Claire Liu

To: Andrew Wheeler, EPA Administrator
From: Analyst, Claire Liu
Topic: Federal Toxic Emissions Regulation
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Executive Summary

Toxic emissions from industrial facilities and other pollution sources in the US disproportionally burden minority communities: 79% of waste incinerators and 60% of coal dumping sites are within three miles of a low-income community of color. Generations of structural racism, exclusionary zoning, and unfair treatment have compounded and continued over decades to cause the disproportional pollution burden on low-income communities of color. This memo addresses three ways to mitigate this disproportional burden: uphold the status quo, implement the environmental justice act, or designate disproportionally impacted areas as green zones. The status quo and alternatives will be evaluated on effectiveness, equity, and implementation feasibility. The following analysis recommends the federal government designate disproportionally impacted areas as green zones.

Problem

Toxic emissions disproportionally impact low-income minority communities. Across the United States, minorities make up the majority of neighborhoods with hazardous waste facilities, which release toxic emissions that endanger the health of local residents (Bullard). Chemicals such as mercury, lead, particulate matter, and nitrous oxide lead to increased incidences of asthma, cancer, and other health problems (Dunlevy). Seventy nine percent of waste incinerators and sixty percent of coal dumping sites are within three miles of a low-income community of color. Low income households burden particulate matter 1.35 times higher, and blacks 1.54 times higher than the general population (Mikati).

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Race is consistently the most significant variable correlated with location of waste facilities, with 99.9% statistical significance (Chavis).

Causes

Exclusionary Zoning

Redlining and unaffordable housing restrict where people of color can live, and the level of pollution they are exposed to. In Fresno, California, redlining has left a legacy of rich whites in the north, and concentrated poverty in the south and southwest, where the cities' dirtiest factories and plants are located (Thebault). In Durham and Chicago, Black communities were zoned with hazardous facilities as a result of racialized policy. In New York City, the government re-zoned neighborhoods to make affluent areas residential and communities of color industrial. Exclusionary zoning has allowed cities to use seemingly racially neutral regulations to disproportionally concentrate toxic facilities to low income communities of color (Baptista). As a result, minority and low-income citizens are more likely to live near hazardous waste facilities: two-thirds of the children who live within one mile of a chemical facility are children of color (Starbuck). Black and LatinX people of color are forced to bear the majority of negative impacts from these facilities because of their proximity, which creates an additional burden to poverty in these vulnerable communities.

Cumulative Impact

Low income communities across the US already experience several disparities and inequities. They have lower rates of health insurance, higher poverty rates, and lack of access to nutrition (Chavis & Lee). When toxic emissions build overtime and combine with underlying socio-demographic vulnerabilities, low-income communities are hit particularly hard in comparison to

the general population and suffer disproportionally from toxic emissions and its damaging health effects. An early analysis conducted by the CalEnviroScreen tool shows each unit increase in racial segregation and particulate matter increases chances of pediatric asthma by 1.1% (Alcaca). Low-income households have higher rates of asthma and asthma related hospitalizations (Alexeeff). The disproportional impact of toxic emissions takes a toll on health risk in a population already lacking equal access to healthcare, exacerbating inequality.

Rationalize Government Intervention:

Unacceptable Distributional Outcomes

The location and distribution of toxic facilities is unfairly concentrated in low-income communities of color, which perpetuates unacceptable distributional outcomes in health. The government is responsible for safeguarding the health of its constituents and is morally responsible to fairly distribute toxic emissions and promote public health.

Negative Externalities

When toxic facilities burn fuel, they create negative externalities for communities of color. Individuals and firms who benefit and profit from toxic facilities do not bear the full burden of the environmental or health consequences. Instead, third parties—low income communities of color shoulder the health costs of these facilities, which the government eventually bears as hospitalizations.

Objective of Policy

Stop current environmental injustices *and* prevent future ones by lessening the pollution burden of hazardous emissions on low-income minority communities.

