



Pure Earth 2030 Strategic Plan

Preface

Since its inception in 1999, Pure Earth has worked to reduce the human and environmental impacts of exposures to toxic chemicals. Over the past 20 years Pure Earth has evolved from an organization that primarily conducts remediation activities at known toxic hotspots to a global leader in the fields of chemical pollution assessment, mitigation, remediation, policy development, research and advocacy.

A significant shift in Pure Earth's approach came in 2009, when the organization established the Toxic Sites Identification Program (TSIP). Prior to the TSIP, there was no global database of toxic hotspots, and thus no way to measure and understand the true scope of chemical contamination, identify trends or effectively prioritize responses. Before TSIP, Pure Earth's work was primarily reactive – addressing toxic hotspots as information about them emerged. The TSIP database of some 5,000 assessed sites in more than 50 countries has allowed Pure Earth to adopt a proactive posture, generating data on hotspots, sharing that information globally, and using it to prioritize our work. Today, the TSIP is one of Pure Earth's most visible programs and remains unique in the world, a reference used by national governments, bilateral donors, UN agencies, the World Bank and researchers.

Recognizing the need for greater coordination between national governments and official development assistance (ODA) partners that fund pollution work, Pure Earth founded the Global Alliance on Health and Pollution (GAHP) in 2012. The scale, influence and independence of GAHP have increased steadily ever since, and in 2020 GAHP was registered as an independent organization.

The publication of the *Lancet Commission on Pollution and Health*, in 2017, marked another major advance in Pure Earth's approach and stature. Building on its extensive professional network, the TSIP database and other emerging data, Pure Earth led the development of this groundbreaking report that, to this day, remains a foundation for global dialogues about pollution and its impacts on human health and economic development.

The trends identified through the TSIP have also shaped Pure Earth's thematic focus. Today, 30% of TSIP sites are contaminated by lead, 12% by mercury. The prevalence and severity of lead and mercury contamination led Pure Earth to expand its work and develop particular expertise in these fields. To date, Pure Earth has completed more than 50 projects exclusively addressing lead exposures and 12 for mercury.

While Pure Earth has had a number of institutional donors over the years, its greatest fundraising success to date came in 2020 with the launch of the Protecting Every Child's Potential (PECP) initiative. With the associated \$8.7M grant from the Clarios Foundation, Pure Earth is able to ramp up its success in deploying and deepening our expertise in lead, developing new relationships, increasing global awareness of lead poisoning, actively advocating for reductions in lead sources, and expanding our ability to protect people from the impacts of exposure to lead.

Today, Pure Earth's reputation and influence far exceed the organization's modest size, and its collaborative relationships with governments, universities, UN agencies, NGOs, corporations and trade associations are stronger than ever. However, global attention and resources allocated to addressing chemical exposures remain woefully inadequate. There is much to do.

Context

For two decades Pure Earth has been helping to solve toxic pollution problems in more than 40 low- and middle-income countries (LMIC), reducing exposures to toxins and benefiting public health, especially that of children. Multiple approaches have been developed and dozens of pilot clean-up programs have been implemented, with an emphasis on their potential to scale up and replicate for country-wide impact. Through these efforts Pure Earth has acquired rich experience, detailed knowledge, and extensive networks to bring to the challenge of limiting exposures to toxins in LMICs.

Pure Earth has also seen significant success in its advocacy to increase understanding of toxin contamination and what is required to solve pollution problems at scale. The *Lancet Commission on Pollution and Health*, the creation of GAHP and publication with UNICEF of the *Toxic Truth* report in 2020 have all raised awareness broadly on pollution's health impact. Demonstrating that these efforts have paid off, the United Nations Environment Program now describes pollution as one of the three core global environmental problems, alongside climate change and biodiversity loss.

Yet global efforts to address pollution are dwarfed by attention to and investments in the other two. A small number of chemical pollutants (chlorofluorocarbons, mercury, some pesticides) are subject to multilateral environmental agreements, and attention to air pollution and ocean plastics is growing rapidly. A concerted focus on pollution based on burden of disease has not yet been mobilized, and several key toxins are neglected, including lead, a toxin with some of the most significant impacts globally. However, scientists, healthcare professionals, policymakers and the general public increasingly recognize the interconnections between the health of people, animals, plants and their shared environment, opening a major opportunity to address the planet's growing pollution problem.

In recent years, Pure Earth has increasingly focused on lead (Pb), and justifiably so. Lead is an enormous public health issue which has not yet been sufficiently recognized or prioritized, and one that warrants a significant place on the development agenda. Lead is now found to poison one-third of all children worldwide, some 800 million. It also has an extraordinary burden of disease, killing nearly one million people each year. On top of that, the economic cost of intellectual impairment caused by lead poisoning ranges from 2% to 4% of GDP. Lead poisoning is also responsible for significant increases of violent activity. Thanks to our work with UNICEF, global awareness of the costs of toxic lead exposures is growing; coupled with an understanding of the sources of lead exposures, this awareness should lead to significant ODA investments in sustainable solutions at scale. The World Bank is making the toxin a priority. Importantly, the largest consumer of lead on the planet -- the lead-acid battery maker Clarios -- is firmly behind efforts to reduce lead exposures and activate the industry to support and help implement solutions.

Our leadership in the field of lead exposures, specifically our experience and understanding of how to reduce them at scale – knowledge that is second-to-none – positions us incredibly well for the future. Pure Earth is far along to becoming the go-to agency for solutions to all aspects of the problem of lead exposures.

Mercury exposures resulting from its use in artisanal and small-scale gold mining (ASGM) will be our second focus, knowing that sustainable, scalable solutions have so far been elusive. Many players and funders have tried various strategies to move small-scale miners away from using mercury in their trade, with limited success. Pure Earth has focused on improved concentration techniques, which has partially worked in a few regions. Additionally, Pure Earth has developed and implemented several approaches to remediating contaminated mining sites, including reforestation and new mercury recovery technologies. There is more work to do here to define a path forward; our pragmatic approach, coupled with our expertise in site identification and remediation, position us to play a significant role.

