Court of Human Rights	1
International Court of Justice	2
Ireland	4
Japan	4
Kenya	1

Country	Number of Cases
Luxembourg	1
Mexico	3
Nepal	1
Netherlands	3
New Zealand	18
Nigeria	1
Norway	2
Pakistan	4
Peru	1
Philippines	1
Poland	4
Slovenia	1
South Africa	4
South Korea	2
Spain	14
Sweden	1
Switzerland	1
Uganda	1
Ukraine	2
UNFCCC	11
United Kingdom	63
United Nations Committee on the Rights of the Child	1
United Nations Human Rights Committee	2
United Nations Special Rapporteurs	1
United States	1320
Total	**1727**

Approximate totals as of January 27, 2021, Based on Sabin Center Climate Litigation Databases

Types of Lawsuits

- Lawsuits v. Governments for Failure to Control Emissions
- Lawsuits v. Private Actors for Contributions to Climate Change
- Industry lawsuits challenging govt. polices aimed at controlling GHG emissions
- Lawsuits involving climate change impacts, adaptation, and risk disclosures

Key Legal Issues

- **Standing:** Have plaintiffs suffered a sufficiently concrete and particularized injury?
- **Justiciability:** Are climate-related claims "non-justiciable" political questions that should be resolved by the political branches of government (executive and legislative) rather than the courts? Would judicial resolution infringe on separation of powers?
- **Causation:** Can plaintiffs demonstrate a direct link between actions of defendants and climate change-related harms?
- **Apportionment:** How can a court attribute or apportion responsibility/liability to a particular state, company, or individual?

Scope of Detection & Attribution Research

- **Climate Change Attribution:** How are human activities affecting the global climate system? (IPCC WGI)
- **Impact Attribution:** How are changes in the global climate system affecting other interconnected natural and human systems? (IPCC WGII)
- **Extreme Event Attribution:** How are changes in the global climate system affecting the frequency, magnitude, and other characteristics of extreme weather events?
- **Source Attribution:** To what extent have different sectors, activities, and entities contributed to anthropogenic climate change?

Challenges for Litigants

- **Coverage of studies:** Need for research on impacts/changes that have greatest impact on vulnerable communities (and potential plaintiffs)
- **Source attribution challenges:** Plaintiffs would benefit from end-to-end attribution research. Possibly survey reports linking attribution studies from emissions to impact.
- **Confidence levels:** Would be helpful to have both high-probably lowball estimates and low-probably highball estimates.
- **Accessibility:** Studies and results need to be communicated in straightforward language and accurately summarized for non-scientists (whether used for litigation or other purposes)

Definitions

- **Detection** refers to a statistically significant departure of a dataset from what would be expected due to chance alone, without any assessment of the cause of the departure

- **Attribution** identifies the role of one or more causative factors in a detected departure

Scope of Detection & Attribution Research

- **Climate Change Attribution:** How are human activities affecting the global climate system? (IPCC WGI)

- **Impact Attribution:** How are changes in the global climate system affecting other interconnected natural and human systems? (IPCC WGII)

- **Extreme Event Attribution:** How are changes in the global climate system affecting the frequency, magnitude, and other characteristics of extreme weather events?

- **Source Attribution:** To what extent have different sectors, activities, and entities contributed to anthropogenic climate change?

Impact Attribution

i. Ecosystems, Species, and Ecological Indicators
ii. Inland Flooding and Hydrological Impacts
iii. Coastal Impacts
iv. Wildfires
v. Air pollution
vi. Public Health
vii. Agriculture
viii. Economics and Development

Data Sources and Analytical Techniques

- Observational Data
- Physical Understanding
- Statistical Analyses
- Models

Key Uncertainties

- Observations
- Role of Natural Variability
- Role of Historical Forcings
- Issues of Spatial and Temporal Scale

Select Recent Science Advances

- Expansion of the types of variables and events
- Real-time and pre-event assessments
- New data sources and approaches
- Integration of Source and Climate Change Attribution Streams

Select Challenges and Limitations

- Alignment between the scientific information sought in legal cases and what science can provide (e.g. spatial and temporal resolutions, confidence levels)
- Non-linearity and compounding risks


climateattribution.org
Climate Attribution
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Climate Attribution Database
Climate attribution science plays a central role in climate litigation and policy-making. The science is central to legal debates on the causal links between human activities, global climate change, and impacts on human and natural systems. This database contains 255 scientific resources organized under four thematic umbrellas. You can explore the resources by selecting one of the topics below or by using our advanced search form.

Columbia **Law School**

SABIN CENTER FOR CLIMATE CHANGE LAW

Contact Information:

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rh142@columbia.edu

Important Links

- www.climate.law.columbia.edu
- www.climatecasechart.com
- blogs.law.columbia.edu/climatechange/
- twitter.com/columbiaclimate
- www.facebook.com/ColumbiaClimateLaw

Another Dimension To Climate Litigation: Accountability for Deceptive Market Practices

Steve Goldstein, Special Assistant Attorney General, Office of the Attorney General of Maryland & NYU State Impact Center Fellow

*The views expressed herein are those of the author alone and do not reflect the positions or opinions of the Office of the Attorney General or State Impact Center.

Conduct of the Fossil Fuel Industry

- Early awareness of climate change
- Scientific consensus acknowledged in early 1980s
- Disinformation campaign begins to counter public awareness
  - Public Statements
  - Funding biased research
  - Funding third parties to push anti-science agenda
- Marketing products as environmentally friendly and touting R&D into clean energy alternatives

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Conduct of the Fossil Fuel Industry

- All of this diminished public will to address climate change
- Induced further purchases of fossil fuel products
- Exacerbated emissions of greenhouse gases

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Precedent for Confronting Climate Denial

- Tobacco - systematic disinformation campaign
- Greenwashing - false or misleading claims of environmental benefit

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State Suits Against Fossil Fuel Companies

- Cases brought in state court alleging violations of state statutes and common law
- Some include trespass and nuisance claims
- Others focus solely on deceptive market practices and disinformation campaigns

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Where Does Attribution Science Fit?

- Unfairness – balancing of the equities
- Statute may provide an easier evidentiary burden than common law

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The next panel will start at 11:15 am EST. Thank you for your patience as we do a technical check with our panelists.

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Panel 2: *Externalities and the Common Owner*

Vanderbilt Law Articles Editor: Caroline Malone
Author: Madison Condon
Commenters: Frederick Alexander, Natasha Lamb, James Andrus

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EXTERNALITIES AND THE COMMON OWNER

MADISON CONDON
BOSTON UNIVERSITY SCHOOL OF LAW

Glencore to limit coal production after pressure from investors

Church of England and large Australian superannuation funds among shareholders who pushed for environmental decision

Chevron Bows To Investor Pressure To Align Strategy With Paris Agreement

BlackRock pushes companies to adopt 2050 net zero emissions goal

World's largest asset manager warns it may drop climate laggards from active portfolios

BlackRock chief executive Larry Fink said a 'tectonic shift' in the investment landscape was happening faster than he expected © Bloomberg

Climate and Environment

Financial firms lead shareholder rebellion against ExxonMobil climate change policies

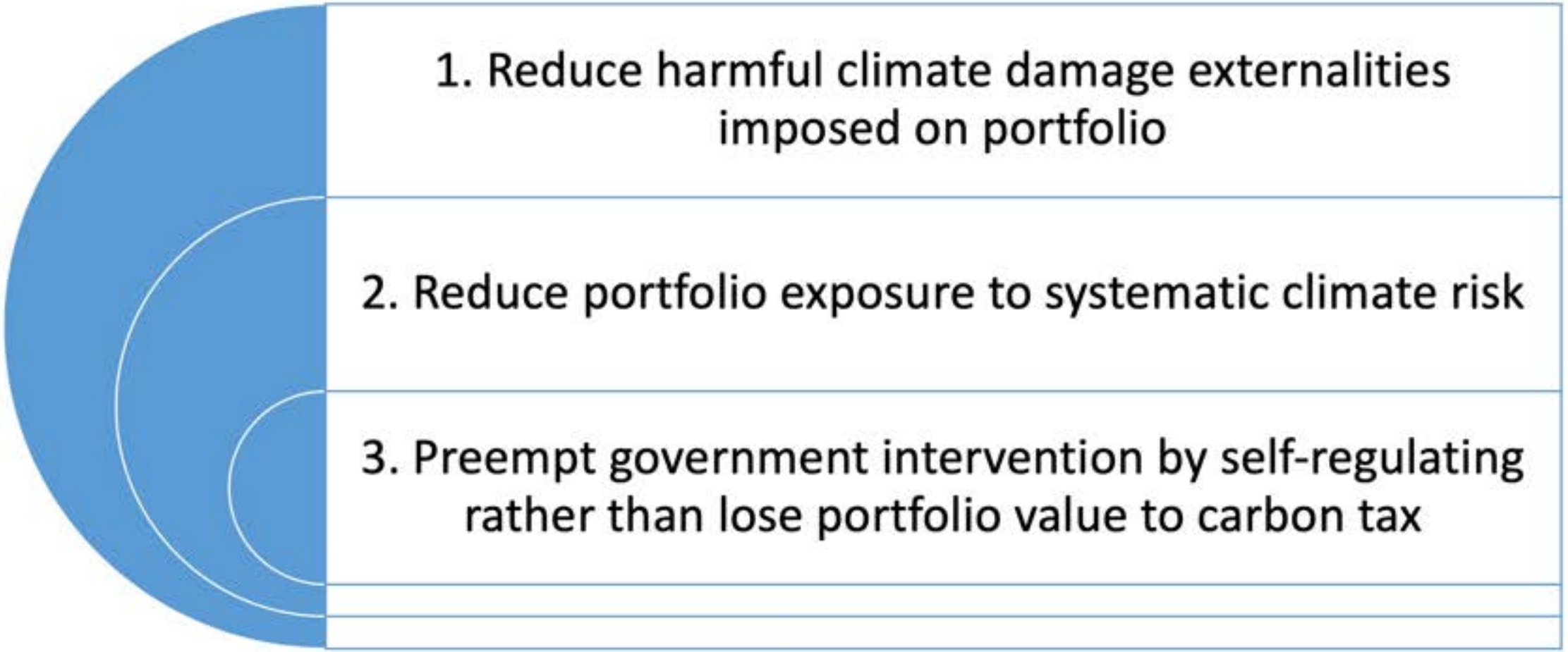
Climate Action 100+

Global Investors Driving Business Transition

- 575 Institutional investors controlling $54 trillion in assets.
- Some of the largest pension funds: Japan's, the Netherlands,' & California's.
- Including and many of world's largest non-pension investors: BlackRock, StateStreet