Policy Alternatives and Evaluation

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Status Quo: *The Clean Air Act* (Section 112) addresses emissions of hazardous air pollutants (HAPs) from major sources, releasing 10+ tons of HAPs or 25+ tons of combination emissions, and area sources, which are non-major sources. Section 112 states that is not appropriate to regulate mercury from coal- or oil-fired electric generating units nor mandate major sources of HAPs to maximize reduction of HAPs once they meet area source standards ("Regulatory", Irfan).

Alternative 1: *The Environmental Justice Act* codifies previous executive orders and expands requirements for federal agencies to mitigate environmental impacts on vulnerable communities during policy making and provide more legal protection (Booker). Agencies must consider the cumulative pollutant levels and implement a planned strategy to address disproportionate impact (Deskin).

Alternative 2: Designate disproportionally impacted areas as green zones

Green zoning is a type of zoning ordinance that seeks to improve environmental and economic conditions in low-income communities of color. Green zones integrate greener developments, prohibit toxic facilities, and invest in local economic development (Baptista).

The alternatives will be evaluated on a 1 (low) to 5 (high) scale on the following criteria:

Effectiveness: Will the proposed policies address zoning & cumulative impact and lessen disproportional environmental burden on low income minority communities?

Equity: Does the policy benefit low-income and minority communities, are they adequately supported? Are the impacted parties involved in the discussion?

Implementation Feasibility: Can the policy be implemented bureaucratically and technologically?

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Effectiveness

Policy	Analysis	Score
Status Quo	The Clean Air Act does not consider cumulative impact when issuing new permits in an area (Booker). The Trump administration reversed the "once in, always in" policy and no longer mandates major sources maximize reduction in emissions once they reach area source standards, which enables facilities below emissions capacity to increase their emissions until they reach the area source cap (Irfan). The rollback of the mercury air toxic standards enables coal plants to turn off pollution control and emit more HAPs (Nawaguna). In states such as Mississippi and Alabama, people of color near coal plants is 46% and 34% higher than the national average, respectively (Saylor). When overall toxic emissions increase with the new section 112, the impact is concentrated in low income communities of color that are more likely to be close to industrial facilities. The new section 112 does not address root causes and *increases* the disproportional environmental burden on minority communities, worsening the impacts of pollutants they currently experience.	1
Environmental Justice Act	Newark, NJ passed a similar Environmental Justice and Cumulative Impacts Ordinance, which required facilities and new developments to assess cumulative impacts and undergo review from the	4

	Environmental Commission. As a result, the ordinance has given the public more oversight into the proposals and enforced stricter requirements for cities to review these proposals (Tishman). The Environmental Justice act similarly mandates policy review from National Environmental Justice Advisory Council in addition to consideration of cumulative impacts and pollutant levels when issuing permits for industrial facilities. With stricter regulations in new developments, fewer hazardous facilities would be placed in affected communities, reducing pollution, protecting constituents' health, and lessening future disproportional impact ("Newark"). To address current injustices, the bill would overrule Alexander v. Sandoval and allow citizens to bring environmental justice violations under the Civil Rights Act for a city or a facility's discriminatory practices having disparate impact, giving affected communities the power to legally challenge environmental law, regulation, and policy violations (Booker). However, the act does not address housing disparities and the root cause of zoning.	
Green zoning	Throughout California and in Minneapolis, several cities have established "green zones," which are communities with the highest pollution concentration and cumulative impact that would be prioritized for improved public health and economic development ("Clean", Baptista). Green zones prevent new toxic facilities,	5

	mitigate existing emissions, and involve residents in green developments that benefit their communities. The ordinance was passed unanimously by the LA City Council and has successfully reduced disproportional impact through creating performance standards for landscaping treatments, 500 feet buffer zones for auto-related operations facilities, and enclosures for toxic emissions. The designated green zones in LA are neighborhoods in the top quarter of overburdened census tracts; the designation helps mitigate the impacts of zoning by rebuilding and depolluting previously industrial areas (Kimbrough).	

