



# **REFINING CEJST BY INCLUDING COMPLIANCE AND INSPECTION DATA AND ANALYSIS BY INDUSTRIAL SECTOR**

**Environmental Data & Governance Initiative (EDGI)'s Comment on the Council on Environmental Quality's Request for Information on the Climate and Economic Justice Screening Tool Beta Version (Docket No. CEQ-2022-0002)**

Comment submitted on behalf of the Environmental Data & Governance Initiative by Eric Nost, Leah Horgan, and Sara Wylie

The [Environmental Data & Governance Initiative](#) (EDGI) is a network of academics, developers, and non-profit professionals that promotes evidence-based policy-making and public interest science. We document, contextualize, and analyze current changes to environmental data and governance practices through multidisciplinary and cross-professional collaborative work. We foster the stewardship and expansion of public knowledge through building participatory civic technologies and infrastructures to make data and decision-making more accessible. EDGI creates new communities of practice to enable government and industry accountability. In particular, we promote models and tools that emphasize community participation at all scales, both within EDGI and in our public-facing tools.

## Introduction

*Background:* The Biden-Harris administration has championed a "Justice40" approach to allocating climate-related spending. In early 2021, Biden signed Executive Order 14008, which directed government agencies to prioritize their investments in disadvantaged communities. To aid in this effort, the White House Environmental Justice Advisory Council (WHEJAC) met to make [recommendations](#) for determining what counts as a disadvantaged community. In February 2022, the Council on Environmental Quality (CEQ) released its draft of such a tool, drawing on similar approaches taken by the US Environmental Protection Agency (EPA) in its EJScreen platform and the State of California's CalEnviroScreen.

*EDGI:* The Environmental Data and Governance Initiative (EDGI) was founded in late 2016 to counter then-President-elect Trump's threats to "dismantle the EPA." Since then we have conducted highly visible cross-sector, cross-professional research and advocacy in the public interest at the intersections of environmental justice, governance, and data. We are academics, technologists, and non-profit professionals with decades of experience researching environmental science and policy. In particular, our Environmental Enforcement Watch (EEW), started in 2020 as the COVID-19 pandemic emerged, has grown into a robust effort to publicize EPA data on industry compliance with, and state and federal agency enforcement of, laws like the Clean Air Act. Likewise, EDGI's A People's EPA (APE) is a public history project documenting the agency's history through interviews with current and former staff, and contextualizing EPA's current actions within that 50-year history. In short, EDGI is uniquely positioned to provide meaningful comments on the beta version of the Climate and Economic Justice Screening Tool (CEJST).

In a [webinar](#) APE hosted in the spring of 2021, Peggy Shepard, Co-founder and Executive Director of [WEACT](#) for Environmental Justice and member of WHEJAC, responded poignantly to a question about the challenges of singling out frontline communities rather than focusing on those responsible for perpetuating toxic pollution. She noted that while communities need resources and want the environmental harm to be remitted, they are tired of being marked as damaged and being harmed over and over again. This sentiment informs our public comment on CEJST.

## Recommendations

We generally support the CEJST methodology, and believe it can deliver tangible benefits to communities. With that goal in mind, we believe CEQ should consider:

1. **Expanding the list of communities (Census tracts) based on the inclusion of additional criteria**, namely, indicators related to the enforcement of and compliance with environmental protection laws. We find that an additional 107 tracts could be added by including these indicators.
2. **Evaluating what, in terms of economic forces, the tracts CEJST already identifies as disadvantaged have in common**. We find that a plurality of them are home to fossil-fuel electricity generating facilities, such as coal-fired power plants. Many are also home to natural gas pipeline facilities - the third most common facility type. CEJST should make it easy for the public to see these kinds of patterns and structures that operate *across* tracts, because they reveal drivers of “disadvantageness” rather than just outcomes. Doing so would also enable the public to see potential solutions - i.e. Justice40 should prioritize investing in community-level, community-led energy transitions, phasing out the fossil fuel infrastructures that have clearly burdened mostly low-income and racialized neighborhoods.
3. **Prioritizing the list based on additional enforcement and compliance indicators**. We find that 1,025 out of the 23,470 tracts already identified (4%) could be considered priorities based on limited enforcement of environmental protection laws and/or limited industry compliance with them.

## Response in detail

We respond to the following prompts CEQ [published](#) in the Federal Register:

*Given the function and role of the Climate and Economic Justice Screening Tool in identifying disadvantaged communities to support the Justice40 Initiative, please provide comments and recommendations for improving the methodology used to identify disadvantaged communities.*

In short, we suggest the inclusion of additional datasets, namely EPA’s Enforcement and Compliance History Online (ECHO), as well as additional analyses to expand the list of disadvantaged communities, evaluate common structural causes of marginalization, and to prioritize the list.

*Recognizing the role of the tool in identifying disadvantaged communities for Justice40 investment benefits across agencies and programs, how can the tool’s methodology*

*incorporate a cumulative impacts approach that quantitatively measures the combined adverse factors that contribute to the conditions that Justice40 is intending to address?*

While we cannot provide a full answer to this, we believe that by including enforcement and compliance information, we can begin to evaluate cumulative impacts. Most if not all of the indicators that are utilized in the beta methodology represent *outcomes* such as shortened lifespans. The beta methodology measures air quality, expected agricultural losses from climate change, wastewater discharges, and so on, but does not characterize what factors produce these in the first place. We offer four suggestions here:

1. **Include data on enforcement and compliance.** A neighborhood may bear higher particulate matter emissions, for instance, because state and/or federal agencies fail to adequately enforce Clean Air Act regulations against non-compliant industries. This is more likely to be the case in racialized and low-income communities (see Konisky 2009; Konisky et al. 2021).
2. **Map common factors** across prioritized census tracts to answer the question: Do they tend to be home to specific kinds of industries, such as petrochemical facilities? This analysis could be extended to illustrate the parent companies that own these facilities. In order to address structural causes of injustice it is vital to hold parent companies accountable for their actions across different communities.
3. **Include historical analysis.** By including enforcement and compliance data in the methodology, we are able to offer a historical perspective, and thus attend to cumulative impacts in a much better way than the current snapshot approach CEJST has taken (e.g. examining wastewater discharges in 2020). We are able to summarize, at the Census tract level, enforcement and compliance trends back to 2001 across four major axes of environmental health protection (clean water, safe drinking water, clean air, and hazardous waste).
4. **Prioritize tracts that score highly in multiple criteria.** This analysis has been [tested](#) by the World Resources Institute.