Broadly diversified quasi-indexers

Why Investors Care About Emissions



Hypothetical Intervention: BlackRock

Emissions

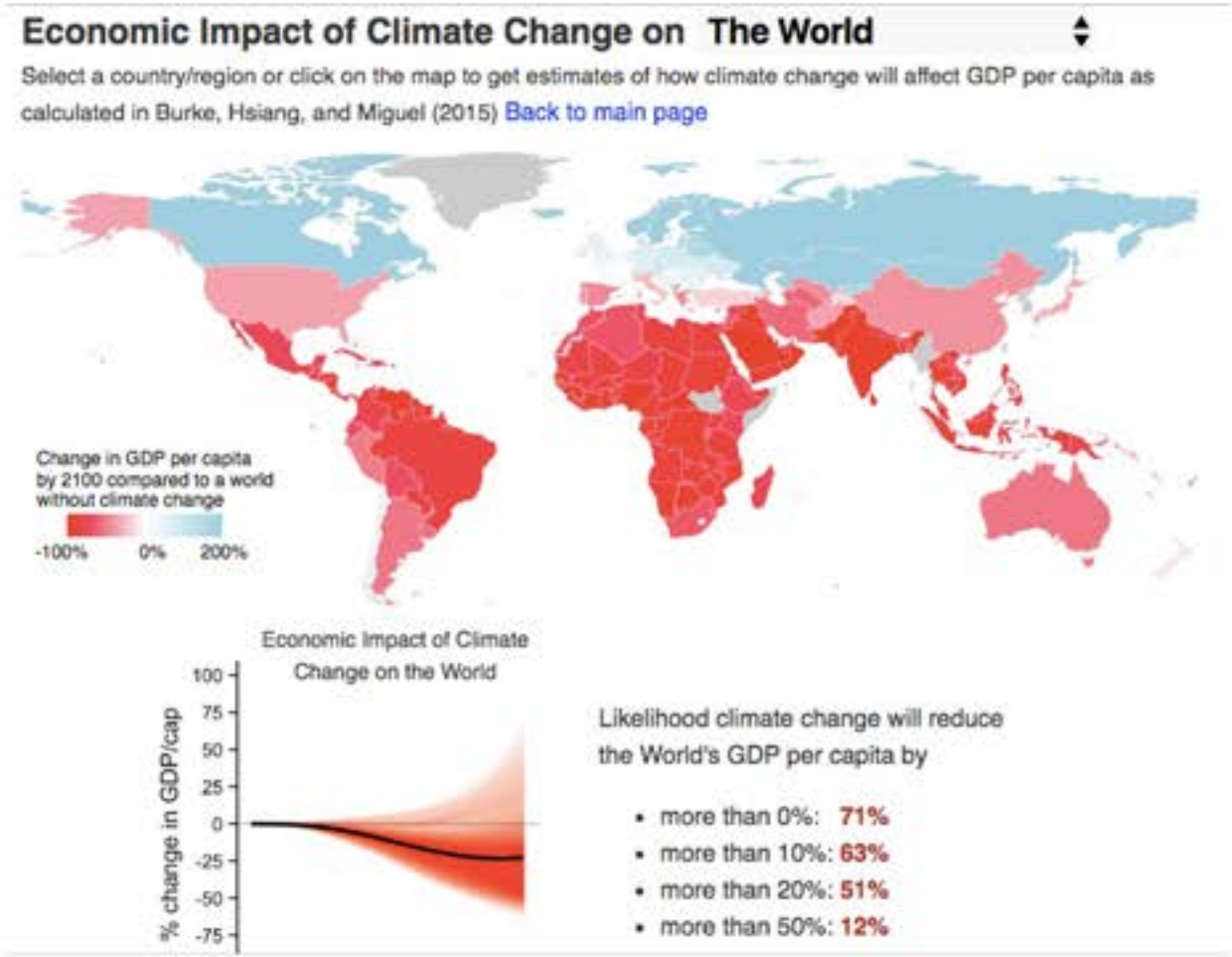
- Chevron: 1% global emissions
- Exxon: 1.2% global emissions

40% reduction → .77% emissions decline

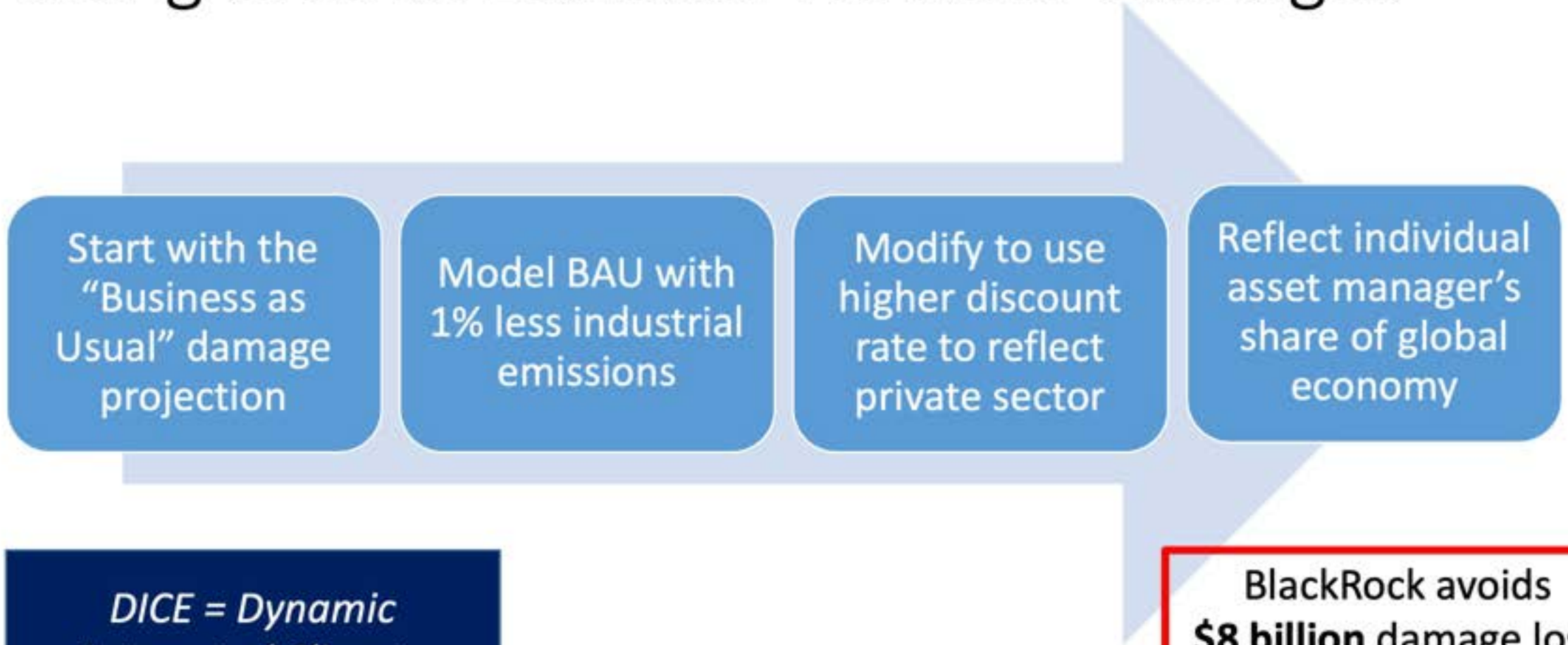
Stock Price Decline

- Chevron: 4.74% * $213.9 billion
- Exxon: 6.08% * $ 328.5 billion

20% loss in value → $6 billion asset loss



Using DICE to Estimate Portfolio Damages



DICE = Dynamic Integrated Climate Economy Model

BlackRock avoids **$8 billion** damage loss from contemplated intervention

Applying Example to Economy-Wide Interventions

- Of total industrial greenhouse gas emissions, 30% is extracted by publicly owned companies
- Investors target demand-side as well as supply-side companies

AUTOS

GM faces increased pressure from investors on climate

Maxine Joselow, E&E News reporter • Published: Monday, June 17, 2019

ASSET MANAGEMENT

Shareholders call for climate action from BP, Volkswagen and Daimler

Climate group's resolution at BP revealed as biggest ever, while German carmakers told to speed up electric transition

"Common Ownership"

BLACKROCK®

The Journal of FINANCE
The Journal of THE AMERICAN FINANCE ASSOCIATION

Index Investing and
Common Ownership Theories

ARTICLE

Anticompetitive Effects of Common Ownership

JOSÉ AZAR, MARTIN C. SCHMALZ, ISABEL TECU

First published: 25 May 2018 | https://doi.org/10.1111/jofi.12698 | Citations: 139

Hearings on
Competition and Consumer Protection
in the 21st Century

An FTC-NYU School of Law Event | December 6, 2018

Application to Common Ownership Debate

Request that companies refrain from anti-carbon regulation lobbying, in service to "the long-term value in our portfolios **across all sectors and asset classes.**"

Climate change is the "greatest systemic risk" facing our portfolios, and we use engagements "as a means of addressing **large negative externalities.**"

CalPERS

BNP PARIBAS

UBS

Investors pursue three main climate objectives

1. Concrete emissions reductions targets	• Shell, Xcel Energy, Genesee & Wyoming, American Electric Power (largest electric power emitter of GHGs in Western Hemisphere, committed to 80% reduction)
2. Suspension of anti-climate regulation lobbying	• ConEd, Conoco Phillips
3. Disclosure of climate risk	• Exxon, Occidental Petroleum, PPL, Kinder Morgan, Anadarko Petroleum, Valero, First Energy, Dominion Energy

Mechanisms of Firm-level Influence

1. Board elections	• BlackRock voted against Exxon board members for failure to engage on climate
2. Compensation incentives	• Shell's goals tied directly to executive compensation
3. Direct communications with management	• Investors report hundreds of "meetings behind closed doors"
4. Public broadcasting of intent	• Op-eds in financial press
5. Votes on shareholder proposals	• Support for climate resolutions gaining each year

Shareholder Value Is No Longer Everything, Top C.E.O.s Say

Chief executives from the Business Roundtable, including the leaders of Apple and JPMorgan Chase, argued that companies must also invest in employees and deliver value to customers.