While Pure Earth will now focus on lead and mercury, we will remain true to our roots by standing ready to apply our subject-matter expertise and technical capacities to toxic pollution sites, issues and incidents on a selected basis where Pure Earth's involvement can add value. Pure Earth may explore other contaminants as time and resources allow us to build additional capacity. We will simultaneously use our standing, expertise and networks in the environmental space to remain alert for emerging pollution issues that may demand a strategic pivot to engage.

Lead, however, will be our primary focus. The corporate sector, led by Clarios, shows enormous promise. The scale and severity of toxic lead exposure indicates strong potential to prioritize this issue high up on the political agenda globally. The task of engaging with governments and funders – and mobilizing them to action – is in front of us. With the expertise and partnerships acquired over the last twenty years, this is our time and opportunity to make a lasting difference that is unparalleled, extraordinary, and wonderful.

Mission Statement

Pure Earth saves and improves lives, particularly the lives of children in poor communities, by reducing disease-causing pollution.

Vision Statement

Pure Earth works toward a world where all people, especially children, are protected from toxic exposures to lead and mercury.

Strategic Focus: Reducing Lead Exposures

The primary outcome we seek

People are protected from the impacts of exposure to lead.

Scope and scale of impacts

Lead is unique among chemicals in its ubiquity and the scope and scale of its harmful impacts. Humans are exposed to thousands of chemicals that can jeopardize health. Few of these are as well understood as lead in terms of exposure sources, the scope and severity of exposures globally, and resulting health, developmental and economic impacts.

Exposure to lead is typically measured by the concentration of lead in blood (blood lead level, or BLL). In 2020, the Institute for Health Metrics and Evaluation at the University of Washington (IHME) released, for the first time, an estimate of the national average childhood BLL for every country. In total, IHME estimates that 815 million children—one third of all children—have a BLL exceeding 5 µg/dL, which is the level that triggers government intervention for children in the US, and which is known to permanently reduce a child’s IQ by 3-5 points. This estimate is similar to a separate analysis completed by Pure Earth. IHME further estimates that in 2019 more than 900,000 premature deaths annually were attributable to lead exposures -- a toll greater than HIV/AIDS (860,000 deaths) or malaria (600,000) and equivalent to about 22 million DALYs.¹ While such estimates do not exist for other toxicants, there is no indication that any other chemical takes as significant a toll on health. Among pollutants, only particulate air pollution causes more death and disease.

Goal

A 50% reduction in lead exposures and associated BLLs in the geographies where Pure Earth works, with an emphasis on protecting children and women of childbearing age.

We want to see a future in which food and consumer products are created either without lead or in ways that reduce the potential for human exposure, and in which industrial processes using lead do not cause releases that contribute to occupational or public exposures.

Opportunities and benefits of addressing lead exposures

Although the science is clear, most decision-makers have little understanding of lead exposures or the actual scale and range of harm. Unlike climate change or biodiversity loss, where decision-makers are generally aware of the drivers and impacts and are responding (or not) with policy choices, regulatory requirements and budget allocations, decision-makers are largely uninformed about the magnitude of societal loss associated with widespread lead exposure. This presents a significant opportunity for increased action – and demands it. Engagement with key stakeholders will be a central part of Pure Earth’s strategy.

¹ The disability-adjusted life year (DALY) is a measure of overall disease burden, expressed as the number of years lost due to ill-health, disability or early death. It was developed as a way of comparing the overall health and life expectancy of different countries.

Protecting Every Child’s Potential

In response to the newly understood scale of global childhood lead poisoning described in the *Toxic Truth* report, Pure Earth, UNICEF and the Clarios Foundation have joined together to establish Protecting Every Child’s Potential (PECP).

This initiative is working to raise awareness of the impact lead exposures have on children’s health and to mobilize action to eliminate dangerous practices that cause these exposures, with a special focus on exposures from informal or substandard processing of lead-acid batteries and other lead-contaminated consumer goods.

PECP draws on the three organizations’ complementary expertise:

- the rehabilitation of contaminated sites,
- the safe manufacturing and responsible recycling of lead acid batteries,
- and the promotion of children’s health and rights.

To date, PECP has launched in Bangladesh, Georgia, Ghana, Indonesia and Mexico.

Reducing lead exposures has many co-benefits beyond health. Exposure to lead has been shown to increase individuals' tendencies to commit violent acts and, due to IQ loss, to decrease lifetime earning potential, and thus impede national economic development. Lead exposure is a cross-cutting issue affecting the environment, biodiversity, individual and public health, education, economic development, poverty alleviation, crime and levels of violence, and social welfare, and should find interested audiences in government, the private sector, and the development arena.

Lead is particularly harmful to developing fetuses and children under 5 years old. Lead passes from a pregnant mother to the fetus in utero, causing permanent brain damage. Young children are vulnerable not only because their bodies and brains are developing, but because of their size and behavior. They ingest more dust and absorb and retain more of the lead to which they are exposed. For these reasons, Pure Earth will prioritize the protection of children and women of childbearing age.

No other non-profit organization has as much experience as Pure Earth working on lead exposures across a range of low- and middle-income countries. The opportunity for Pure Earth to add significant value is high. Pure Earth's unique position also gives us a distinct competitive advantage when a donor is specifically interested in lead pollution or lead exposures.

Risks

Since few LMICs conduct national BLL surveys, Pure Earth relies on estimates of national BLLs created by IHME and (for certain countries) by Pure Earth and others to communicate lead's national impacts and to set priorities. The IHME estimates rely on limited data and supplement that data with modeling. The models are not sensitive to the unique mix of lead sources in a particular country, and thus may over- or under-estimate actual exposures. Until more, and more reliable, data becomes available, Pure Earth might misallocate resources or miscommunicate the extent and impacts of lead exposures or the benefits of reducing them.

