

Waste Sector in selected NDCs

Nationally Determined Contributions (NDCs) are submitted by signatory countries to the Paris Agreement that describe their plans and goals for reducing greenhouse gas emissions. In October 2021, GAIA [analyzed 99 NDCs](#) to evaluate how zero waste solutions – plastic reduction, waste separation, composting, and environmental justice – are embedded in national climate mitigation plans. As an update to the analysis, we present a set of country profiles, featuring the governments' commitments made for the waste sector and grassroots efforts for climate zero waste solutions in 12 countries in Africa, Asia, Europe, Latin America, and North America. Among these NDCs, only India and El Salvador submitted a new NDC since COP 26, while others have not updated their NDC.

Key findings

- While few countries recognize the potential of zero waste to contribute to climate change mitigation, each is home to one or more cities that are already putting zero waste into practice. Countries have an enormous opportunity to tackle climate change by scaling up domestic best practices, and can rely on their own expertise to do so.
- False solutions such as burning waste in dedicated incinerators, cement kilns, or pyrolysis facilities, receive far too much attention. These approaches do not reduce emissions, are extremely expensive, and create other problems such as air pollution, impoverishment of the informal sector, and more. Countries would do well to redirect their attention and funds from false solutions to zero waste strategies.

- Despite the informal sector's ubiquity in waste management, it receives recognition in only one country's NDC. The informal sector is a powerful ally in transforming waste management into an effective climate strategy, and should be recognized and integrated into NDCs.

Wasted opportunities

As noticed in our previous analysis, only a small fraction of countries clearly recognize the climate mitigation potential of waste prevention and reduction strategies. The European Union (EU), El Salvador, Chile, and Nigeria set a good model of establishing clear goals and concrete climate-oriented waste policies centered around source reduction in their NDCs. The rest either lack a recognition of the connection between climate and waste (India, Philippines, Brazil, and Ghana) or leave it at brief and vague mentions of sustainable management of waste (Kenya and China). In the case of the U.S., waste is only mentioned in the context of promoting a practice of converting waste into hydrogen, which is the least desirable way to address the waste sector in national climate commitments.

Threats of Waste-to-Energy incineration and other false solutions

Except for the EU's NDC that explicitly ruled out waste incineration from measures to be used to reduce waste and associated greenhouse gas emissions, waste incineration appeared as a climate mitigation approach in the majority of the

12 NDCs analyzed: waste incineration and pyrolysis (including “chemical recycling”) projects that are being pushed by British and German companies are recognized as a climate mitigation measure in Nigeria; biofuels and incineration are considered waste solutions along with landfills in El Salvador; China included a set of false solutions, such as incineration, waste burning in cement kilns, and biomass energy; incineration also appears in Tanzania’s NDC. Other countries included different types of false solutions such as biomass energy (Brazil) and waste-to-hydrogen (USA).

Most NDCs lack considerations for waste pickers

A number of countries noted the importance of multi-stakeholder consultations with a focus on gender and marginalized communities, as seen in Ghana, Nigeria, Tanzania, Kenya, USA, and the Philippines. Yet, most of the selected 12 countries lacked the recognition of the waste pickers in the informal sector despite the contribution from waste pickers in collecting and recovering discarded materials in many countries – estimated at 15-20% in many countries, and even up to 50% in certain cases. Only Chile acknowledged the importance of waste picker inclusion in its NDC, and Brazil and the Philippines showed consideration for women and indigenous people.

Inspirations from grassroots efforts

Each of these 12 countries is home to groundbreaking local work in zero waste implementation. Countries would do well to look at their own best practices domestically, and scale these up as part of their NDCs. While few countries have acknowledged the inter-linkages between climate waste in their national climate plans, the existing zero waste initiatives in the 12 countries demonstrate how zero waste is an essential, affordable, and practical route to significant emissions reductions.

Separate collection and treatment of organic waste is one of the key priorities for greenhouse gas emissions reduction in the waste sector, given high levels of methane emissions from organic waste in landfills. Many cities around the globe have already improved separate collection and organic waste diversion through community-led decentralized waste management systems. Separate collection rate dramatically increased in a short time of period in Capannori, Italy, Bled and Gorje, Slovenia, and Tacloban, the Philippines, for example, and La Pintana, Chile, Hainan, China, and Kerala, India avoided large amounts of greenhouse gas emissions by tackling organic waste, the biggest portion in the waste composition.