We elaborate on each of these suggestions below in the “Intervention” section.

*What recommendations for additional datasets would enhance and improve upon the set of indicators currently used in the Climate and Economic Justice Screening Tool? In your comments, please include why and how the data recommendations would improve upon the current set of data and/or indicators used in the tool.*

We recommend use of US EPA's ECHO dataset to create indicators at the Census tract level on state and federal enforcement of major environmental health protection laws like the Clean Air Act, and industry compliance with them. Specifically, we recommend the creation of a new criteria group with two measures: violations per major facility since 2001 (percentage rank) and inspections per major facility since 2001 (percentage rank). We take either more violations per facility (in percentage rank terms) or fewer inspections per facility (in percentage rank terms) to indicate disadvantage-ness.

*Full information regarding data sources (including url, government agency, and/or organization)*

ECHO tables can be downloaded directly [here](#). Specifically, we draw on the following files:

- ECHO\_EXPORTER - summary information on each facility EPA regulates, including which programs it is regulated under, whether it has a "major" level permit, and official ID ("registry ID")
- NPDES\_INSPECTIONS - state and federal inspections of NPDES-regulated facilities
- NPDES\_QNCR\_HISTORY - breaks down violations of NPDES permits by violation type (effluent discharge violation, permit schedule violation, single event violation, etc. Note that for our analysis we only count effluent discharge violations, where facilities have reported higher amounts of a pollutant than allowed by its permit. We do not include so-called "paperwork" violations.
- ICIS-AIR\_FCES\_PCES - inspections of facilities regulated under CAA.
- ICIS-AIR\_VIOLATION\_HISTORY - high priority and federally-reportable violations of CAA.
- RCRA\_EVALUATIONS - inspections of facilities regulated under RCRA.
- RCRA\_VIOLATIONS - violations of RCRA.
- SDWA\_SITE\_VISITS - inspections of SDWA-regulated drinking water systems.
- SDWA\_SERIOUS\_VIOLATORS - drinking water systems labeled as "serious violators" of SDWA for each fiscal year since FY2001.

Metadata for each table are available through the ECHO Data Downloads page [here](#). We have documented many discrepancies between how EPA describes its database schema and what is actually available for download. There are numerous incorrect field types and field lengths, as well as column names that no longer exist. These must be addressed manually.

Please note that additional US EPA-led inspections may be documented separately from the program-specific tables in ICIS\_FEC\_EPA\_INSPECTIONS. For the purposes of our analysis, we were unable to count inspections logged in this table; thus our estimates of inspections for each Census tract may be low.

*Intended measure—what does the dataset and/or indicator measure (for example, pollution exposure or emissions, health conditions, energy accessibility, transportation access, etc.)?*

For each major facility, we calculate the following:

- State and federal inspections logged under the CWA (NPDES), CAA, RCRA, and SDWA since 2001.
- Violations of these environmental protection programs since 2001.

For each Census tract, we then calculate:

- The number of facilities.
- The number of **inspections per facility since 2001**. To be clear, this is simply the sum of all facility-level inspections in the tract divided by the number of facilities.
- The number of **violations per facility since 2001**. To be clear, this is simply the sum of all facility-level violations in the tract divided by the number of facilities.

These two measures—inspections per facility and violations per facility—give us an indication of enforcement (are state and federal agencies allocating resources to check in on regulated facilities?) and compliance (are facilities non-compliant with or in violation of one or more of their permits?).

We chose not to create program-specific measures (e.g. CAA inspections, RCRA violations) in order to avoid inflating the number of qualifying tracts. We also chose not to include information directly pertaining to enforcement, such as the amount of penalties or informal letters per facility in each tract. This is because it is difficult to parse out the meaning of such measures: are high penalties an indication of high non-compliance - in which case, the community deserves more attention - or are they an indication of strong enforcement? We believe that "inspections per facility" provides an adequate estimate of government oversight and that "violations per facility" provides an adequate sense of industries' disregard for their neighbors.

However, even "violations per facility" is confounded by inspection rates, as facilities with more inspections are, all else equal, more likely to be found to be in violation. There may

be other measures in ECHO's component databases (ICIS-AIR, ICIS-NPDES, SDWIS, etc.) that the CEJST team could utilize to address these dynamics. Our data science tool, introduced below, allows relatively rapid testing of different measures of enforcement and compliance from EPA.

*Scope—does the recommended data and/or indicator include data from all 50 states and territories? If not, please provide comments as to how to address the issue;*

Theoretically, EPA's enforcement and compliance data covers all states and territories. However, there are known data issues, including gaps for specific states and territories. They are summarized by the agency [here](#).

*A summary of the quality ( i.e., completeness, accuracy, consistency, and reliability) of the data for use in the tool.*

As previously mentioned, EPA recognizes important limitations to its dataset.