The lead sources that contribute to exposures, and the specific contribution of each source, differ geographically (even by household). While we can conduct studies that identify contributing sources in a household, town or province, in the end we are still estimating the primary drivers of exposure. Pure Earth has, in at least one case, misidentified the primary source of exposure, and consequently did not achieve the health improvements we sought and expected. This could happen again without improved (i.e., cheaper, faster) methods of apportioning source contributions.

Most LMICs classify lead and lead-contaminated waste as "hazardous" and regulate its disposal. However, most LMICs also lack hazardous waste disposal facilities and protocols. This presents a challenge for remediation. Pure Earth's past lead interventions have typically involved a combination of burial of contaminated soil and/or capping with clean soil or pavement. While such techniques are widely employed, issues of durability (e.g., what if it's dug up?) and sustainability have been raised by donors, particularly in the absence of institutional controls such as deed restrictions.

Organizational capability to deliver solutions

To address the issue of lead exposures at scale and achieve corresponding impact, Pure Earth will increasingly work proactively to reduce lead releases from industrial activities and to reduce lead's use in consumer products in ways that allow for exposures. Achieving widespread reductions in BLLs will require Pure Earth to acquire new expertise and undertake new sorts of activities.

Pure Earth has developed significant expertise in contaminated site assessment and remediation associated with “point sources” such as abandoned lead smelting sites. This is fundamentally reactive, identifying and addressing existing pollution. However, a more proactive strategy is clearly necessary to avert lead contamination and exposure from occurring in the first place. Pure Earth will accelerate and intensify current efforts to develop capacity – its own and that of partner organizations and government stakeholders – to understand the relative contributions to exposure from a broader set of sources, including consumer products such as spices, pottery, cosmetics, and aluminum pots and pans. Overall, Pure Earth will invest in its capacity to understand products, processes and industries that use lead that contribute to exposures, as well as the regulatory, economic and social contexts surrounding these products and industries. In short, the organization will broaden its current expertise beyond the environmental and health issues associated with contaminated sites.

Strategic Focus: Reducing Mercury Exposures

The primary outcome we seek

People are protected from the impacts of exposure to mercury.

Scope and scale of impacts

Mercury is a toxic heavy metal, one of the top ten chemicals of major public health concern according to the World Health Organization. Exposure to mercury can cause damage to the nervous, digestive and immune systems, as well as the lungs, kidneys, skin and eyes. Mercury is particularly dangerous to young children, babies in utero and pregnant women. The mercury released into the environment knows no borders and contaminates rivers and oceans, fish and other marine animals, and the global food chain.

Artisanal gold mining (ASGM) is the leading source of mercury pollution globally. Miners who handle mercury and residents of contaminated areas are most heavily exposed. It is estimated that there are 30 million artisanal and small-scale gold miners worldwide, including 4.5 million women and 600,000 children. Among these miners, between 3.3 and 6.6 million suffer from chronic metallic mercury vapor intoxication, resulting in global burden of disease between 1.22-2.39 million DALYs. Furthermore, as a result of globalized food supply chains, low levels of mercury exposure are widespread.

There is global focus on mercury pollution from ASGM, thanks to international treaties and coalitions like the Minamata Convention, Global Mercury Partnership and GEF planetGOLD. However, no single comprehensive, scalable solution to the issue that works globally has been developed. Many projects have been implemented with varying levels of success, but rarely have positive outcomes proven to last beyond the timeframe of the project itself or be fully sustainable without ongoing external support.

In light of these challenges, and understanding that

- Not only is there increased awareness and focus on mercury as a global issue; there is also growing concern and mobilization to prevent and reverse deforestation of the Amazon and other tropical rain forests.
- Significant funding opportunities exist from governments, corporations and coalitions.
- We have a relationship with Tiffany & Co. with the potential for grant renewal, increased funding, and the possibility to benefit from a percent of sales program.
- Gold is a valuable commodity around which social impact investment opportunities can be developed –

Pure Earth will focus its mercury strategy on translating these considerations into the development and implementation of contextually practical, technically appropriate, locally acceptable projects that address both health and environmental issues.

Goal

A 50% reduction in mercury exposures from ASGM practices in the geographies where Pure Earth works.

Opportunities and benefits of addressing ASGM mercury exposures

Pure Earth is an acknowledged leader in this work, with a reputation for reduction of heavy metal health risks, and experience managing a number of successful projects addressing ASGM and mercury issues. We have strong local partners, experience employing a variety of approaches, and a suite of useful technologies proven to reduce ASGM-related mercury releases and exposures.

Risks

While other organizations such as the Artisanal Gold Council and Solidaridad have strong footing and strong funding sources, they do not work exclusively on reducing mercury emissions in ASGM practices, as Pure Earth does. We have strong technical knowledge but less geographic reach or livelihoods expertise than other ASGM actors. Moreover, this issue is difficult to solve, due to the ready availability and cost-effectiveness of mercury and the informality of the sector. Solutions need to have high specificity with regard to geology, geography, social structures, economic realities and type of problem (e.g., land reclamation that reduces mercury releases and methylmercury accumulation, or ASGM training in mercury-free technologies).

Organizational capability to deliver solutions

In a number of countries, including Indonesia, Colombia and Peru, Pure Earth has well-qualified and relevantly experienced staff to identify and implement solutions, as well as the ability to engage in effective partnerships with smaller NGOs that possess the local expertise required to work effectively in ASGM communities. Together with these partners, Pure Earth possesses a body of solutions which can be tailored to different contexts and situations. Our local partnerships contribute to a solid reputation globally. We also enjoy strong relationships with the jewelry industry, the leading user of gold, which could result in new funding and pro-bono technical assistance.