Inspiring models of plastic reduction are found in many African countries, such as Ghana, Kenya, Nigeria, Tanzania, where civil society groups advocate for legislation to ban or tax plastic products and packaging and encourage reusable or deposit systems. Grassroots groups in El Salvador also took a phased approach for single-use plastic bans, engaging with Congress representatives to enact a new law. The Hainan province of China has also introduced a progressive ban on single-use plastic, which should expand to other provinces in order to curb carbon emissions from producing and disposing of plastic.

Cities in Brazil show remarkable examples of finding solutions to waste and poverty issues through partnerships with waste pickers. The City of Londrina works with waste picker cooperatives who lead collection and education services, providing financial and logistical support to hundreds of waste pickers. In São Paulo grassroots groups put forward a proposal that integrates existing waste picker expertise and networks for separate collection, recycling, and composting.

Analysis of the waste sector in the European Union's NDC (Nationally Determined Contribution)

Key pledge: "by 2030, the EU will reduce 70% of all packaging waste; by 2035, 65% of municipal waste should be recycled, while reducing landfilling of municipal waste to 10%"

Does it include the waste sector? Does it propose concrete action plans?	Zero waste solutions?	Civil society engagement and considerations of environmental justice (EJ)?
Yes; mentions several EU directives requiring that by 2030, 70% of all packaging waste and, by 2035, 65% of municipal waste should be recycled, while reducing landfilling of municipal waste to 10%.	Recycling Diversion from landfill	Stakeholder consultation; consideration of gender equality and indigenous peoples

-  Concrete & compatible plans
-  Mostly upstream ZW solutions
-  Substantive consideration for EJ
-  Just a mention
-  Neutral
-  Vague consideration for EJ
-  No mentions of waste
-  Incineration included
-  No mention of EJ

Analysis

The EU's NDC considers several positive measures. For instance, by 2030, 70% of all packaging waste and by 2035, 65% of municipal waste should be recycled, while reducing landfilling of municipal waste to 10%, as included in EU directives (Directive (EU) 2018/850, Directive (EU) 2018/851, Directive (EU) 2018/852).

The EU has not carried out any consultation with civil society, and it does not recognize the importance of environmental justice variables in its climate action. The target of reducing landfill waste to 10% should include measures to ensure that it is not diverted towards incineration. The source separation mandate coupled with the pre-treatment of waste before landfilling is vital to reducing methane emissions from landfills.

In conclusion, the EU's NDC has various positive elements but there is room for improvement such as taking inspiration from Zero Waste cities' initiatives if the EU wants to set a global example of good waste management.

[⊕ Review the European Union's NDC \(submitted on December 18, 2020\)](#)

Good practices

Zero Waste cities is Zero Waste Europe's programme dedicated to helping cities and communities to transition to zero waste which includes a substantial decrease in waste generation and increases in separate solid waste collection, composting and recycling.

The story of Capannori



Capannori counts on an impressive range of waste prevention, reuse, repair and recycling measures in place. It has created a dedicated strategy for improvements, engaging widely both with the local community and stakeholders to facilitate the zero waste transition. Capannori managed to achieve an 82% of separate collection rate, while the European average is about 48%; 59 kg of residual waste per capita, about 60% below the Italian average. The Reuse Centre repairs clothes, footwear, toys, and furniture sold to those in need, thereby diverting them from landfill and serving a vital social function.

The Story of Bled and Gorje

Two Slovenian municipalities Bled and Gorje were audited by Mission Zero Academy (MiZA) which proved the effectiveness of their progress in their zero waste and circular economy measure implementation. Despite being deeply affected by tourism, together with, Ekologi brez meja, Gorje and Bled achieved these impressive results: improved resource management and awareness; increased separate collection rates by 7 - 11% to 75%; reduced the amount of residual waste per tourist by 16%, all the while their numbers nearly doubled.



2

GAIA member: Zero Waste Europe

GAIA's regional network in the EU is organized under the umbrella of Zero Waste Europe, which connects and supports a vibrant network of 35 local and national NGOs from all around Europe sharing common values and objectives and working together for a zero-waste future. The member organizations promote zero waste in line with the zero waste hierarchy, manage the network of zero waste municipalities, and engage with decision-makers and companies. Members work together in a united, strong voice to scale up positive change in Europe.

⊕ See the methodology and criteria applied to the analysis in: **Wasted Opportunities: A review of international commitments for reducing plastic- and waste-sector GHG emissions (GAIA, 2021).** www.no-burn.org/cop26-ndcs



Analysis of the waste sector in Nigeria's NDC (Nationally Determined Contribution)

Key pledge: "the priority mitigation measure in the waste sector is a 10% reduction in methane emissions from organic solid waste through diversion to composting."