- **Completeness:** ECHO's component databases, including ICIS-Air and ICIS-NPDES, are known to be missing records of inspections and violations. We believe our estimates of violations are vast undercounts based on [research](#) by the former head of the EPA Office of Enforcement and Compliance Assurance, Cynthia Giles.
- **Accuracy:** As EPA notes, in some cases, or for some states, some violations may be incorrectly attributed to facilities.
- **Consistency:** Because most major environmental protection programs are mostly run by state-level agencies, US EPA's data is somewhat inconsistent, due to differences in how reliably different states report information to the federal government. We have analyzed some of the knowable data gaps, state by state, [here](#).
- **Reliability:** ECHO is routinely updated and represents the best source of information we have for enforcement and compliance across the entire US.
- **Despite some inconsistencies and gaps, we believe that ECHO paints a conservative but necessary picture of enforcement and compliance. Thus, we recommend its inclusion in CEJST analyses.**

*Geographic resolution of the data ( i.e., census block, census tract, zip code, county, etc.).*

EPA ECHO tracks information at the individual facility level. Other fields in ECHO\_EXPORTER include the facility address and the 2010 Census block that the facility is estimated to fall within. Thus, data on facilities can be aggregated to Census tract levels.

# Intervention

We show how CEJST could be adjusted to:

1. Incorporate indicators of industry compliance and EPA enforcement to **expand** the list of disadvantaged communities deserving targeted investment
2. **Highlight** systemic factors causing environmental inequalities, instead of only redressing harms
3. Further **prioritize** the list of tracts to ensure the most marginalized communities - in terms of toxics exposures, climate risks, and socio-economics, as well as government incapacity - are front and center.

We developed a data science analysis of CEJST to demonstrate how it could be reworked and expanded. Below, we describe our analysis and what we found. The full version of our Jupyter Notebook data science analysis can be found [here](#) - it is fully replicable. The required data processing for the analysis can be found [here](#). Each is fully documented.

There are currently well over 2 million facilities that EPA tracks in its regulatory capacity. There are only about 25,000 “major” facilities. Some of these 25,000 facilities may not be “active” but we do not filter our analysis by EPA’s flag indicating active facilities because our analysis is not at the facility level - it is at the Census tract level and we want to summarize patterns, tract by tract, historically, since 2001. Thus, we capture information on violations and inspections for facilities that may no longer be active, but were in any year since 2001.

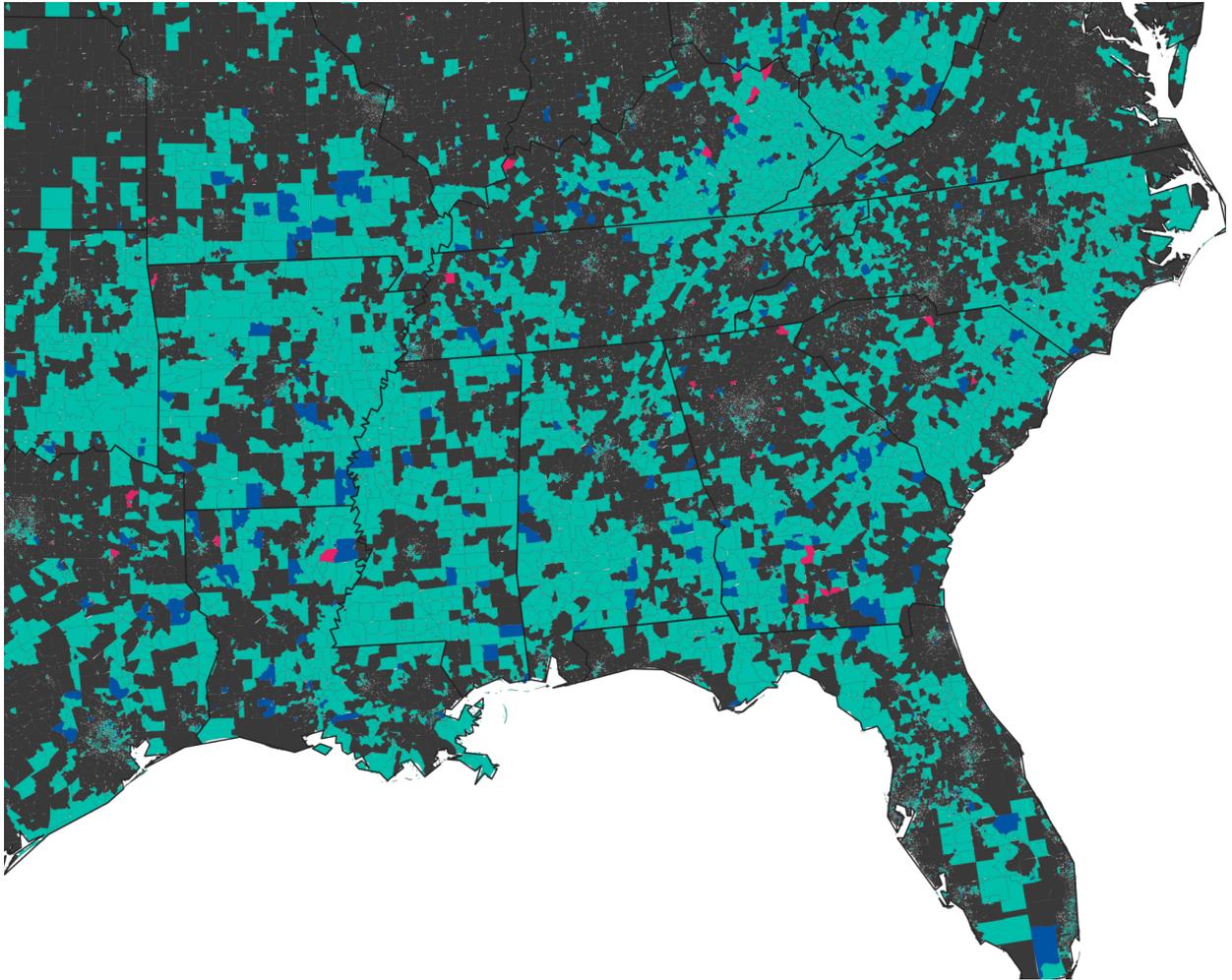
These 25,000 or so majors span 14,161 census tracts, or about 20% of all US census tracts. A major facility is something like an incinerator, as opposed to a Rite-Aid. Both might be regulated under RCRA because they deal in hazardous wastes, but the incinerator's impacts are more substantial. One reason for filtering the data to major facilities is because of data quality - EPA has **much** better data completeness for these than for all facilities in general, as we have shown [here](#).