With these organizational assets, Pure Earth will become more involved in the following types of activities in pursuit of its goal of reduced ASGM mercury emissions:

- Mercury-free technologies
- Ecologically-friendly closure of degraded mining sites using reforestation
- Tailings (waste) management
- Identification of mercury-contaminated and primary mercury mining sites
- Development of a risk-based prioritization methodology and a mercury pollution index based on mercury concentrations and health risk, for prioritization of remediation interventions
- Risk reduction actions and monitoring of their long-term effectiveness
- Policy and regulatory recommendations

As we increase our involvement in ASGM-related mercury exposure reduction, we will invest in improving relationships with the Global Environment Facility, the Artisanal Gold Council, the Alliance for Responsible Mining and the UN Environmental Program, four important actors in this field.

As with lead, we will expand our proactive programming because downstream solutions play a huge role in preventing mercury contamination in ASGM. These include (1) engaging with industry actors to advocate for responsible ASGM sourcing in their supply chains; (2) improving access to formal finance in the ASGM sector; and (3) drafting and supporting policy frameworks that expand formalization efforts, reduce illegal mercury trade, and improve mercury management, storage and disposal.

We are currently developing theories of change for our involvement with both lead and mercury that will define our objectives and the associated pathways to achieve them. This will include defining the results we will deliver, setting targets and establishing the indicators we will use to measure our performance. This work will be completed by the end of the second quarter in 2021.

Strategic Focus: Geographies

In tandem with the selection of lead and mercury as the two pollutants that will be the focus of Pure Earth's work, the need to concentrate organizational resources to achieve optimal impact has led us to geographic prioritization. Country selection criteria were developed and applied, leading with national need.

For lead, "need" was defined as both the scope of exposure (how many children in the country have blood lead levels above 5 µg/dL) and severity of exposure (estimated national average childhood blood lead level). Countries were given a ranked score on each metric using IHME and Pure Earth estimates. These two metrics were then combined, giving equal weight to each, to create a national cumulative "need" score for lead. For mercury, national exposure and disease burden data are not available. As a proxy metric, we used estimates from the Global Mercury Partnership of the annual volume of mercury released nationally from ASGM. Lists of the top 40 countries for lead "need" and the top 40 for mercury were then merged to identify countries that ranked high on both lists, and these countries were given first-level priority. Countries that exhibited an extraordinary need regarding only one chemical were prioritized second.

These lists of first- and second-level priority countries were then analyzed against other relevant factors, including:

- evidence of problem recognition by government, its capacities to respond effectively, and its likely receptiveness to working with Pure Earth
- history of Pure Earth's work in the country
- availability of potential local partner organizations
- ODA donor activity, interest and plans
- relative political stability with no active conflicts, and
- geographic diversity.

Consideration of these factors resulted in the selection of the following countries for Pure Earth's **core programmatic work: Bangladesh, Colombia (with outreach to Peru), India, Indonesia, Mexico and Philippines**. These are the countries where Pure Earth will focus its organizational resources, including management attention, technical assistance, advocacy and fundraising efforts. These country program offices will be built up, for the purpose of creating conditions and capacities for well-managed country-driven programming.

Through these offices Pure Earth will:

- increase its expertise, expand its influence and raise its visibility in the lead and mercury pollution space
- design, carry out and generate evidence for impactful interventions that reduce the harms caused by exposure to lead and mercury
- secure funding for this work
- undertake regular representation and advocacy with government officials and other influencers
- contribute to increasing public demand for eradication of sources of lead and mercury exposures
- maintain relationships, partnerships and networks with relevant stakeholders
- provide technical assistance and capacity-building support to government departments and civil society organizations.

Pure Earth has **multi-year commitments** in Burkina Faso, Georgia, Ghana, Senegal and Tanzania. While current plans call for Pure Earth’s presence to be **phased out as these projects are completed** over the next few years, as we continue to implement the current portfolio, we will respond to appropriate funding opportunities that may result in continued operations in some of these countries, applying the country selection criteria described above. It is anticipated that this will likely include at least one of the African countries.

Pure Earth’s work in the following countries will be phased out as current commitments are completed, in all cases before the end of 2021: Armenia, Azerbaijan, Kenya, Madagascar, Mongolia, Tajikistan and Vietnam.

In three additional counties the burden of disease caused by, especially, lead demands Pure Earth’s attention, notwithstanding other factors that might pose challenges to working there. By the end of 2022, Pure Earth will conduct **comprehensive assessments in Egypt, Nigeria and Pakistan** to assess the extent and sources of lead and mercury exposures as well as the feasibility of establishing country program offices, including funding availability.

By the half-way point of this strategy, **in 2025, Pure Earth expects to be operating country program offices in 10 to 12 countries**, a level of engagement that will then be maintained for the remainder of this strategy’s duration, with some variation possible in the countries over time.

Strategic Priorities

Pure Earth has made a small number of choices that are strategically and operationally critical to success. These include both existing aspects of our work that need to be reinforced as well as strategic shifts that need to be made. Limiting strategic priorities defines what matters most, establishes a claim in terms of focus, investment and duration, and drives difficult trade-offs about what to focus on, what not to do, and what to stop doing.

Strategic Priority: Country-Driven Programs

A key insight from fifty years of development work around the world, borne out by Pure Earth’s own experience, is that the most successful projects – in terms of impact, sustainability, and broader influence and replicability – are those which involve genuine local leadership and meaningful community

participation at all stages. From this best practice, this strategy calls for a significant reorientation in the way Pure Earth works overseas, which until now has largely been driven, remotely, by NYC-based staff and carried out by colleagues, contractors or partner organizations overseas. Instead, focusing our work geographically pairs with reconceiving the respective roles and responsibilities of headquarters and country program staff to place greater authority with the latter for bringing this strategy in all its aspects to life in the countries we have chosen to work. The role of headquarters staff will shift to one of support for and oversight of country-level programming and operations, including quality assurance of our programmatic interventions, rather than directing them from afar. To this end, for example, the role of Country Director has been redefined to emphasize its leadership and partnering responsibilities.