"Yes, the planet got destroyed, but for a beautiful moment in time we created a lot of value for shareholders."

CLS Blue Sky Blog
@CLSBlueSkyBlog

If Not the Index Funds, Then Who?

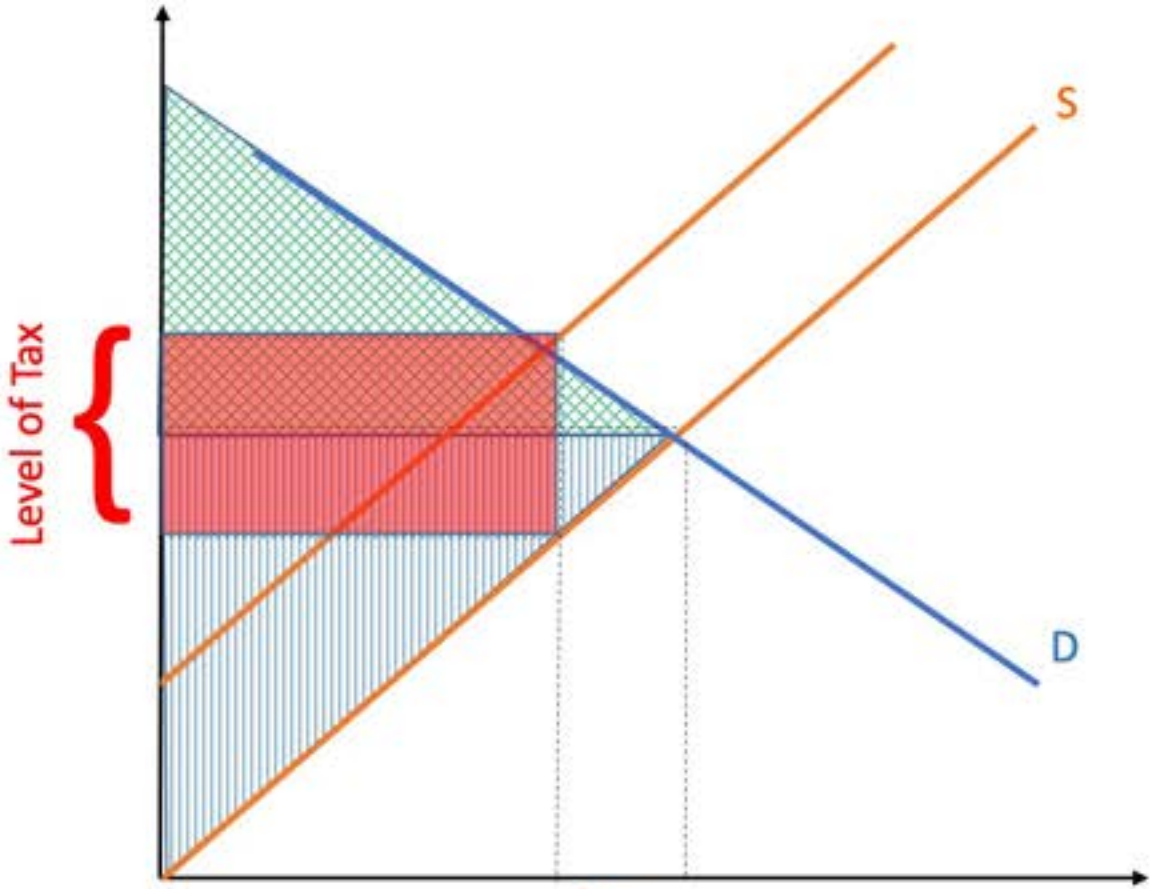
Can big investors save the world?

By Tom Espiner
Business reporter, BBC News

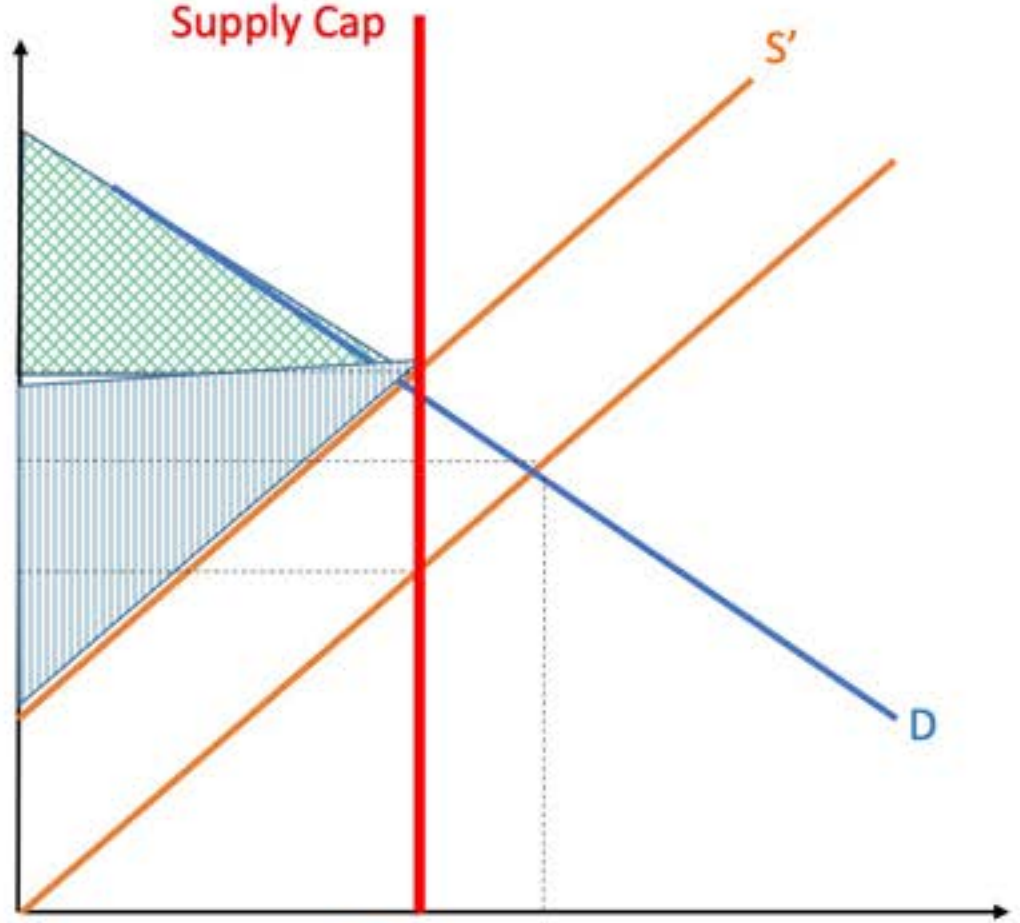
17 August 2019 | Business

While young people have been demonstrating against climate change, big financial players are putting on pressure from a different direction

Government Imposed Pigouvian Tax



Investor Imposed Supply Shock



Optimal Emissions

A WELFARE FUNCTION FOR SHAREHOLDER ENGAGEMENT: RECOGNIZING PROFIT FOR WHAT IT IS

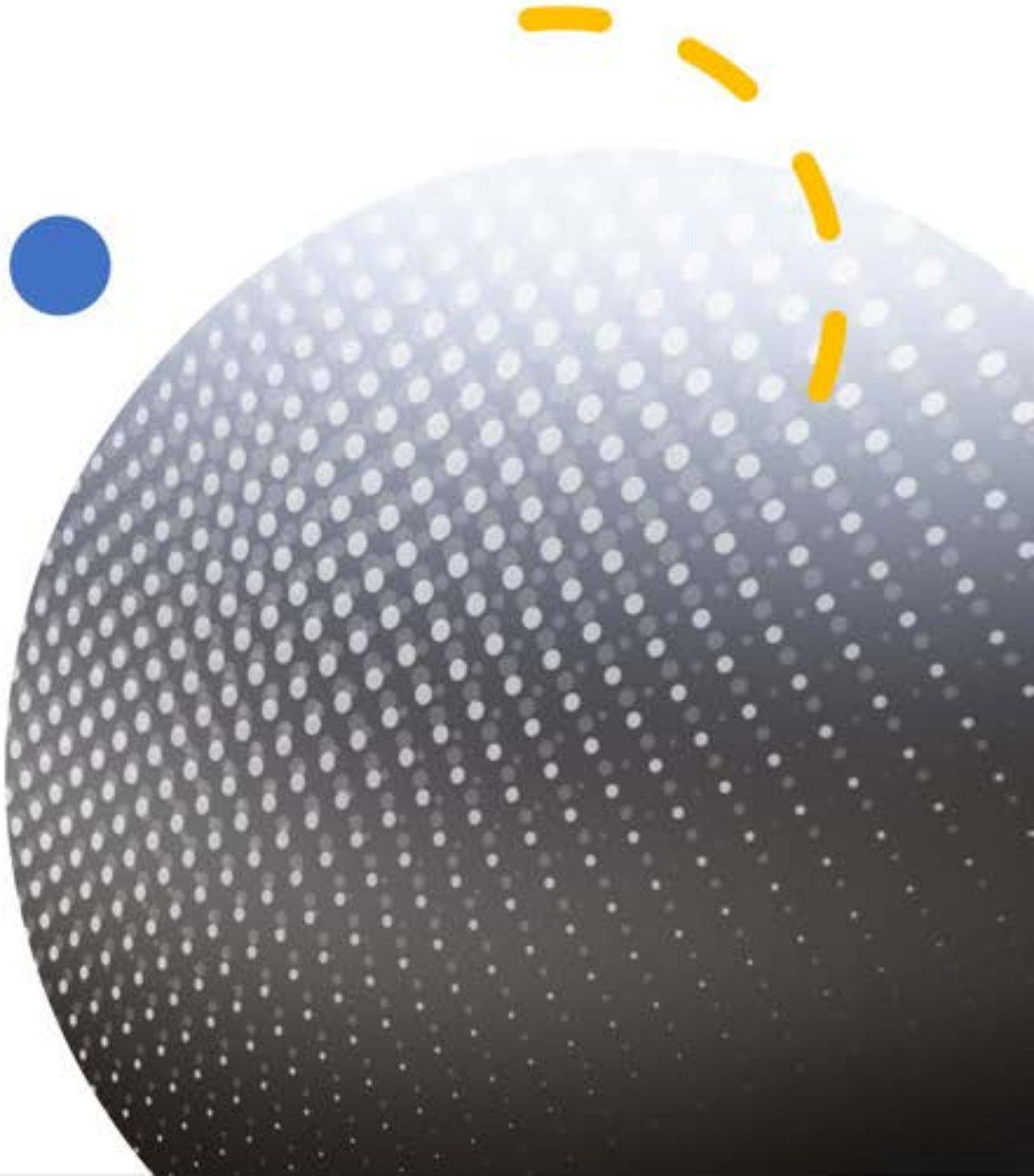
- A Response to Madison Condon's *Externalities and the Common Owner*

- Environmental Law & Policy Annual Review Conference
- Friday, April 9, 2021

Costs of company-first shareholder primacy

Market failures: externalized social, environmental and economic costs

Loss of ecosystem services and human potential



Need to countervail managerial power

- Failures of regulation: jurisdictional arbitrage; capture; expertise; motivation
- Complementary nature of regulation and universal ownership stewardship
- Economic motive of managers with concentrated ownership v. universal owners with diversified portfolios
- Where is power concentrated in capital markets: managers, owners or beneficiaries?