Below, we discuss our findings.

## Expand the list

According to the 2010 Census, there were 537,584 people living in the 107 tracts we identified where: CWA, CAA, SDWA, and RCRA violations per facility since 2001 were at the 90th percentile above or inspections per facility were at the 10th percentile or below, *and*

socio-economic criteria were also met. The largest number of these tracts are in Georgia (15, or 14%) (see map 1).



Map 1. A close up of our analysis, focused on the southeast. Pink areas are potentially disadvantaged areas that we propose adding to CEJST's list. Blue areas are those CEJST already labels as disadvantaged but that we consider priorities (see below). Green areas are those identified by CEJST as disadvantaged. Dark gray areas are those not identified by CEJST or by us as (potentially) disadvantaged.

Compared to the areas CEJST already identified as disadvantaged, the tracts we suggest for inclusion based on enforcement and compliance measures have higher median climate risk scores, while also having higher median incomes (see figure A and B).

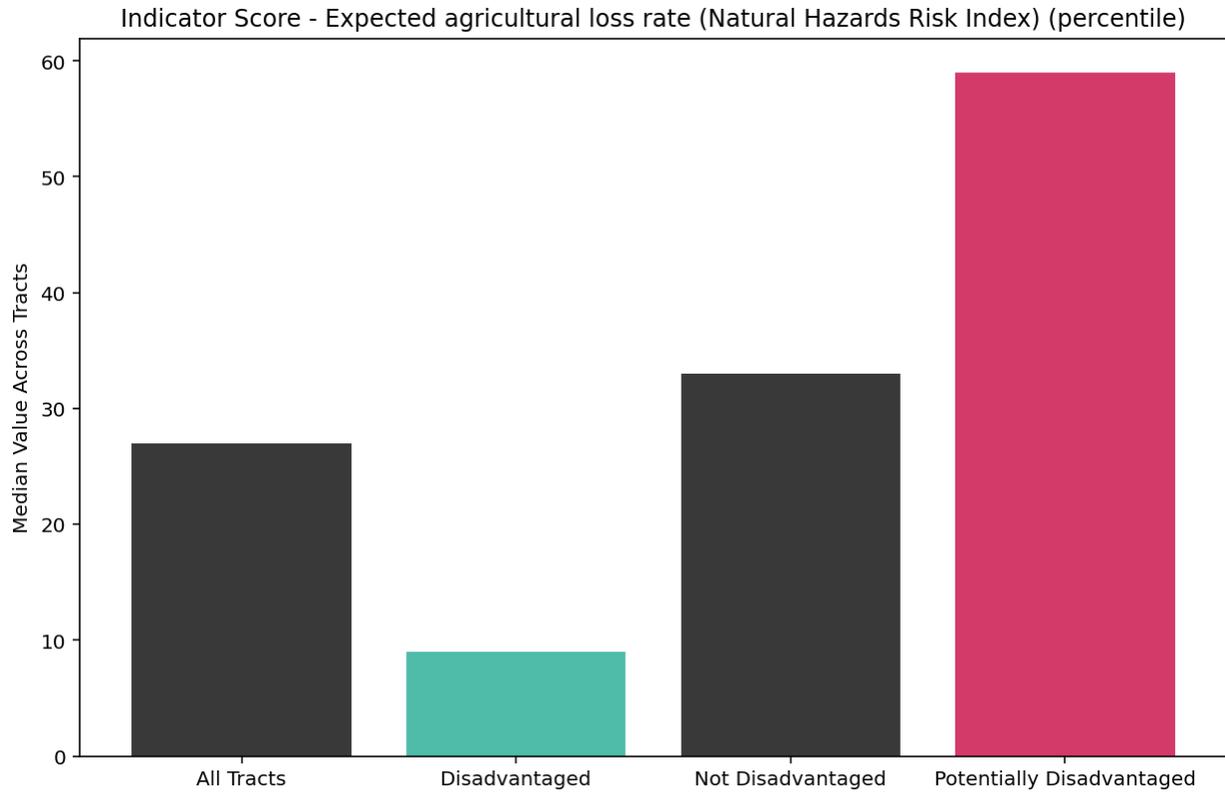


Figure A. An example of how the “potentially disadvantaged” tracts we identified rank higher on the natural hazards risk indices - in this case, expected agricultural loss rate - than all other tract types.

indicator	All Tracts	Disadvantaged	Not Disadvantaged	Potentially Disadvantaged
Total population	118.58	130.58	113.76	100.0
Expected agricultural loss rate (Natural Hazards Risk Index) (percentile)	218.52	655.56	178.79	100.0
Expected agricultural loss rate (Natural Hazards Risk Index)	2000.00	inf	666.67	100.0
Expected building loss rate (Natural Hazards Risk Index) (percentile)	126.00	128.57	126.00	100.0
Expected building loss rate (Natural Hazards Risk Index)	200.00	200.00	200.00	100.0
Expected population loss rate (Natural Hazards Risk Index) (percentile)	128.00	128.00	130.61	100.0
Median value (\$) of owner-occupied housing units (percentile)	52.00	118.18	44.07	100.0
Median value (\$) of owner-occupied housing units	64.89	109.11	53.38	100.0
Life expectancy (years)	97.07	100.93	95.74	100.0
Median household income as a percent of area median income	84.95	121.54	73.15	100.0
Percent of residents who are not currently enrolled in higher ed	102.15	102.15	102.15	100.0
CWA Violations	inf	inf	8800.00	100.0
CWA Inspections	300.00	400.00	240.00	100.0
Total Violations Since 2001	900.00	900.00	900.00	100.0
Violations Per Facility Since 2001	1242.86	1242.86	1242.86	100.0
PCT_WHITE	105.32	225.83	94.54	100.0
Violations_PR	182.00	182.00	182.00	100.0

Figure B. Indicators where potentially disadvantaged areas have a higher median than areas already identified as disadvantaged by CEJST. Values greater than 100 are where the potentially disadvantaged areas have a higher median than the corresponding tract type. Values less than 100 are where they have a lower median. For instance, the median population in potentially disadvantaged areas is 130% of the median population in tracts already identified as disadvantaged. Likewise, the median household income in potentially disadvantaged areas is 85% the median across all US Census tracts.