Strategic Priority: Gender Literacy

In recent decades, funders and organizations in the international development sector have learned a great deal about both the business case and the moral imperative for achieving greater gender equity through their work. Almost all major funders now require that gender considerations be thoughtfully and meaningfully integrated across all aspects of the projects they fund, from pre-proposal assessments through the final evaluation.

Pure Earth's current experience with gender in relation to its mission centers primarily on the different pathways of exposures, and the different effects of exposures on men vs. women (and children and infants) due to biological differences, and to constraints and freedoms related to men's and women's differing gender roles. Pure Earth's current approaches tend toward gender neutral -- aiming to ensure that both men and women participate in activities and gain access to information -- but do not address the systemic inequity that undergirds gender roles and can undo efforts to ensure both women and men benefit in the long term. With some exceptions, women's participation in Pure Earth activities is generally measured by quantity (attendance, participation) rather than quality (voice, agency, leadership).

Because of its strategic focus on lead and mercury, Pure Earth will increasingly rub up against complex issues rife with gender considerations; for example, economic empowerment, which Pure Earth touches through its work with used lead acid battery recycling and ASGM-related livelihoods. These projects hold the possibility of either fostering inclusion and empowerment, or exclusion/neutrality and the unintentional reinforcement of harmful gender norms that can negatively affect women or men or both. In order to ensure that Pure Earth – at the very least – does no harm, we need to (1) build our capacity to assess and analyze gender dynamics in the geographies where we work; (2) intentionally design and implement projects that increase inclusion, leadership, voice and empowerment; and (3) monitor projects with a gender lens in order to know if our work is producing the expected gender-related results or unanticipated (either good or bad) results.

While Pure Earth does not foresee adding stand-alone gender specialist staff, we will acquire increased capacity for gender literacy through new recruits, adding gender-related experience, training and knowledge as a preferred qualification to all job descriptions of incoming program and development staff. Incoming monitoring, evaluation and learning (MEL) staff will have experience developing MEL plans and monitoring projects that integrate gender. In order to increase organizational knowledge and understanding of the gender-pollution and gender-pollution-livelihoods nexus, Pure Earth will add relevant questions to its research agenda. Finally, Pure Earth will support staff who wish to increase their technical expertise in transformative gender approaches by funding professional development

training, workshops and coursework, and by supporting the development of useful resources such as guidance documents and case studies.

Strategic Priority: Research

Pure Earth’s research agenda will both support our lead and mercury initiatives, and be shaped by them. Through research Pure Earth documents and promotes pollution-related environmental and human health issues on a global scale. Research in peer-reviewed journals not only raises awareness and furthers scientific knowledge about issues of concern to Pure Earth, but also enhances our standing, credibility and influence in the research community and with governmental agencies and donors. In addition, Pure Earth partners with academic institutions for collaboration to further our research aims. These ongoing efforts strengthen Pure Earth’s technical capacities, making us more effective and responsive in our programming and providing added expertise and greater reach than we could achieve alone.

Past research efforts at Pure Earth have focused on providing information and analysis to inform discussion about the global impact of toxic pollution in lower- and middle-income countries, sharing the results of our Toxic Site Identification Program as well as site-specific case studies. Additional research has demonstrated the impact of pilot risk-mitigation projects on human health and the environment.

Going forward, Pure Earth’s research program will give greater attention to answering questions that advance our own work by increasing organizational knowledge and understanding and improving our practices. Our projects should contribute to and advance our research agenda, and so we will be more intentional about embedding research into project design.

Research into lead contamination and its impacts will initially focus on gaining a more comprehensive understanding of the universe of potential lead exposure sources, routes and relative contributions at national, regional and household levels. Research will include synthesizing existing global data on potential lead sources and refining testing methodologies to evaluate potential exposures to these sources; improving methods to assess lead exposures; and how to augment and use that data to support further and effective action by governments, other stakeholders and donors. We will support baseline assessments wherever possible.

Technical Advisory Board

Pure Earth is supported in its work by a Technical Advisory Board (TAB) with academic, industry, public health and environmental expertise. Given the emerging focus on country-driven policy work, the TAB will expand beyond its engineering roots to include:

- Economic analysis and modeling expertise
- Policy guidance capabilities
- Communications specialists
- Behavioral change experts

The Technical Advisory Board will operate as part of the Technical Excellence group in Global Programs.

Research into the association of demographics and elevated BLLs will inform us about potential exposure routes or supply chains. Research into refining the methodology and implementation of lead source apportionment studies is essential to understanding the relative contributions to elevated BLLs at the regional and residential scale. Research will also focus on effective behavioral change techniques and on strategies to bring about source reduction (e.g., technological, regulatory, market-driven incentives, etc.).

Pure Earth’s research into reducing mercury contamination will be focused on evaluation and promotion of mercury-free ore processing; coexistence models allowing artisanal miners to sell their ore to formal mercury-free processing facilities; methods to assess the degree and extent of mercury contamination

and ways to prioritize sites for remediation; reforestation of denuded mining areas in support of mercury-free miners and reduce mercury-impacted soils; evaluation of methods to remediate mercury contaminated tailing piles and other mercury impacted media; and evaluation of incentive programs to support mercury-free mining. Other sources of mercury contamination, such as medical waste and its storage and disposal, may be included in Pure Earth's research.

Strategic Priority: Monitoring and Evaluation (M&E) for Learning

The purpose of monitoring, evaluation and learning practices is to systematically apply knowledge gained from evidence and analysis to improve outcomes and ensure accountability for the resources used to achieve them. An M&E system refers to all the indicators, tools and process an organization uses to measure if a program is being implemented according to plan (monitoring) and is having the desired result (evaluation).