For whose benefit?

- Beneficiaries, asset owners, and asset managers
- Modern Portfolio Theory and cost internalization
- Portfolio interests (overall market return)
- Individual interests (clean environment)
- Community interests (world we want)
- No choice but to choose

Guardrails

Incommensurability of profits and external impacts

Prisoner's dilemma

BlackRock's error

Filtering out bad profits

Systems-first shareholder primacy

Price collusion v beta stewardship

- Impermanence of market share v. preservation of systemic health
- Price v. profit in empirical studies
- Motivation of concentrated owners to collude
- Availability of law to distinguish

Sustainable Investing with Arjuna Capital

Divest from Fossil Fuels

As we transition to a clean energy economy it is both necessary and smart to divest from fossil-fuels. Our clients have access to a full suite of fossil-fuel-free impact investments, from publically traded stock and bond portfolios, to private equity and debt funds.

Invest in Solutions

We invest in companies commercializing solutions to our greatest sustainability challenges. We are leaders in gender-lens investing and align our investments with the United Nations' Sustainable Development Goals (SDG's).

Engage in Corporate Change

As a stock owner, you have the right to press companies to better manage their Environmental, Social, and Governance (ESG) risks and opportunities. Through shareholder activism, you can foster real change in corporate behavior on a range of issues, from climate change to racial and gender equity.

Here's how you can size up climate change to tap into smart investment opportunities

PUBLISHED MON, DEC 7 2020•9:01 AM EST

Deborah Nason
@DNASON

How does an investor tackle the huge topic of climate change to tap its opportunities? Natasha Lamb, managing partner, director of equity research and shareholder engagement for Arjuna Capital in Manchester-by-the-Sea, Massachusetts, offers a three-pronged approach:

1. Determine what carbon assets you may be invested in, such as coal, oil and gas reserves. "There is a risk to your portfolio, as these companies will become unprofitable over time," she said. "For example, the cost to extract from oil sands is expensive."

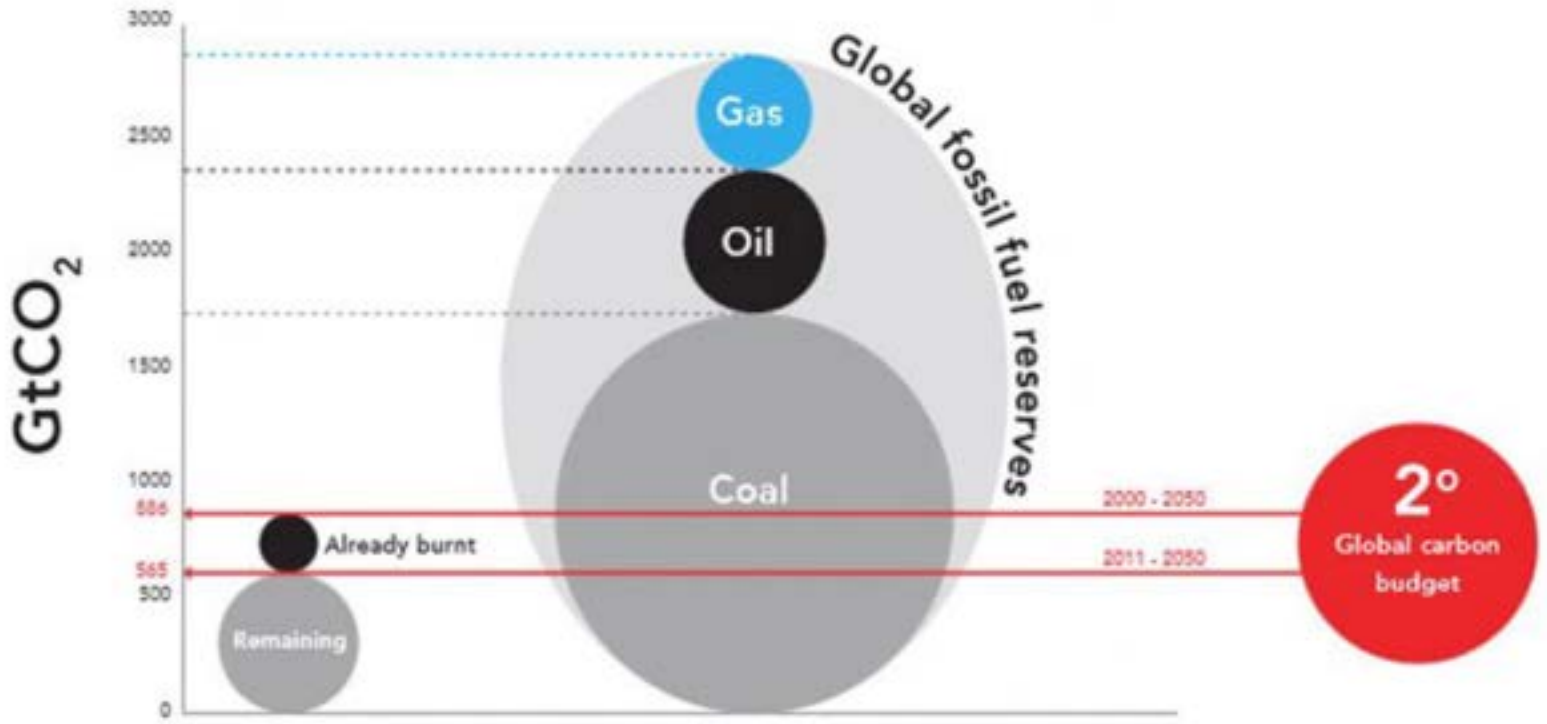
2. Think about how climate change can affects your entire portfolio "While negative stock screening can eliminate fossil fuel assets and mitigate some climate change risk, the rest of the stock in your portfolio could be impacted by economy-wide risk from storms, sea-level rise, population migration, supply chain disruption, challenges with insurance coverage, etc.," Lamb said.

3. Look into investing in solutions that mitigate climate and portfolio risk, such as renewable energy solutions.

Demonstrators in Chicago protest President Donald Trump's decision to exit the Paris climate change accord on June 2, 2017.
Scott Olson | Getty Images News | Getty Images

$20 trillion

ESTIMATED MARKET VALUE OF FOSSIL FUELS REFLECTED IN ENERGY COMPANIES THAT SCIENTISTS SAY WE CAN'T AFFORD TO BURN. SOURCE: CARBON TRACKER INSTITUTE



$12 trillion

TOTAL VALUE OF ASSET MANAGERS AND ENDOWMENTS THAT HAD DIVESTED FROM FOSSIL FUELS AS OF DECEMBER 2019. SOURCE: GOFOSSILFUELFREE.ORG

DIVEST

- University of California – $127 billion fully divested of fossil fuels
- Norwegian Sovereign Wealth Fund – 1 Trillion, largest pool of assets in world
- New York City Pension Fund - $194 billion

Intentional Endowments Network

Rockefeller Brothers Fund

NYCERS

THE UNIVERSITY OF CALIFORNIA · LET THERE BE LIGHT · 1868

SQUAWK BOX

SHARE

Jim Cramer: ‘I’m done with fossil fuel’ stocks

CNBC’s Jim Cramer said Friday that he is done with fossil fuel stocks because young investor’s concerns about climate change made them unnattractive.

FINANCIAL TIMES

The long twilight of the big oil companies

Fossil fuel producers face a future of slow and steady decline

EXXON, CHEVRON, vs. S&P 500

Since investor engagement in 2014

8 April 2021

"The evidence on climate risk is compelling investors to reassess core assumptions about modern finance."

Larry Fink, CEO Blackrock

FORTUNE

Fink said that BlackRock would vote against management teams that weren't working toward sustainability goals, and his firm would press companies to disclose plans "for operating under a scenario where the Paris Agreement's goal of limiting global warming to less than two degrees is fully realized."

THE WALL STREET JOURNAL. ≡ | BUSINESS

BUSINESS

Exxon Agrees to Disclose Its 'Carbon Risk'

Shareholder Resolution Is Withdrawn on Promise of Environmental Report

By DANIEL GILBERT CONNECT

March 20, 2014 5:54 p.m. ET

Exxon Mobil Corp XOM has agreed to disclose how the regulation of carbon emissions could affect the value of its oil and gas holdings, as sign that America's biggest energy company is stepping up efforts to address shareholders' concerns.

ENGAGE

STEPS toward PROGRESS

ExxonMobil

Chevron

RESPONSE:

- DISCLOSURE & DENIAL
- BUSINESS AS USUAL

RISKS:

- LEGAL, PHYSICAL, TRANSITION
- SYSTEMIC UNIVERSAL OWNER RISK

Why don't you just buy Apple?

Investors Detail Exxon's Misleading Reports on Climate Risks in New York Trial

By Karen Savage

Climate Liability News

The second day of Exxon's climate fraud trial in New York featured testimony from two major investors.