The tracts we propose adding to the CEJST list also have more violations per regulated facility since 2001 than those already listed (figure C). The median number of violations per facility in potentially disadvantaged areas (87) is 1242% the median number of violations per facility in other kinds of areas (7) (figure C, left). The median CWA violation count in already ID'd areas is 0, and 88 in the tracts we propose identifying as disadvantaged (figure C, right).

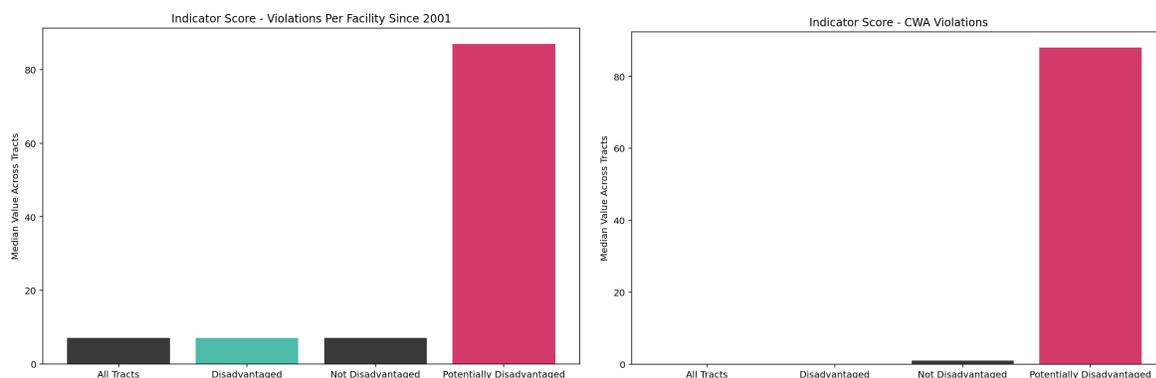
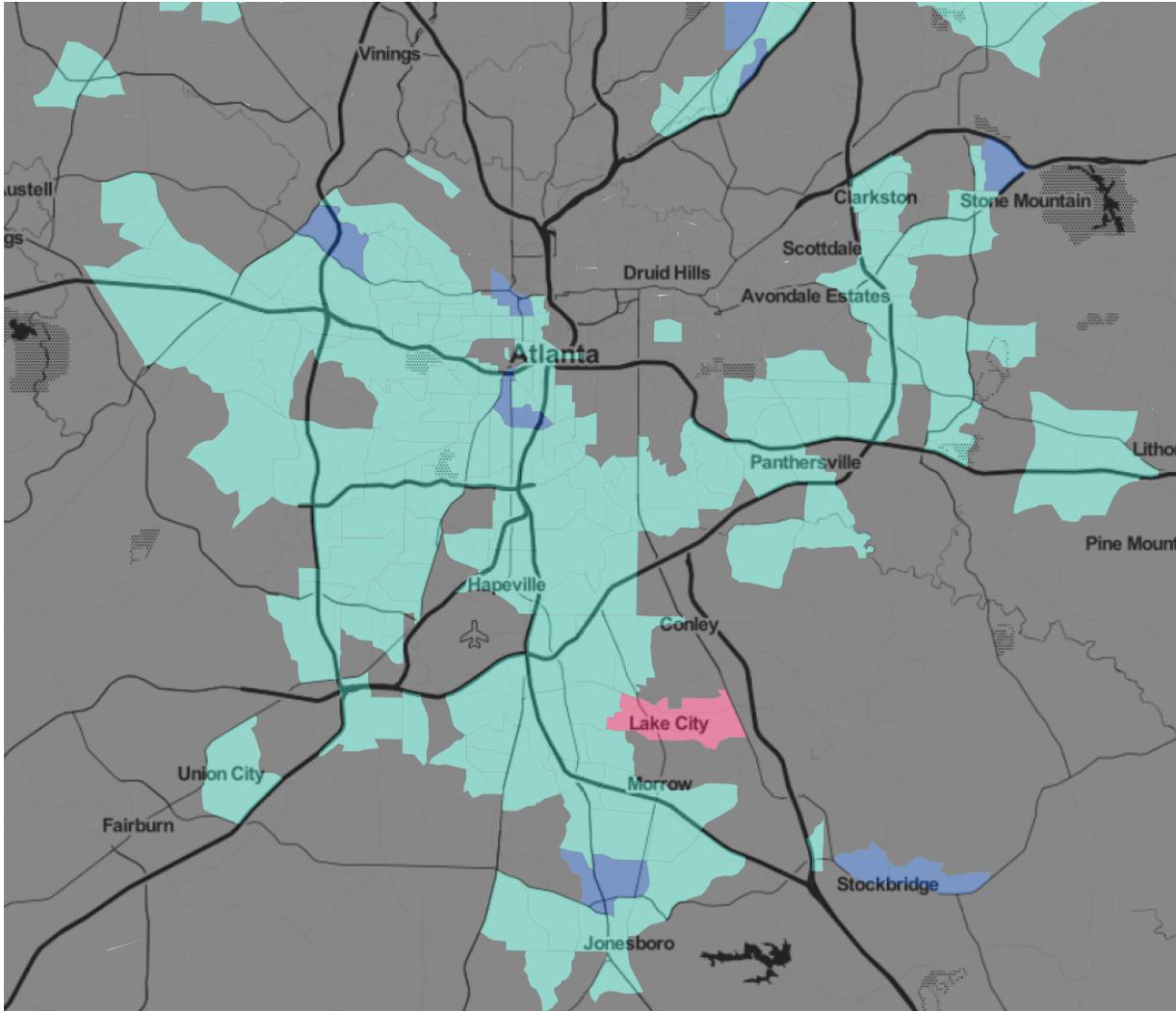


Figure C. Violations per facility are, as expected, much higher in the areas we identify as “potentially disadvantaged” than all other tract types.