Equity

Policy	Analysis	Score
Status Quo	Since the policy lifts previous, stricter emissions regulations, and minority communities are more concentrated near toxic facilities, the new section 112 does not benefit or support low-income minority communities. Community input was not considered in the section change; it was done by jurisdiction of the EPA administration.	1
Environmental Justice Act	The bill codifies the National Environmental Justice Advisory Council, which historically has given community members a part in decision-making, and the environmental justice small grants program, which has awarded over $28 million in grants to 1400	5

	community organizations working on solutions to local environmental and public health issues (“Environmental”). The EJ act would continue such beneficial and supportive programs for low income minority communities and prevent the programs from being repealed by future administration (Booker).	
Green zoning	In both LA and Minneapolis, affected communities are centered in the green zone process and drive solutions. The Minneapolis Green Zones work group includes community leaders, environmental advocates, and City staff. The group met monthly to prioritize green jobs, air quality, and affordable green housing, in green zones also determined by the workgroup. In order to meet their goals, community engagement and green career opportunities surfaced so that residents could complete green zone activities, such as negotiating with businesses, to collectively implement green zone initiatives (“Minneapolis”). Low-income and largely LatinX community members in LA green zones were also adequately included and supported in the Clean Up Green Up (CUGU) initiative. The grassroots movement combined community knowledge and data to focus on the most relevant issues in each zone (“Clean”, Baptista). In the green zoning process, community members take part in the decision making, and benefit by supporting their own communities.	5

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Implementation Feasibility

Policy	Analysis	Score
Status Quo	As the status quo, amendments to the Clean Air Act are feasible to implement and approve. Even though environmental justice groups and researchers have opposed these changes, many politicians support them.	5
Environmental Justice Act	When Cincinnati passed an Environmental Justice Ordinance that mandated environmental justice considerations in review for new developments, the act was eventually repealed because of a budget deficit and industry challenges (Baptista). Senator Booker and his co-sponsors would face similar backlash from energy companies for the stricter reviews and strategies to address environmental justice, but with support from several environmental advocacy and social justice groups, public support could hold energy companies accountable for social responsibility. The act is technologically and monetarily feasible as it codifies several policies and executive orders already integrated throughout the nation, so implementation is an expanse of current projects and investments that have already have widespread support and approval.	3
Green zoning	Both the CUGU and Minneapolis Green Zones have not had a problem with funding and navigating the bureaucracy for	4

	approval. Private donations and city budgeting funded $100,000 for three CUGU zones and $115,000 for two Minneapolis Zones. Even though some businesses and industries challenged CUGU, the small businesses in affected communities endorsed the initiative and were willing to transform their business practices. CUGU established an "ombudsman" position to help local business owners navigate green zone rules and regulations and become energy efficient (Baptista). Though it is unfeasible for the federal government to designate green zones across the nation, the EPA can allocate previously rolled back funding and mandate each state to form green zones in the most toxic communities, which is technologically and bureaucratically feasible in large cities.	

Recommendation

Policy	Effectiveness	Equity	Implementation	Overall Score
Status Quo	1	1	5	2.67
Environmental Justice Act	4	5	3	4
Green zoning	5	5	4	4.67

The status quo is the most feasible to implement, but also the least equitable to affected communities, increasing disproportional impact of toxic emissions. The Environmental Justice act addresses most of the root causes of disproportional impact, meets policy objectives, and adequately supports low income communities of color; however, energy companies will

influence legislation and congress has no determined budget for the act. Large industries may oppose green zone legislation, but the unanimous approval in both LA and Minneapolis and the stream of effective equitable benefits and outcomes make green zones the most appealing policy alternative. This memo recommends the EPA move forward to designate disproportionally impacted areas as green zones.

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