Does it include the waste sector? Does it propose concrete action plans?	Zero waste solutions?	Civil society engagement and considerations of environmental justice (EJ)?
Yes; it covers a lot of waste sector steps such as organic waste diversion, composting, EPR, waste reduction at source; moving toward circularity; connection between waste and emissions (9% of GHG in 2018)	Organic waste diversion to composting Waste-to-Energy incineration Stakeholder engagement Circular economy Extended producer responsibility Recycling	It recognizes that social groups are affected differently by climate change; conducted a detailed gender analysis to find different participation patterns

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Analysis

Nigeria's NDC clearly recognized the connection between waste and climate: "GHG emissions from the waste sector result largely from the disposal of solid wastes through landfilling, dumping, incineration, open burning". It also includes a plan to establish an EPR scheme and a 10% reduction goal in methane emissions from organic solid waste, and the country's mitigation measures include consultations on gender, social inclusion, and disproportionate impact of climate change on marginalized communities.

However, "waste-to-energy" and "chemical recycling" facilities are being considered as a waste management option in Nigeria, posing risks to climate change and public health and undermining ongoing recycling and composting efforts. A British company has proposed a WTE incineration facility to be built in Lagos state, and a chemicals giant BASF is investing in a 'waste-2-chemicals' project in Nigeria.

In conclusion, the NDC needs further improvement to address the waste sector more comprehensively beyond organic waste and to explicitly rule out waste-to-energy incineration and pyrolysis (also referred to as "chemical recycling"). As Nigeria has already taken steps towards reducing single-use plastic (see next section), such approaches to curb plastic pollution at the source could be included in the NDC.

[⊕ Review Nigeria's NDC \(submitted on July 30, 2021\)](#)

Good practices

Towards plastic-free Nigeria



GAIA members in Nigeria held a strategy-building workshop to ensure a future free from plastic pollution in times of rapid urbanization. The gathering stemmed from the results calculated during the 2019 #BreakFreeFromPlastic Brand Audit which revealed high amounts of non-recyclable materials and single-use water sachets. During the workshop, participants from various stakeholder groups, local government, civil society, media and the plastic industry discussed the underlying issues surrounding plastic overproduction, import and

poorly maintained waste management. Furthermore, participants urged the Federal Government to ban single-use plastic that has no economic value. The meeting was followed by a field visit to a waste picker-led recycling center where participants could directly engage with waste workers.

Strengthening National Policy on Plastic Waste Management and the Transposition of the Basel Convention Amendment in Nigeria

SRADev, a GAIA member in Nigeria, is piloting a project on targeted advocacy on the national policy on plastics management and the transposition of the Basel Convention Amendment in Nigeria aimed at facilitating national advocacy on the domestication and transposition of the Basel Convention on the plastic waste amendment to national law toward the ban of single-use plastics.

Other objectives include raising stakeholder awareness and implementing a national campaign toward the plastic ban. Civil society organizations were included in the discussions as well to provide comments and proposals that would be integrated into the national strategy alongside the Basel Convention amendment.



⊕ See the methodology and criteria applied to the analysis in: **Wasted Opportunities: A review of international commitments for reducing plastic- and waste-sector GHG emissions (GAIA, 2021).** www.no-burn.org/cop26-ndcs



Analysis of the waste sector in Tanzania's NDC (Nationally Determined Contribution)

Key pledge: Tanzania's updated NDC raised its 2030 economy-wide emissions reduction target ranges for 2030 from 10-20% to 30-35%, with a focus on addressing the waste sector.

Does it include the waste sector? Does it propose concrete action plans?	Zero waste solutions?	Civil society engagement and considerations of environmental justice (EJ)?
Waste sector is mentioned as one of the four prioritized mitigation sectors (energy, transport, forestry, waste management)	Waste-to-Energy incineration Recycling Reuse landfill gas recovery	Gender and age related inequalities; considers people with disabilities; NDC was developed through consultations and workshops

- Concrete & compatible plans
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Analysis

Tanzania's NDC explains how the private sector and communities are encouraged to improve waste management by enhancing recycling, reusability of resources, and organizing current waste locations by 'mapping and identifying informal dump sites'. Moreover, the NDC was composed by consulting different social groups via workshops. A big emphasis was put on promoting gender equity and people with disabilities to be put in future development plans and adaptation strategies.

However, waste-to-energy programs such as 'implementing landfill gas recovery as well as electricity generation programmes' are included in the NDC, a strategy that will not mitigate methane emissions as efficiently as an organic diversion from landfills. No further details for zero waste solutions or informal sector empowerment were provided.