The second day of Exxon's climate fraud trial kicked off with two witnesses for the attorney general's office testifying Wednesday that the oil giant has been anything but clear about the way it assesses the risk posed to its business by climate change.

Exxon failed to disclose that it used two different numbers to calculate climate risk, according to testimony by Natasha Lamb, director of research and shareholder engagement for Arjuna Capital and Michael Garland, assistant comptroller for corporate governance and responsible investment for the city of New York.

"Climate change poses a major risk to the stability of the U.S. financial system and to its ability to sustain the American economy" according to the United States' Commodity Futures Trading Commission. The National Bureau of Economic Research warns if greenhouse gases are not cut in line with the Paris Accord, United States' GDP could be cut 10.5 percent by 2100. The United Nations Environment Programme Finance Initiative and Principles for Responsible Investment reports in the paper "Universal Ownership" that over 50 percent of companies' earnings are at risk from climate costs, creating systemic risk for diversified investors.

"Universal investors"—those with highly-diversified portfolios representative of the broad economy—are exposed to growing and widespread climate costs generated by some companies, including Chevron, and ultimately incurred by other companies. The Proponent is quoted in "Universal Ownership:"

> "A portfolio investor benefiting from a company externalizing costs might experience a reduction in overall returns due to these externalities adversely affecting other investments in the portfolio, and hence overall market return. For a diversified investor, there is no place to hide from these costs: they come back into the portfolio as taxes, insurance premiums, inflated input prices and the physical cost of disasters." (Seitchik)

It is in investors' interest to reduce climate externalities to protect long-term returns. In contrast, Chevron appears to prioritize our Company's financial returns over the impact of climate change on global markets.

The next panel will start at 12:45 pm EST. Thank you for your patience as we do a technical check with our panelists.

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Panel 3: *A Game Changer in the Making? Lessons from States Advancing Environmental Justice through Mapping and Cumulative Impact Strategies*

Vanderbilt Law Articles Editor: Meredith Barrow
Author: Charles Lee
Commenters: Carol Monahan Cummings, Benjamin Wilson

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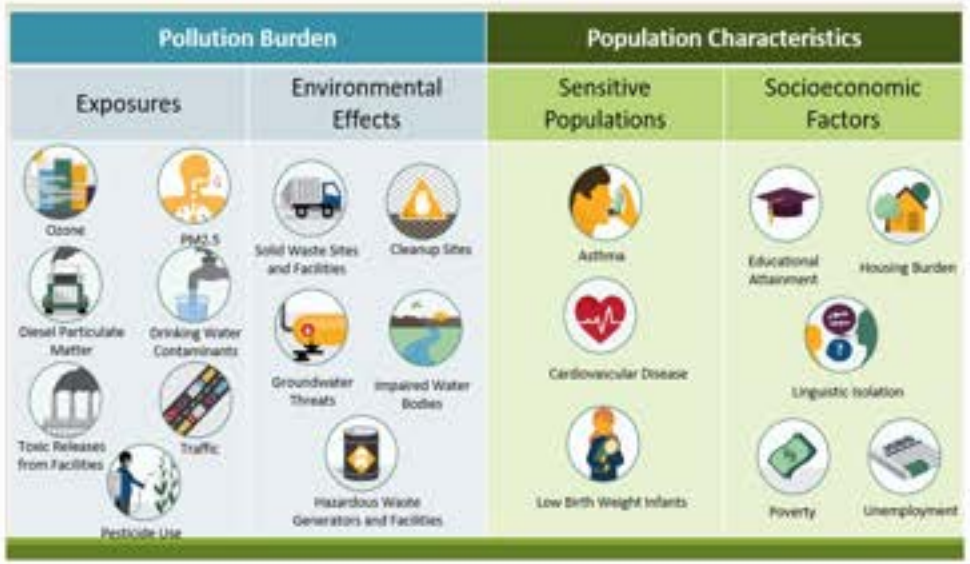
Game Changer in the Making? Lessons from States Advancing Environmental Justice Through Mapping and Cumulative Impact Strategies

Environmental Law and Policy Annual Review Forum
April 9, 2021

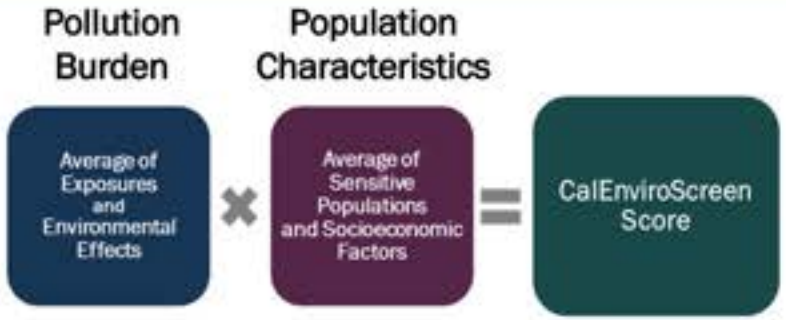
Charles Lee

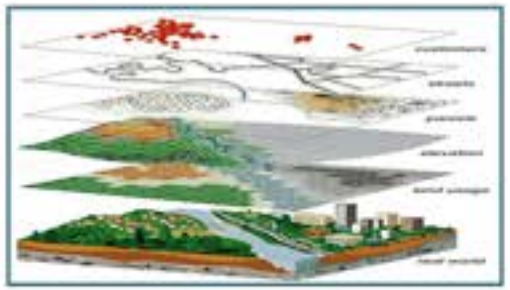
Senior Policy Advisor for Environmental Justice
U.S. Environmental Protection Agency

CalEnviroScreen and EJSCREEN



Environmental Indicators	Demographic Indicators
❑ PM 2.5 ❑ Ozone ❑ NATA Diesel PM ❑ NATA Air Toxics Cancer Risk ❑ NATA Respiratory Hazard Index ❑ Lead Paint (pre-1960s Housing) ❑ Traffic Proximity ❑ Proximity-NPL Sites ❑ Proximity-RMP Facilities ❑ Proximity-TSD Facilities ❑ Proximity-Waste Water Dischargers	❑ **Low-Income** ❑ **Minority** ❑ Less than High School Education ❑ Linguistic Isolation ❑ Individuals under Age 5 ❑ Individuals over Age 64 **Index:** Calculated as (Low income + minority) / 2





Cumulative Impacts Methodology

FIVE LESSONS LEARNED

- Addressing cumulative impacts is a core strategy for advancing EJ.
- EJ mapping tools can help to facilitate resource investment.
- Emerging EJ mapping efforts provide straight-forward and replicable model.

Guiding Principles

- *science-based tool*
- *informed by community experience*
- *endorsed and utilized by government*
- *available state-wide for all Californians to use*
- *thorough public participation*
- *serve as a third-party validator for local issues*

Progress in advancing EJ at the state level, including EJ mapping tool development, has come from the combined efforts of communities, academia, and government

EJ Mapping's Historical Arc

CalEnviroScreen and EJSCREEN

CALIFORNIA CLIMATE INVESTMENTS
Cap and Trade Dollars at Work

California's SB535

Illinois' Future Energy Jobs Act

New York's Climate Leadership and Community Protection Act

President Biden's E.O. 14008 – Justice40 Initiative
(Climate and Economic Justice Screening Tool)

Lesson: EJ mapping tools can help to facilitate resource investment to promote health and sustainability in environmentally overburdened and disadvantaged communities

California Climate Investments (CCI)

Appropriations from Greenhouse Gas Reduction Fund, as of October 15, 2019)

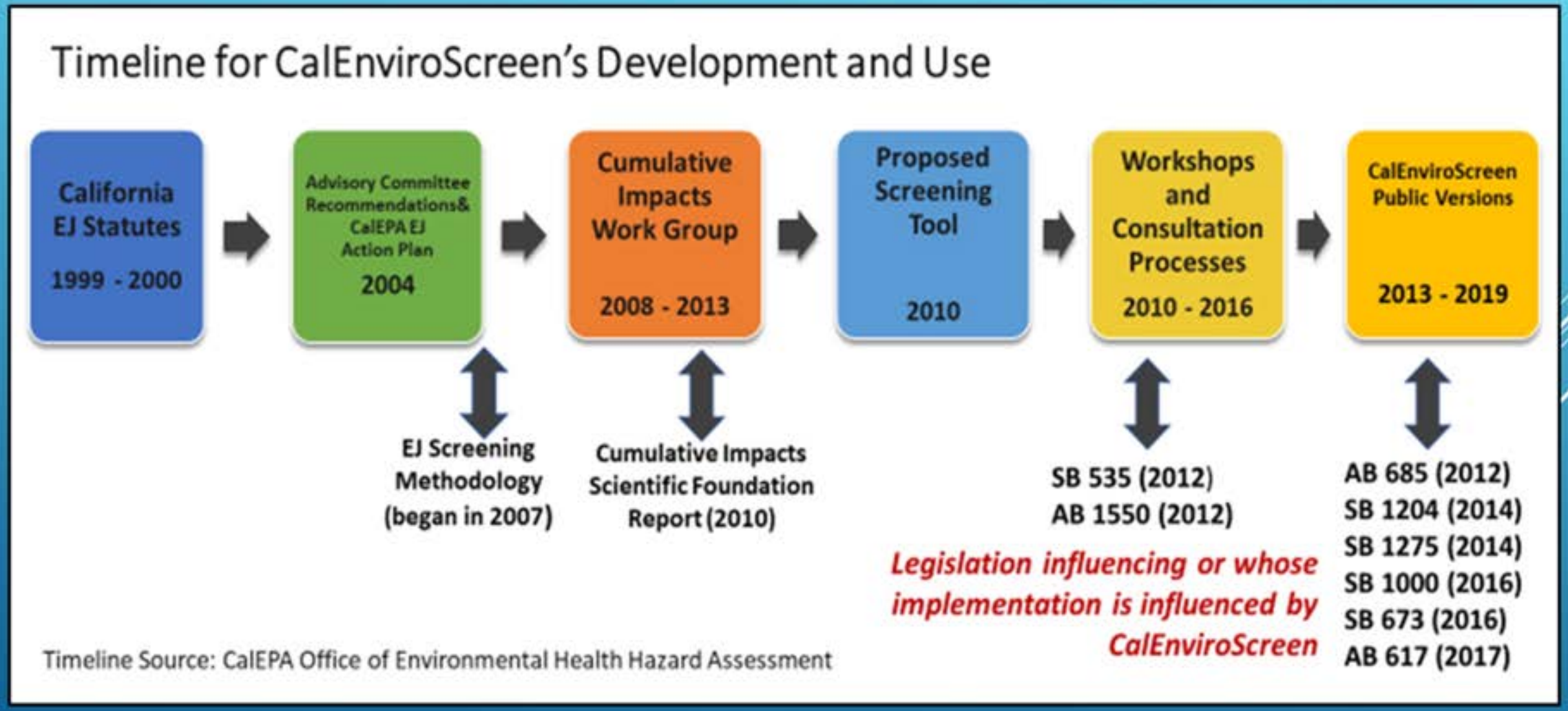
Program	Total Appropriations to Date ($M)
Sustainable Communities and Clean Transportation	$9,757 M
Energy Efficiency and Clean Energy	$506 M
Supporting Investments	$138 M
Natural Resources and Waste Diversion	$1,738 M

Total: $12.14 Billion

SB 535 (2012)

"CalEPA shall identify 'disadvantaged communities' for investment opportunities based on geographic, socioeconomic, public health and environmental hazard criteria."