Our analysis may help to rectify scenarios like those [documented](#) by Grist, in which some Census tracts are not flagged as disadvantaged because they just miss some of the thresholds. A cumulative impacts analysis would not treat tract boundaries so hard and fast (see map 2). Although Grist explored scenarios in which tracts may not make the socio-economic cutoffs while meeting one or more of the climate/environmental thresholds, our analysis might account for when a tract meets the socio-economic criteria but only just misses one or more of the climate/environment thresholds, because we include enforcement and compliance criteria that it can and does meet.



Map 2. We identify Lake City south of Atlanta, GA as potentially disadvantaged when enforcement and compliance criteria are added to the CEJST methodology, even though it was not originally selected. Pink areas are potentially disadvantaged areas that we propose adding to CEJST’s list. Blue areas are those CEJST already labels as disadvantaged but that we consider priorities (see below). Green areas are those identified by CEJST as disadvantaged. Dark gray areas are those not identified by CEJST or by us as (potentially) disadvantaged.

We found that potentially disadvantaged areas score significantly lower than all other tract types on CEJST’s hazards proximity measures (figure D; the same is also true for the areas we identify as “priorities” below). Alongside the finding that these areas are expected to see more substantial agricultural losses due to climate change, as well as through mapping, we consider our potentially disadvantaged areas to be disproportionately rural. We wonder if this is driven in part by how CEJST calculates hazards proximity. There are certainly hazardous waste sites in many if not all of the areas we identified as potentially

disadvantaged. But because they are rural and perhaps relatively larger tracts, their proximity scores - which are basically average distances from the center of the tract to Superfund, National Priorities List, and RCRA-regulated facilities within 5km - may be diluted. Using centroid-based calculations for vast rural tracts where populations are not evenly distributed may be inappropriate.

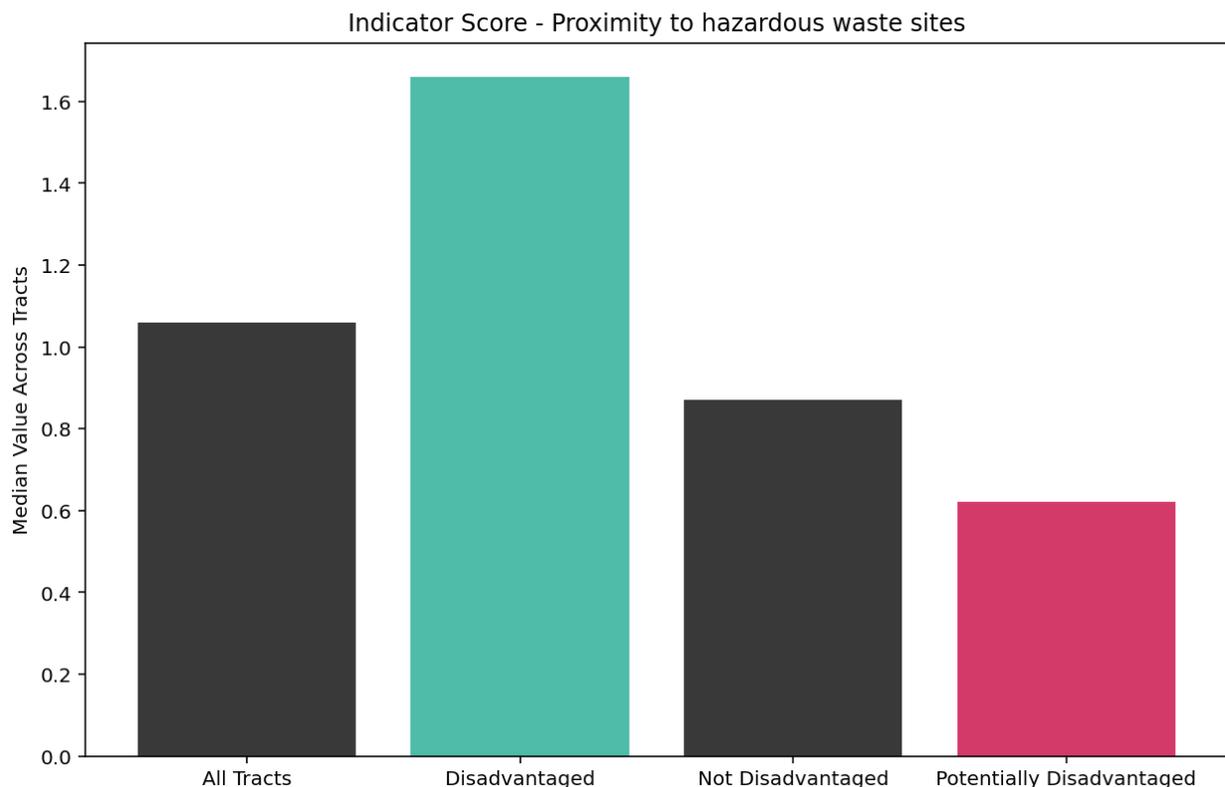


Figure D. Potentially disadvantaged areas score significantly lower than all other tract types on CEJST’s existing proximity measures.

While the areas we have identified as potentially disadvantaged mostly score lower on other CEJST indicators—they tend to have lower unemployment than the areas already identified, lower linguistic isolation, lower pollution exposures, and so on—we believe that these areas should be targets because they may be rural sources of hazards that travel downwind or downstream to communities that score high on health and exposure indicators in CEJST. By definition, then, these potentially disadvantaged areas are essentially permitted to pollute (via high violations or low inspection rates), and are possibly *causing* the higher exposures seen in already identified areas.