Over the last 10 to 15 years many non-profit organizations have invested heavily in developing their M&E capacities and making these practices a normal part of how they do business. This has been driven by internal demand to assess quality and measure results, donor demand for evidence of what works and, more recently, an emerging demand for accountability to beneficiaries.

While Pure Earth has undertaken internal and/or external evaluations of many of its projects, and in the normal course of business monitors project activities, the M&E function is not rigorous, consistent or routinized as standard operating procedure. Nor is it staffed.

Therefore, as a matter of priority under this strategy Pure Earth will establish a Monitoring and Evaluation for Learning unit (MEL) to provide technical support, guidance and standards to Global Programs. MEL will enhance the quality and effectiveness of Pure Earth's programming by guiding the early stages of M&E idea-generation and planning, to the extent possible aligning projects' MEL plans with Pure Earth's research agenda, helping colleagues and partners think through methodological and analytic approaches, and strategizing about the use of evidence and findings. Typical M&E tasks include: overseeing ongoing data collection; ensuring data quality; providing technical assessments and study design recommendations; supporting the development of MEL plans in proposals; helping Global Programs formulate development hypotheses, monitoring indicators and evaluation questions and hypotheses; building staff capacity in MEL; and analyzing data in support of programmatic decision-making. In addition, MEL will work with Global Programs to commission expert external evaluations to assess the effectiveness and impact of major programs. While it will support research, assessments and evaluations, MEL itself will not carry out original research, conduct evaluations of Pure Earth projects, or publish.

Strategic Priority: Local Partnerships

Pure Earth values working with local organizations and institutions in designing and implementing projects, recognizing it as a key factor in securing the sustainability of gains made. Community, government, NGO, academic and other partners have always been part of Pure Earth's work, and this strategy recommits the organization to an approach that seeks to maximize the involvement of other organizations and institutions, especially local ones. Over the next ten years such partnerships will increasingly drive Pure Earth's work. Much of this work will be undertaken in partnership with GAHP. Local partnerships will be developed in each country where Pure Earth works, with partners selected based on their constituencies, their demonstrated ability to influence communities, government and other stakeholders, their technical expertise, and their interest and ability to complement and sustain

Pure Earth's efforts. Pure Earth has learned that a range of voices and community representation in project design and implementation leads to more responsive, effective and sustainable outcomes. Such involvement, however, must go beyond subcontracting local groups as vendors who deliver goods, services or activities. Pure Earth will retool its partnership approach and practices to engage local organizations as part of proposals to funders, design of projects, providing technical and financial inputs to projects, determining behavior change methodologies that are most effective in their communities, and undertaking project monitoring, evaluation and learning activities. Additionally, Pure Earth will actively support local partners in applying for funding, leading coalitions and events, and generating media attention of their own, not only as vehicles for Pure Earth's success and recognition.

Finally, local partners will provide sustainability support for the work Pure Earth initiates with them. To achieve the goals of this strategy, Pure Earth will support policy review and development, make technical recommendations, provide technical and financial support, conduct research and undertake project activities in priority countries. In most cases, optimal and sustained impact requires some combination of local engagement and support, behavioral change, alternative livelihoods, health interventions, and ongoing oversight of industry compliance and government enforcement. Pure Earth can be involved in initiating and supporting these efforts, but this is the ongoing work of local civil society. By making local partnerships one of its strategic priorities, Pure Earth is signaling that the outcomes it seeks and goals it is pursuing will be achieved by the work of many hands, and that we will hold ourselves accountable to involve, in meaningful ways, local organizations in the countries in which we work.

Strategic Priority: Toxic Site Identification Program (TSIP)

The TSIP is Pure Earth's longest-running and best-known program, with nearly continuous funding and site assessment work since 2009. The unique nature of TSIP as the only global database of toxic hotspots has enhanced Pure Earth's reputation within the development community and frequently provides Pure Earth a competitive advantage in funding solicitations. It provides data on the scope, scale and trends in point source pollution that are otherwise often unavailable. However, TSIP data is always aging, and without new data inputs its accuracy and usefulness diminishes over time. In terms of its value to the world and its strategic value to Pure Earth, it is worthy of continued maintenance and investment.

To ensure that Pure Earth can remain focused on working toward its goals with respect to lead and mercury, the level at which the organization pursues TSIP funding will depend on the location and nature of the opportunity. Specifically, Pure Earth will:

- vigorously pursue funding to conduct TSIP-type assessments focused on lead and mercury in priority countries;
- consider implementing TSIP activities (potentially using PE staff as investigators) that go beyond lead and mercury in priority countries, but will not prioritize or pursue such opportunities at the expense of other priorities;
- remain open to designing and managing TSIP programs beyond priority countries provided that the program can be implemented by a subcontractor, but will not prioritize or pursue such opportunities at the expense of other priorities;
- facilitate and drive increased user traffic to the contaminatedsites.org website and the TSIP database.

Voice and Visibility: Influencing Ambitions

The problems caused by lead and mercury exposures cannot be solved by Pure Earth alone, nor with the resources currently at our disposal. Accordingly, Pure Earth will intensify its collaboration with like-

mindful organizations and undertake advocacy for governments, donors and UN agencies to adopt this agenda and embrace the feasibility of lasting solutions. In countries where Pure Earth is active, we will pursue focused efforts to have these issues incorporated into the country's development strategy. Our objective is collaborative partnerships, with other impactful organizations in the pollution space and with government ministries, that result in effective policies and actions to reduce lead and mercury exposures. Where appropriate, we will do this in conjunction with GAHP.

Pure Earth will step up its approaches to donors for funding for these issues. If significant funding is made available by the ODA donor community, other NGOs and agencies will begin to take action on lead and mercury poisoning. This we would consider a successful outcome.