Lesson: Addressing cumulative impacts is a core strategy for advancing environmental justice and this is embodied in EJ mapping tool development



ILLINOIS FUTURE ENERGY JOBS ACT

- Included $750 million in low-income programs for solar, solar workforce, and energy efficiency
- Methodology for identifying EJ communities, using elements of CalEnviroScreen and EJSCREEN

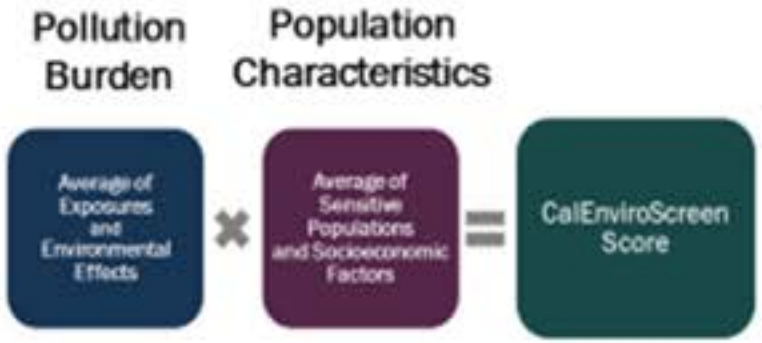
NEW YORK CLIMATE LEADERSHIP AND COMMUNITY PROTECTION ACT

- Mandated 40% of program resources benefit disadvantaged overburdened communities
- Program definitions, design, and criteria in process of development

Proliferation and Maturation of Second Generation EJ Mapping Tools

Emerging Paradigm Common to EJ Mapping Efforts at State and Local Levels

CalEnviroScreen Methodology



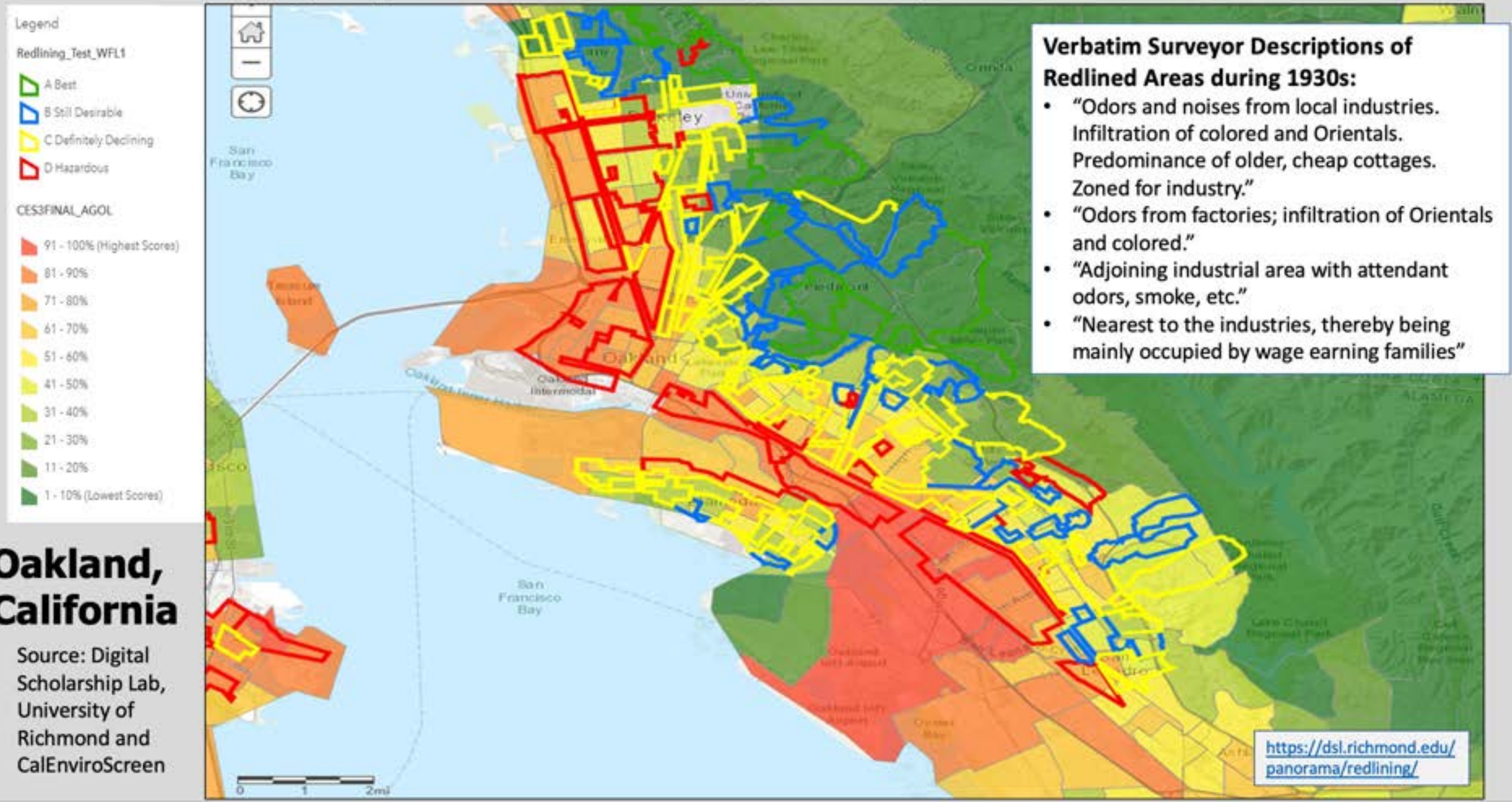
EJSCREEN Data

Environmental Indicators	Demographic Indicators
❑ PM 2.5	❑ Low-Income
❑ Ozone	❑ Minority
❑ NATA Diesel PM	❑ Less than High School Education
❑ NATA Air Toxics Cancer Risk	❑ Linguistic Isolation
❑ NATA Respiratory Hazard Index	❑ Individuals under Age 5
❑ Lead Paint (pre-1960s Housing)	❑ Individuals over Age 64
❑ Traffic Proximity	Index: Calculated as (Low income + minority) / 2
❑ Proximity-NPL Sites	
❑ Proximity-RMP Facilities	
❑ Proximity-TSD Facilities	
❑ Proximity-Waste Water Dischargers	

Additional Available State or Local Data

Lesson: Emerging EJ mapping efforts provide a useful, straight-forward and replicable model that future EJ mapping development at the state and local government levels can emulate

Historical Legacy of EJ: Redlining and Systemic Racism



Oakland, California

Source: Digital Scholarship Lab, University of Richmond and CalEnviroScreen

Where will the historical arc of EJ mapping lead?

1. How can we promote information-sharing, education, and cross-fertilization with regards to data resources, lessons learned, and best practices?
2. Given the interdependent and innovative nature of the development and use of EJ data and platforms, how can we develop strategies that maximizes alignment, efficiency, and effectiveness?
3. Given the multiple analytic requirements of EJ applications, how can we achieve EJ mapping platforms that have a fit-for-purpose capacity?
4. How can mapping be used to elucidate systemic racism and other structural inequities?

OEHHA

SCIENCE FOR A HEALTHY CALIFORNIA

Carol Monahan Cummings
Chief Counsel
Office of Environmental Health Hazard assessment

Draft CalEnviroScreen 4.0

What is CalEnviroScreen?

- Spatial analysis of relative burdens in California communities from 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 2021

CalEnviroScreen Components

Exposures:

Direct contact with pollution

Environmental Effects:

Adverse environmental conditions caused by pollutants

Sensitive Populations:

Populations with physiological conditions that result in increased vulnerability to pollutants

Socioeconomic Factors:

Community characteristics that result in increased vulnerability to pollutants

Draft CalEnviroScreen 4.0 Indicators

Pollution Burden

Exposures


Ozone


PM2.5


Diesel Particulate Matter


Drinking Water Contaminants


Toxic Releases from Facilities


Traffic

New


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

Socioeconomic Factors


Educational Attainment


Housing Burden


Linguistic Isolation


Poverty

Unemployment

Combined Layers in Exposures Component

Averaged together

CalEnviroScreen Model

Pollution Burden

EXPOSURES

Diesel PM
Drinking Water
Lead from Housing
Ozone
Pesticides
$PM_{2.5}$
Toxic Releases
Traffic Density

ENVIRONMENTAL EFFECTS (1/2)

Cleanup Sites
Groundwater Threats
Hazardous Waste
Impaired Water Bodies
Solid Waste