## Identify structural forces

We used ECHO data, which includes NAICS industrial classification codes for each facility, to analyze whether there may be common economic patterns amongst the tracts CEJST has identified as disadvantaged. For example, if all the facilities in all of the disadvantaged communities were landfills, the Justice40 initiative could then focus its investments on landfill closures, remediation, etc. It is, of course, unlikely that any single type of economic activity dominates in disadvantaged areas, but we can still identify trends.

We found that facilities in the areas CEJST labels as disadvantaged are, more than anything else, fossil fuel electric power generators (figure E). Over 2,000 of the 8,350 facilities in disadvantaged areas - nearly a quarter - are power plants. While only 4,813 of the roughly 23,000 tracts CEJST labels disadvantaged are home to EPA-regulated facilities with major permits, 1,766 of these (36%) include fossil fuel power plants. We also identified natural gas pipelines and natural gas extraction as having a substantial footprint in these tracts.

2017 NAICS Code	2017 NAICS Title	# of Facilities	# of Tracts
221112	Fossil Fuel Electric Power Generation	2049	1766
221320	Sewage Treatment Facilities	1509	1462
486210	Pipeline Transportation of Natural Gas	1312	993
562212	Solid Waste Landfill	1009	964
326199	All Other Plastics Product Manufacturing	633	569
325199	All Other Basic Organic Chemical Manufacturing	530	360
211130	Natural Gas Extraction	470	295
424710	Petroleum Bulk Stations and Terminals	438	327
562211	Hazardous Waste Treatment and Disposal	436	404
325211	Plastics Material and Resin Manufacturing	426	314
221122	Electric Power Distribution	416	392
325998	All Other Miscellaneous Chemical Product and P...	345	298
924110	Administration of Air and Water Resource and S...	332	310
321113	Sawmills	313	285
325110	Petrochemical Manufacturing	301	198
322121	Paper (except Newsprint) Mills	272	252
325180	Other Basic Inorganic Chemical Manufacturing	249	191
324110	Petroleum Refineries	248	186

Figure E. Count of different facility types in tracts identified by CEJST as “disadvantaged” (# of Facilities), as well as the number of such tracts each facility type is present in (# of Tracts).

Beyond simply identifying which communities are disadvantaged by industrial pollution, CEJST could help decision-makers and the public take meaningful steps toward addressing the *causes* of disadvantage by highlighting the systemic forces at work - namely, fossil fuel industries.

Fossil fuel-related industries (specifically, what NAICS refers to as petroleum refineries, petrochemical manufacturing, petroleum bulk stations and terminals, natural gas extraction, plastics products manufacturing, natural gas pipelines, and fossil fuel power generation) are present in 3,799 of the tracts with EPA-regulated facilities CEJST identifies as disadvantaged. That’s nearly 4 out of every 5 (78.9%). This predominance suggests that Justice40 could take an industry sector approach to distributing investments, requiring fossil fuels as a sector to account for their role in producing environmental injustice. Fossil fuels are creating a pipeline of interconnected environmental justice issues, from extraction to refining, transport, energy production and bulk storage, petrochemical and plastics production, to say nothing of hazardous waste production. Rather than treating each of the communities home to these industries as experiencing separate issues, CEJST should make it possible to recognize that they suffer from shared symptoms of fossil fuel infrastructure. As we have done [aggregating greenhouse gas emissions by company](#), it is possible to connect major industrial actors with the environmental injustice they contribute to. All this could be made easier to visualize, particularly across Census tracts, in CEJST’s tool, by allowing users to select an industry to see which (disadvantaged) tracts it operates in.

## **Prioritize the list**

Of the 23,000 tracts CEJST has already identified as disadvantaged, 1,025 of them also meet the enforcement/compliance criteria we developed ( $\geq 90\%$ -ile for violations per facility since 2001 or  $\leq 10\%$ -ile for inspections per facility since 2001). We believe that enforcement and compliance measures could provide one way to rank and sort the existing list, and that these areas could be prioritized for investments. Compared to the rest of the list, these 1,025 tracts have a higher energy burden, face greater climate risks, and are more proximate to hazardous waste sites (figure F). They have far fewer inspections per facility than any other type of tract, and far more violations per facility (figure G).

	All Tracts	Disadvantaged but Not Priorities	Not Disadvantaged	Priorities
indicator				
Total population	92.49	101.92	88.73	100.0
Expected agricultural loss rate (Natural Hazards Risk Index) (percentile)	162.96	628.57	133.33	100.0
Expected agricultural loss rate (Natural Hazards Risk Index)	700.00	inf	233.33	100.0
Expected building loss rate (Natural Hazards Risk Index) (percentile)	134.00	136.73	134.00	100.0
Expected building loss rate (Natural Hazards Risk Index)	300.00	300.00	300.00	100.0
Expected population loss rate (Natural Hazards Risk Index) (percentile)	130.00	132.65	132.65	100.0
Energy burden (percentile)	163.27	106.67	210.53	100.0
Proximity to Risk Management Plan (RMP) facilities (percentile)	132.00	103.12	150.00	100.0
Proximity to Risk Management Plan (RMP) facilities	200.00	106.06	259.26	100.0
Wastewater discharge (percentile)	122.00	112.96	129.79	100.0
Diagnosed diabetes among adults aged greater than or equal to 18 years (percentile)	166.00	102.47	237.14	100.0
Diagnosed diabetes among adults aged greater than or equal to 18 years	136.54	102.90	152.69	100.0
Coronary heart disease among adults aged greater than or equal to 18 years (percentile)	165.31	112.50	197.56	100.0
Coronary heart disease among adults aged greater than or equal to 18 years	133.90	109.72	143.64	100.0
Low life expectancy (percentile)	166.33	105.84	214.47	100.0
Median household income as a percent of area median income	72.04	103.08	62.04	100.0
Percent of individuals below 200% Federal Poverty Line (percentile)	166.00	101.22	244.12	100.0
Percent of individuals < 100% Federal Poverty Line (percentile)	164.00	101.23	241.18	100.0

Figure F. Indicators where priority areas have a higher median than areas already identified as disadvantaged by CEJST. Values greater than 100 are where the priority areas have a higher median than other tract types. Values less than 100 are where the priority areas have a lower median. For instance, priority tracts have 113% the median wastewater discharge percentile of all other disadvantaged tracts. Priority tracts have 62% the median income of not disadvantaged areas.