Pure Earth will continue to both formally and informally engage with the UN system, particularly WHO, UNEP and UNDP, to make lead exposures a priority. Work with ODA donors will reinforce this request. This work will be conducted in partnership with GAHP. There is some interest in establishing an instrument of international cooperation around lead, similar to the Minamata Convention for mercury.

Pure Earth will continue to engage relevant ministries and agencies of ODA donor governments, such as U.S. EPA and equivalents. We have good reason to believe that the EPA will be an ally in these outreach efforts and will support the U.S. State Department and USAID to undertake action on lead. Corporate partnerships will be a significant consideration for all these agencies.

The key outcome of Pure Earth's influencing efforts will be greater global understanding that lead is one of the major development issues of our time, similar in significance to HIV, malaria, COVID and climate. Achieving this is, we acknowledge, an aspirational reach, but one that is certainly worthy of significant effort. Lead is an issue of this scale.

Voice and Visibility: Media and Comms

Pure Earth is pivoting from the launch of the PECP partnership to increase our visibility and standing as a major environmental organization, leading on the emerging issues of lead and mercury poisoning, and developing a best-in-class public/private partnership model. To succeed, Pure Earth will step up the sophistication and reach of our communications efforts. This will require additional staff and external consultants to maximize the opportunities we anticipate over the next three to five years.

Digital Strategy

We are developing a digital strategy to define our objectives and the ways to achieve them. This will include defining the results we will deliver, setting targets and establishing the indicators and analytics we will use to measure our performance. This work will be completed by the end of the first quarter in 2021. We will develop a targeted approach with Pure Earth's media channels and presence, reaching out to audience segments with differentiated messaging based on strategic objectives. We will also acquire the capacity to use analytics to evaluate our impact and progress toward goals.

Media Visibility

Pure Earth raises awareness to drive understanding, demand and commitment to invest in toxic chemical pollution control in LMICs. We achieve this through publishing research and white papers, securing media coverage, lobbying ODA policy makers, and promoting the work we do in LMICs with affected communities. Collaboration with other reputable institutions has widened our reach and strengthened our credibility. Our research and white papers are the main drivers of press coverage.

Ten years of publishing the *World's Worst Polluted Places* put the LMIC industrial pollution crisis on the global media agenda. The *Lancet Commission on Pollution and Health* greatly enhanced our status as a credible research and advocacy organization. The *Toxic Truth* report and our partnership with UNICEF solidified this status, which led to the partnership with UNICEF and Clarios, and the PECP initiative. The release of The Lancet Commission's second report (anticipated late 2021) provides another significant opportunity to engage widespread coverage around pollution and lead.

The press regularly mentions Pure Earth and GAHP as authoritative sources and cites our publications. Continuing our pace of putting out two significant publications a year will maintain our status and influence in the media as the "go to" experts. We don't have a lot of competition in this space.

Supporting Fundraising Efforts

With PECP, Pure Earth's communications will focus more on supporting Development's strategic direction, recruiting additional corporate sponsors, and building an employee engagement framework with Clarios and future partners.

Increasing Communications Capacity in Focus Countries

Planned efforts to build country office capacities will include a comms component to maintain brand consistency, oversee quality content development, and monitor collaborative communications efforts with partners. A global communications guidelines document is in development and assets are being created for country office branding.

Development

What could Pure Earth accomplish with annual revenue of \$20M?

This question was one of several posed to staff to guide Pure Earth's strategy visioning exercises. We did not question whether Pure Earth could spend, responsibly and effectively, \$20 million to protect people in LMICs from exposures to disease-causing pollution – we know we could. Rather, there is resounding consensus that Pure Earth is at the brink of a major expansion, ushered in by the release of the *Toxic Truth* report and the launch of our partnerships with the Clarios Foundation and UNICEF in the PECP initiative.

Goal

Pure Earth will double its annual revenue to \$10M in four years, and further increase it to \$20M annually by 2030.

Proposed Strategy

To achieve these revenue growth ambitions, Pure Earth will undertake an overarching strategy that focuses on corporations as a primary funding source (55%), with ODA donor government funding as a secondary source (35%), and the remainder from other donors.

"How Nonprofits Get Really Big"

As described in an important analysis published by the Stanford Social Innovation Review, "Since 1970, more than 200,000 nonprofits have opened in the U.S., but only 144 (.07%) of them have reached \$50 million in annual revenue. Most of the members of this elite group got big by doing two things. They raised the bulk of their money from a **single type of funder such as corporations or government** – and not, as conventional wisdom would recommend, by going after diverse sources of funding. Just as importantly, these nonprofits created professional organizations that were tailored to the needs of their primary funding sources."

Specifically: "110 of the 144 high-growth nonprofits, 79 percent had a single dominant source of funding. And

Primary Source: Corporate

With industry leader Clarios as our key partner, Pure Earth will pursue funding for lead programs from the battery, automotive and environmental engineering industries through Corporate Social Responsibility (CSR) programs. Many corporations in these industries have committed to the Sustainable Development Goals and to clean supply chains, both of which are squarely advanced by PECP's Guiding Principles.

As appropriate, we also will collaboratively fundraise with UNICEF for PECP activities in countries where both organizations implement them – currently Bangladesh, Ghana, Georgia and Indonesia. However, Pure Earth has ongoing work addressing lead exposures in other countries as well (e.g. India and Philippines) and will pursue funding and resources bilaterally. Additionally, preliminary work is underway with GAHP to establish a Global Lead Fund that can source funds from donors around the world, with recipients including but not limited to Pure Earth. GAHP may partner with UNDP to administer this fund.

Pure Earth will build its capacity to support and facilitate robust employee engagement. This will entail proactively and effectively identifying and managing pro-bono services provided by employees of Clarios, Environmental Resource Management, International Lead Association, Responsible Battery Coalition, etc., to develop technical resources, economic incentive policies, public education campaigns, research and, most critically, percentage of battery sales programs, which would sustainably support lead solutions.