×

Population Characteristics

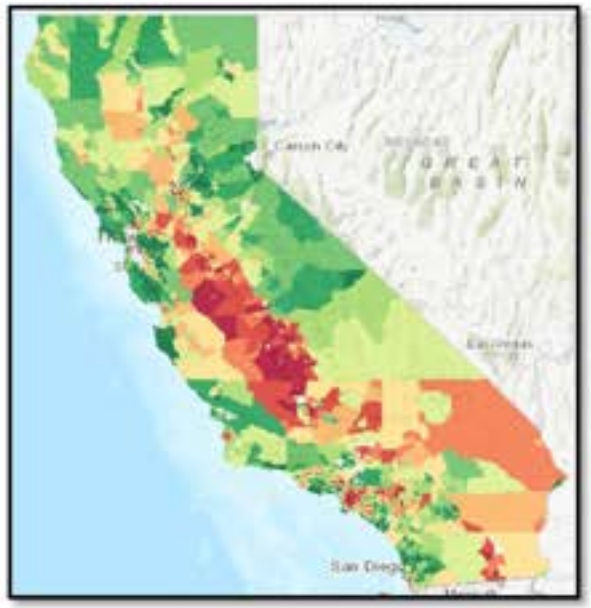
SENSITIVE POPULATIONS

Asthma
Cardiovascular Disease
Low Birth-Weight

SOCIOECONOMIC FACTORS

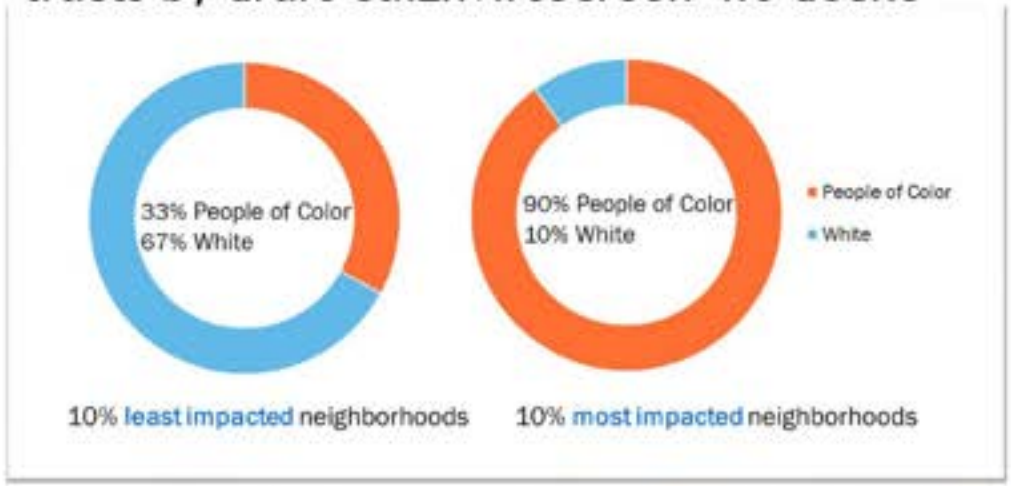
Education
Housing Burden
Linguistic Isolation
Poverty
Unemployment

=



Race/Ethnicity Preliminary Analysis

Race in the least and most impacted census tracts by draft CalEnviroScreen 4.0 decile



Racial makeup of each decile of draft CalEnviroScreen 4.0 scores

Report & Story Map

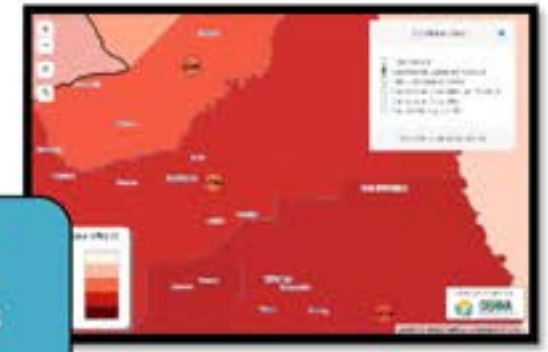
Uses In Government Statutes

Internal Grant & Investment Programs (e.g., CalRecycle)

External Grant & Investment Programs (e.g., CPUC)

SB 1000 (local jurisdictions)

Research Initiatives



SB535/AB1550 (CalEPA/ CARB) Identification of Disadvantaged communities

AB 617 (CARB)

A model for other regions

All GGRF/CCI administering agencies

SB 673 (DTSC)

Prioritizing Hiring

Local Resident – 30% of journey level hours	Tier 1 Local Residents and Tier 2 Local Residents.
New Apprentice – 40% of apprentice hours	A Local Resident who first enrolled in a state-registered apprenticeship program at time of commencement of Project Work, or within 12 months prior to commencement of project work.
Tier 1 Local Resident	A person residing in the City of Fresno and in the top 5% of disadvantaged communities per CalEnviroScreen 2.0 (See attached map.)
Tier 2 Local Resident	A person residing in Fresno County or Madera County and in the top 5% of disadvantaged communities per CalEnviroScreen 2.0. (See attached map.)

Other Uses

Thoughts on Charles Lee's *A Game Changer in the Making? Lessons from States Advancing Environmental Justice through Mapping and Cumulative Impact Strategies*

Environmental Law & Policy Annual Review Conference

Benjamin F. Wilson, Principal, Beveridge & Diamond

April 9, 2021

Beveridge & Diamond

www.bdlaw.com/EJ

Toxic Wastes and Race in the United States (1987)

- Race = single most important factor in determining where commercial hazardous facilities were sited in the U.S.; more significant than socio-economics
- **Three out of five** Black and Hispanic Americans lives in a community housing a toxic waste sites

Beveridge & Diamond

Distilling Key Lessons

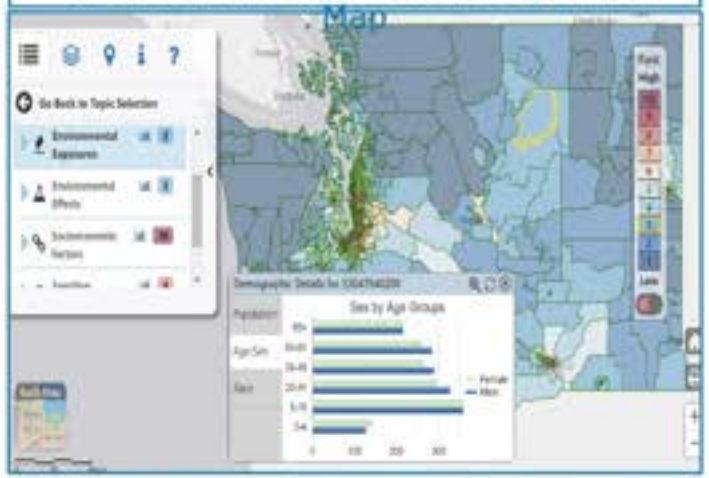
1. Addressing cumulative impacts is a core strategy for advancing EJ; this is embodied in EJ mapping tools
2. Guiding principles for successfully developing an EJ mapping tool can and have been articulated
3. EJ mapping tools can help facilitate resource investment in underserved communities
4. **Existing and emerging EJ mapping tools provide a replicable model for other jurisdictions**
5. Progress in advancing EJ has come from the combined efforts of communities, academia and government

Beveridge & Diamond

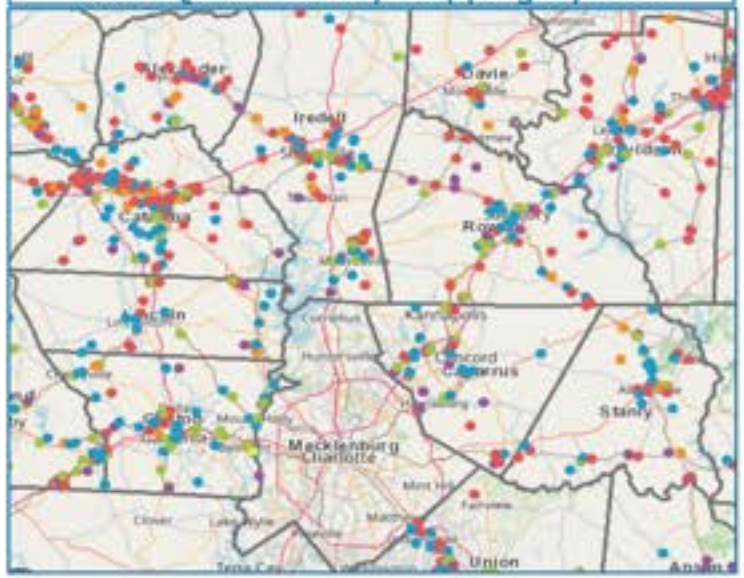
Developments in EJ Mapping

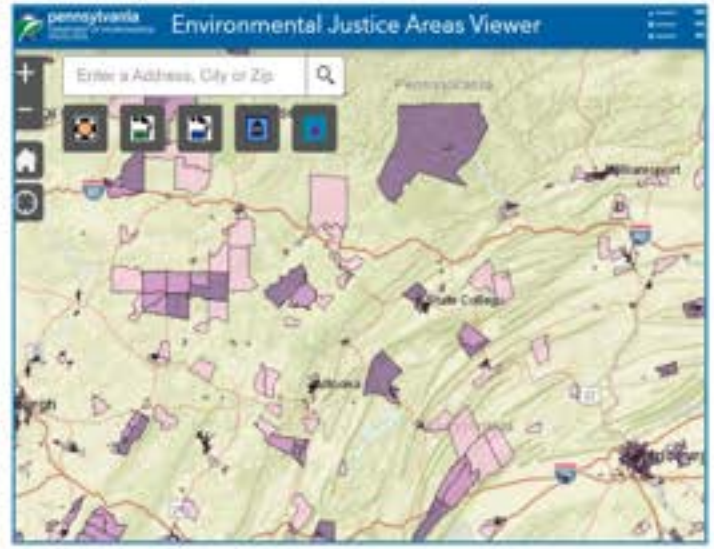
- Increasing numbers of states with EJ maps
- Updates to Cal EnviroScreen, EJ Screen