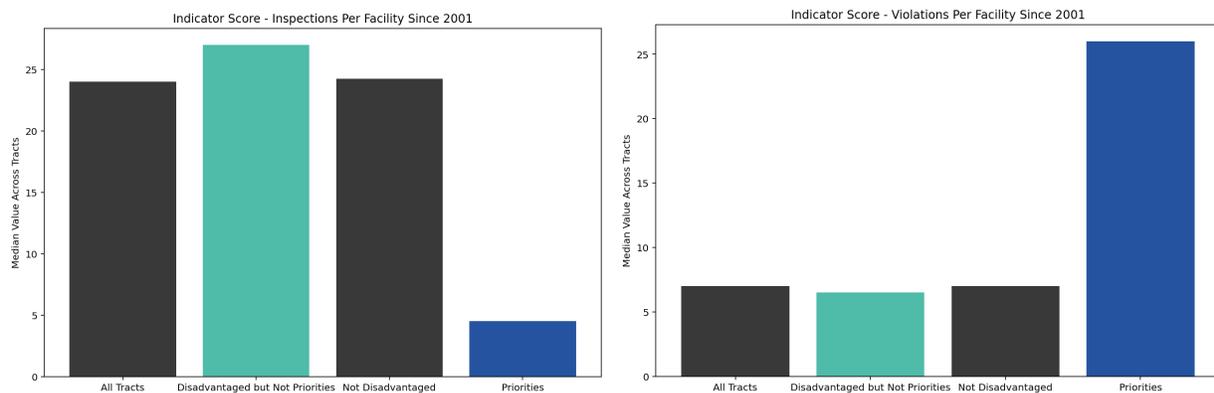


Figure G. Areas we have identified as priorities have seen significantly fewer facility inspections since 2001 (left) and significantly more violations of environmental protection laws (right) than other kinds of tracts.

## Procedural Deficiencies

Finally, we draw attention to procedural deficiencies in this public comment period. EDGI was formed in the wake of the Trump administration’s abuse of public records, including

the removal of content and access to wide swaths of the federal government web domain (e.g. EPA's climate change websites; see our report [Changing the Digital Climate](#)). We have noticed that federal agencies often remove public information in the middle of rule-making and we have advocated for consistency and transparency in digital records (see our report [Access Denied](#)).

We were therefore disappointed that, after the announcement of the public comment period, the CEJST team updated the publicly available dataset. Specifically, the CEJST team updated the data available [here](#), changing the names of at least two columns and possibly removing at least one. While we do not believe the data, or numbers, themselves were changed, the action: 1) sheds doubt on the reliability of the data; 2) hinders public research. We had already developed a public analysis of the methodology, which relied on this canonical source of CEJST data. Our analysis was broken with these updates.

The CEJST team made these updates without any notice. Our records show we downloaded and worked with the data on February 27th, after the comment period had begun. At that time, one of the columns was "Identified as disadvantaged (v0.1)" In late March, we re-downloaded the data to work with it again. There was no longer a field called "Identified as disadvantaged (v0.1)" - it had been renamed to "Identified as disadvantaged." At the time, in late March, the website (wrongly) indicated that the data was last updated on February 18th. It has since been changed to say "Last updated: 04/06/22."

While we applaud the CEJST team for their transparency - i.e. their Google Group, Github repository, and so on - it is inappropriate to: 1) edit public information in the middle of a rule-making process; 2) to do so without notice or explanation. Such flaws may be indicative of a broader failing on the part of CEQ to fully engage grassroots experts, as reported by Grist [here](#).

## Collaboration

We repeat our recommendations:

1. Currently, CEJST does not include any indicators of industry compliance with environmental protection laws like the Clean Air Act, nor any measures of state and federal enforcement of these laws. These are fundamental aspects of environmental racism, and must be addressed for environmental justice. It is well known that industries are allowed to act with greater impunity in "disadvantaged" communities that lack clout, with government agencies directing inspections and enforcement

actions such as penalties and written notices towards facilities in wealthier (Konisky et al. 2009) and whiter (Konisky et al. 2021) neighborhoods. If we are serious about addressing what causes higher rates of toxic exposures and climate risks, then we must highlight some of their proximate causes in limited enforcement and compliance. A community that has particularly high exposures or risks while also not being served by government agencies is a priority for investment and action.

1. CEJST's focus is on communities (or, really, Census tracts). It is important to direct federal spending to communities in just ways. But beyond redressing harm, we must highlight the structural causes driving this harm, including the economic geographies that locate toxic facilities in some neighborhoods and not others.
2. We are skeptical of approaches that rely on prioritization - on allocating 'scarce' monies that are only artificially scarce. Still, we suggest ways CEQ could prioritize its list so that the most marginalized communities remain the true beneficiaries of Justice40.

We have conducted an extensive analysis of US federal datasets in order to make these recommendations. We would warmly welcome the chance to collaborate should the CEJST team wish to further test and adopt any of our suggested approaches.

## References

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Konisky, D. M., C. Reenock, and S. Conley. 2021. Environmental injustice in Clean Water Act enforcement: racial and income disparities in inspection time. *Environmental Research Letters* 16 (8):084020.