Unlike lead, with the Minamata Convention mercury pollution has been officially designated an issue of international concern, so government and corporate sources merit equal attention. Since Pure Earth's mercury work focuses on reducing exposures resulting from artisanal and small-scale goldmining, the jewelry industry is an obvious source of support and one that we have begun to develop. Pure Earth hopes to expand the support and engagement of Tiffany & Co., securing a partnership with an industry leader that will enable us to tap into CSR programs throughout the industry and pro-bono services in a similar manner as described for lead. Strategies include engaging industry groups such as the Responsible Jewelry Council, expanding the scope and audience reach of the responsibly-sourced

jewelry auction and percentage of sales programs, and, over the longer term, developing a market for gold produced using mercury-free methods.

Secondary Source: Institutional Donors – Bilaterals, Multilaterals and Major Foundations

Given Pure Earth’s experience with USAID and current interest from FFEM (France) and FCDO (UK, formerly DFID), bilateral ODA will continue to be an important source of funding for Pure Earth’s lead work.

The U.S. State Department has been the primary funder of Pure Earth’s mercury work, and we are well-positioned to secure future grants. Pure Earth will continue to expand its participation in key mercury coalitions, including the Global Mercury Partnership, Minamata Convention and GEF planetGold, making Pure Earth more competitive in future calls for ODA funding.

Trending areas of institutional funding interest relevant to Pure Earth include: circular economy, public/private partnerships (which leverages corporate funding sources), maternal and child health, gender and, to a lesser degree, environmental impact – biodiversity and climate change.

Pure Earth recently invested in a full-time institutional grants manager dedicated to prospecting, developing proposals and tracking grant reporting. Country directors’ job descriptions have been revised and now explicitly include responsibility for identification of in-country funding opportunities and cultivating relationships with ODA donor representatives. Building country-level fundraising capacity is a central element of our strategic priority to make Pure Earth’s programming country-driven.

Unrestricted Funding

Unrestricted funds will continue to be critical to Pure Earth, filling gaps not covered by restricted grants and supporting strategically important activities (i.e., a targeted piece of research, a communications asset such as a video to enhance a proposal, etc.). Typically, these funds come from the annual benefit gala (which nets \$200,000); a year-end campaign including Board gifts (\$200,000), as well as indirect cost recovery paid by restricted grants ranging from 10-18%, depending on donor (\$100,000).

All of these revenue streams can be significantly increased as corporate/industry funding grows. Engaging global companies and their employees more extensively builds the base of individual donors (currently, approximately 400) who:

- donate to grassroots campaigns such as Pure Earth Day and year-end,
- participate in fundraising events, and
- join the Board or other Pure Earth committees.

In addition, corporate partners can help secure pro bono and in-kind services, from legal and accounting services to economic analysis, supply chain tracking, marketing, and public relations.

Social Impact Investing – The Getting the Lead Out Fund

To achieve our goals at scale, we must substantially increase the resources we access and deploy. The fast-growing field of social impact investing provides an opportunity for Pure Earth to bring together the much larger pools of private and public investment, to complement philanthropy and finance interventions to reduce lead pollution at significant levels.

The good news is that the economic and financial gains that come from reducing lead pollution in lead-acid battery recycling, spices, pottery glazing and other sources are both significant and monetizable. A variety of investable products can be developed in a blended finance model to address lead pollution while providing social, environmental, and financial returns to local communities, government and investors. Moreover

Organizational Development and Management Considerations

Organizational changes already underway at Pure Earth will accelerate and expand to establish a purpose-built platform for delivery, management and oversight of this ambitious strategy. These changes involve structure and reporting lines, organizational culture and behaviors, and business processes and practices. Driving all of these changes, directly or indirectly, is Pure Earth's determination to evolve into a more decentralized organization with country-driven programming supported and supervised by a diverse headquarters staff.

In mid-2020 Pure Earth hired a Chief Operating Officer with an expanded scope, encompassing all programming and operations functions such that the CEO is now able to concentrate on advocacy, visibility, brand-building and fundraising.

Leadership and management of our work overseas has been streamlined; Country Directors report to one of two Program Directors, each with a portfolio of 5-6 countries. The role of Country Coordinator is being phased out. Program Directors report to the VP Global Programs, who also supervises the Technical Excellence Director. These individuals, together with the VP International Operations and VP Strategy and Partnership, comprise the Program Leadership Team. The Technical Excellence group brings together the technical assistance, research and MEL functions, as well as TSIP and the Technical Advisory Board, to deliver complementary support for consistently high-quality programming within and across country program offices.

The finance and accounting function is currently (March 2021) being reorganized. Establishing and staffing a human resources function is essential, and overdue. Our visibility and voice ambitions require additional staffing, first and foremost social media/digital expertise. Similarly, Pure Earth's corporate engagement strategy requires us to build out capacity to service our corporate partners through a combination of a new staff position and consultants.

In terms of infrastructure, Pure Earth's information technology assets need renewal; half of the organization's 70-odd computers globally are more than eight years old, with many of them running operating systems that are no longer updated or supported. A replacement plan will be implemented during the initial years of this strategy and repeated as appropriate. Likewise, while the level of complexity of the operational aspects of Pure Earth's work will not warrant investment in expensive enterprise resource planning system software, anticipated program and revenue growth will bring with it the need for more sophisticated fund accounting software.

While Pure Earth has over time put in place basic policies and procedures to facilitate our work and maintain compliance with donor requirements and U.S. and local laws and regulations, a more comprehensive field operations manual is required for the expanded roles and responsibilities that will be held by more robust country program offices.

The first two years of this strategy especially will present management and resource challenges as we simultaneously build up country programming and operations in some places, phase out in a number of others, and undertake comprehensive feasibility assessments for potential new country programs in still others.