WA Environmental Health Disparities



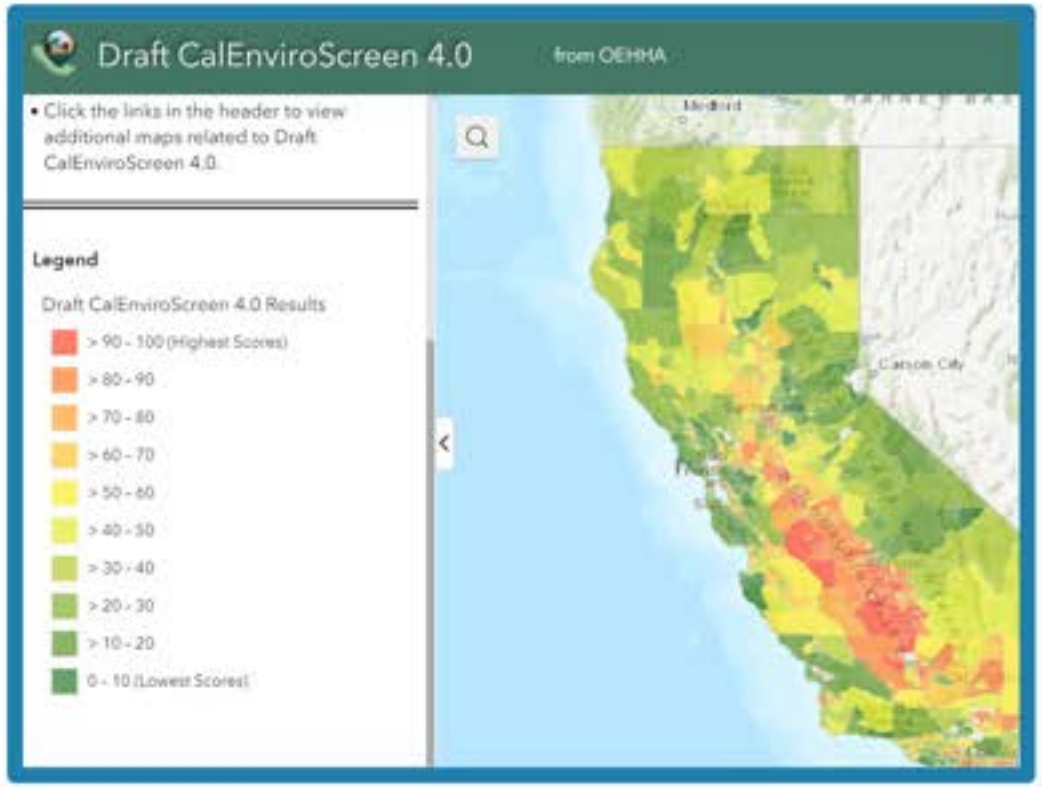
NCDEQ Community Mapping System





Beveridge & Diamond

The Future of EJ Mapping Lies in its Potential Uses



- Procedural strategies
- Distribute benefits to underserved communities
- Use by private sector

Thank you!

Benjamin F. Wilson
Principal
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(202) 789-6023

Beveridge & Diamond

The next panel will start at 2:10 pm EST. Thank you for your patience as we do a technical check with our panelists.

VANDERBILT
LAW SCHOOL

Cosponsored by: DC Bar Environment, Energy, and Natural Resources Committee and the Women's Council on Energy and the Environment

Panel 4: *Zombie Energy Laws*

Vanderbilt Law Articles Editor: Hallie Ruttum
Author: Joshua Macey
Commenters: Jessica Bell & Hampden Macbeth, Margaret Claybour, Miles Farmer

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Zombie Energy Laws

Joshua C. Macey

The University of Chicago
The Law School

Zombie Energy Laws

- Filed Rate Doctrine
  - Limits judicial interference with rates set by public utility commission (PUC)
- Certificate of Public Convenience and Necessity
  - Conditions market entry on an administrative finding of market demand
- Cost Recovery for Vertically Integrated Utilities
  - Revenues determined by PUC

Filed Rate Doctrine

"[I]t is possible that no lower rate . . . could have been legally maintained without reconstituting the whole rate structure for many articles moving in an important section of the country."

–Keogh v. Chi. & Nw. Ry. Co., 260 U.S. 156, 164 (1922)

Filed Rate Doctrine Today

- Rates negotiated at arm's length presumed just and reasonable under Mobile-Sierra doctrine
- Supreme Court affirmed filed rate doctrine on stare decisis grounds
- Energy markets plagued by market power

Certificate Public Convenience and Necessity

- Wasteful Duplication
- Destructive Competition
- Cream Skimming
- Capital Formation
- Regulation of Externalities

THE UNIVERSITY OF CHICAGO
THE LAW SCHOOL

Certificate Public Convenience and Necessity Today

"[The] public utility" is a company that "own[s] or operat[es] in [Arkansas] equipment or facilities for . . . transmitting . . . power to or for the public for compensation." –Ark. Code Ann. § 23-1-101 (2020).

[T]he law governing public utilities was not drafted to comprehend changes in the utility industry such as this one—where a non-utility, private enterprise endeavors to fill a void in the transmission of renewable power that is much needed but for which the Commission is unable to afford any regulatory oversight"—Order, Clean Line Certificate of Public Convenience and Necessity.

Cost Recovery

"[T]he best service at the lowest possible price can only be obtained, certainly in connection with the industry with which we are identified, by exclusive control of a given territory being placed in the hands of one undertaking."

—Samuel Insull, Address to the National Electric Light Association, Chicago Illinois (June 7, 1898).

Cost Recovery Today

- Utilities use ratemaking proceedings to recover losses generators incur in wholesale markets

The State Energy &
Environmental Impact Center
NYU School of Law

Climate Stumbling Blocks: Zombie Energy Laws, States, and the Path to Paris

A Reaction to *Zombie Energy Laws* by Professor Joshua Macey

Jessica R. Bell and Hampden T. Macbeth
State Energy and Environmental Impact Center, NYU School of Law

Environmental Law and Policy Annual Review Conference
Environmental Law Institute & Vanderbilt University Law School
April 9, 2021

Introduction

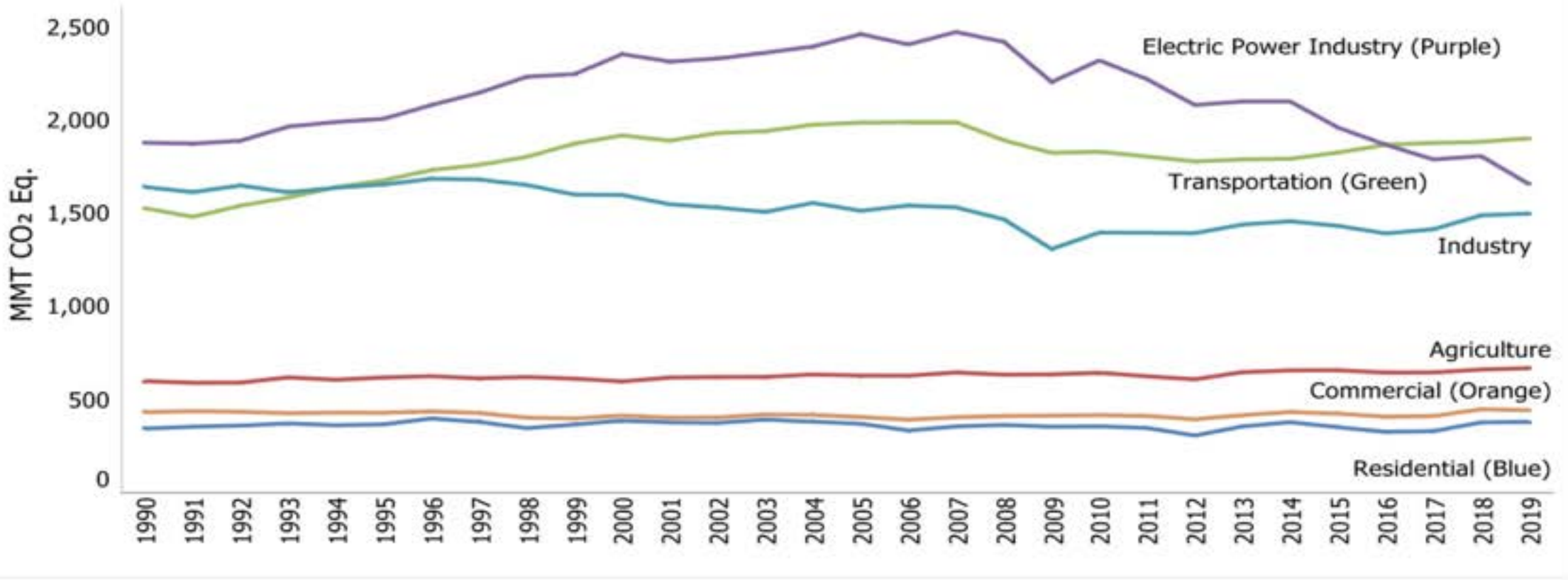
Later this month the U.S. will release its “nationally determined contribution” (NDC) for the Paris Agreement.

A cleaner, more resilient grid and electrification will be critical to achieving the U.S.’s NDC.

States have made progress in reducing GHG emissions from the power sector and have committed to making further reductions.

The Power Sector and States: Progress

Figure ES-14: U.S. Greenhouse Gas Emissions Allocated to Economic Sectors



Note: Emissions and removals from Land Use, Land Use Change, and Forestry are excluded from figure above. Excludes U.S. Territories.

Source: U.S. Envtl. Prot. Agency, Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990-2019.

Undead or Just Sleeping? Rate Regulation

The zombie: **rate regulation** was intended to protect consumers and mitigate potential harms and abuses.

Source: https://www.southernenvironment.org/news-and-press/news-feed/more-pollution-found-at-duke-energy-coal-ash-sites.

Undead or Just Sleeping? Certificates of Public Convenience and Necessity

The zombie: **certificates of public convenience and necessity** for building electricity transmission that end up protecting incumbents and blocking projects.

Source: https://grainbeltexpress.com/learn-more.html.

More Zombie Energy Laws

The zombie: **natural gas infrastructure laws**.

Example: section 30 of the New York Public Service Law conflicts with the GHG target of New York's Climate Leadership and Community Protection Act (CLCPA).

More Zombie Energy Laws

The zombie: **ban on economic activities at highway rest stops**.

Agreements between U.S. DOT and state DOTs to construct highway projects are required to contain a clause that prohibits states from permitting "automotive service stations or other commercial establishments for serving motor vehicle users to be constructed or located on the rights-of-way of the interstate system." 23 U.S.C. § 111(a).

Complicates the build-out of an electric vehicle charging network because it encompasses commercially available charging stations for electric vehicles.

The State Energy & Environmental Impact Center
NYU School of Law

Thank You

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Please check our website for the recording and slides from today's conference. Articles and comments will be published and available on the website in August.

https://www.eli.org/environmental-law-and-policy-annual-review

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