Even though Tanzania's NDC includes important measures such as recycling and reuse promotion and great considerations of gender-related issues, unfortunately, these plans may not take into account the informal recycling sector, missing the opportunity of improving the livelihoods and local economy in the sector. The NDC also lacks detailed plans and real participation of communities and there is an opportunity to take further action.

[⊕ Review Tanzania's NDC \(submitted on July 30, 2021\)](#)

Good practices

Harmonizing the use of single-use plastics in the East African Community



The unregulated production of single-use plastic contributes to ill health, flooding, the climate emergency, and the abundance of microplastics in East African water flows. A 4-Year trend analysis done by Nipe Fagio in Tanzania shows that 76% of the waste found along the coast is plastic. Furthermore, sea salt samples were contaminated with microplastics, meaning humans ingest toxic fossil fuel products daily. For these reasons, the East African community is calling out people with a petition to adopt plastic production restrictions, extended producer responsibility, promote zero waste models and encourage governments to harmonize plastic restrictive regulations in

the East African block, easing oversight and increasing the impact of successful measures taken by East African Members. This petition not only addresses plastic pollution but also recognizes the importance of bringing governments and communities together and valuing the informal sector.

Decentralized framework of Zero Waste

Nipe Fagio, a Tanzanian NGO, has implemented a zero-waste model that combines separation at source, organic waste management and recycling into a decentralised framework in Dar es Salaam and in Arusha, Tanzania. This model aims to generate jobs for vulnerable groups, increase waste collection and waste management in low-income communities, reduce open burning of waste and dumping, increase the rate of waste being diverted from landfills/dumpsites - at no additional cost to municipalities - and create awareness on the benefits of improved waste management. Decentralization of waste management allows for maximising both environmental and social benefits without burdening overstretched municipalities. Every community is supplied with a Material Recovery Facility where waste can be sorted and/or composted by a waste cooperative. Organizers aim to make decentralization of waste management the new norm in the whole country.



GAIA member: Nipe Fagio

Nipe Fagio ("give me the broom" in Swahili), has been pursuing systemic change in waste management in Tanzania since its founding in 2013. This year, the group led several marine litter surveys, community surveys and brand audits in Dar es Salaam, where citizens feel the effects of plastic pollution on a regular basis. Plastic waste frequently blocks roadside drains, leading to increased floods that impact transport infrastructure and force people to relocate.

⊕ See the methodology and criteria applied to the analysis in: **Wasted Opportunities: A review of international commitments for reducing plastic- and waste-sector GHG emissions (GAIA, 2021).** www.no-burn.org/cop26-ndcs



Analysis of the waste sector in Kenya's NDC (Nationally Determined Contribution)

Key pledge: "to abate the GHG emissions by 32% by 2030" – but no mention of waste sector-related emission targets.

Does it include the waste sector? Does it propose concrete action plans?	Zero waste solutions?	Civil society engagement and considerations of environmental justice (EJ)?
Just mention as a part of standard UNFCCC list targets	No mention	gender related issues and laws on gender equality; youth, women and other vulnerable groups; engagement with civil society and other partners

-  Concrete & compatible plans
-  Mostly upstream ZW solutions
-  Substantive consideration for EJ
-  Just a mention
-  Neutral
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Analysis

Kenya's NDC recognizes that climate change affects different social and gender groups individually. A big focus is being put on specific impact alleviation plans in a 'gender-responsive manner', thus, adaptation and mitigation measures are to be developed accordingly to these social disparities. Furthermore, NDC-related climate policy is delivered together with civil society organizations, academia, the private sector stakeholder and citizens via public consultation platforms.

However, no elaborate plans on waste management or related emission targets were stated in the NDC. Just an incomplete mention of a 'sustainable waste management target' was included in the list with other mitigation targets. Even though public participation is stated as a priority in the document, it fails to address the laudable zero waste practices delivered by environmental organizations, such as GAIA member CEJAD.

While considerations of gender equity and social participation are notable, Kenya's NDC generally lacks recognition of climate mitigation potential in the waste sector. Opportunities missed in integrating the insights and best practices provided by grassroots groups, as some of the cases show below.

[⊕ Review Kenya's NDC \(submitted on December 28, 2020\)](#)

Good practices

Kenya's coastal women for zero waste



In the coastal area of Old Town Mombasa Kenya, 40 female artisans were given an opportunity to partake in a pilot project developed by the Centre for Environment Justice and Development (CEJAD) to reduce marine plastic pollution and promote sustainable livelihoods options. The participants will produce marketable sculptures that are made from plastic waste, which they intend to sell to tourists who visit the area. Furthermore, the project will provide waste collection jobs for people in the community, as well as a plastic shredding service that aims to encourage community members to segregate their waste and promote a cleaner environment. This project explores the social benefits of sustainable waste management practices that will empower local people and clear the environment at the same time.

Building alliances to end plastic pollution in Kenya

In 2017 Kenya passed ambitious laws to curb plastic production and distribution which was backlashed by illegal imports of plastic bags, poor enforcement of laws and lobbying against the ban on plastics by the industry. CEJAD hosted various stakeholders in the waste management sector to form a unified stance on plastic pollution elimination and create a platform for Civil Society Organizations (CSOs). Stakeholder groups decided to form a coalition where it would act as a watchdog and speak as a collective on the plastic industry, and plastic policies needed to protect the rights of the public. Producers, manufacturers and consumers, will be the targeted entities for advocacy work.



2

GAIA member: The Centre for Environmental Justice and Development (CEJAD)

The Centre for Environmental Justice and Development (CEJAD) is an NGO in Kenya that fights for both the environment and the wellbeing of vulnerable communities. They discovered that waste clean-up events were not enough to address the ingrained issue of plastic pollution. "We need stop production at the source" says CEJAD's coordinator Griffins Ochieng. Conducting waste assessments and brand audits exposes companies responsible for plastic production. Based on similar research CEJAD actively advocates for zero waste models and circular economy to drive change in policy-making.

⊕ See the methodology and criteria applied to the analysis in: **Wasted Opportunities: A review of international commitments for reducing plastic- and waste-sector GHG emissions (GAIA, 2021).** www.no-burn.org/cop26-ndcs



Analysis of the waste sector in Ghana's NDC (Nationally Determined Contribution)

Key pledge: “by 2030 Benefit cumulatively nearly 38 million people, with the majority being the youth and women” – this is a big step for environmental justice which could have touched upon the waste sector as in support of waste pickers.

Does it include the waste sector? Does it propose concrete action plans?	Zero waste solutions?	Civil society engagement and considerations of environmental justice (EJ)?
Waste sector is mentioned as a source of greenhouse gas emissions	No mention	It considers climate threats to vulnerable groups; gender-related risks; mentions women and youth inclusion; public and private consultations contributed to this NDC

-  Concrete & compatible plans
-  Mostly upstream ZW solutions
-  Substantive consideration for EJ
-  Just a mention
-  Neutral
-  Vague consideration for EJ
-  No mentions of waste
-  Incineration included
-  No mention of EJ

Analysis

While Ghana's NDC doesn't address interlinkages between climate and waste, its consideration of communities is praiseworthy as the document was jointly prepared by stakeholders including municipalities, academia, and civil society organizations. However, the focus on climate-vulnerable groups, especially women and youth, could have been extended to waste pickers and collectors.

Even though Ghana recognizes the waste sector as one of the carbon emission sources, no detailed solutions are entailed. The NDC missed the opportunity to elaborate on the current zero waste measures taken by the environmental NGOs and connect them to emission targets.

Ghana's main selling point is laudable social justice considerations but it greatly lacks specific measures to curb waste sector emissions.

[⊕ Review Ghana's NDC \(submitted on November 4, 2021\)](#)

Good practices

Ghana Zero Waste Strategy



The Zero Waste Strategy was developed by Green Africa Youth Organization (GAYO) through consultations with stakeholders in the waste sector in 2021. The Strategy aims to deliver sustainable waste management and economic opportunities and reduce the socio-ecological impacts of waste and pollution. After identifying current challenges, such as illegal dumping of waste, little separation, and lack of financing and infrastructure, the Strategy identified main objectives as follows: enact legislation to ban or tax specific plastic products,

encourage reusable or deposit systems and non-plastic materials, employ and empower local people in the waste sector and many others. These detailed and practical plans, which rule out false solutions, will help Ghana to leap over tremendous waste overloads and attain social benefits, such as job creation and public health.

2

GAIA member: Ghana's Green Africa Youth Organization (GAYO)

The youth-led environmental advocacy group, recently launched their GAYO campus eco-clubs initiative, where they seek to create public awareness, educate and empower individuals from universities in Ghana. During their meeting sessions, the organization will address topical subjects such as climate change, disaster risk reduction, zero waste and circular economies, whilst trying to cultivate leadership skills in the youth. The organization aims for their campus eco-clubs to become a credible stakeholder in driving sustainability in 20 universities within Ghana by 2030.



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Analysis of the waste sector in El Salvador's NDC (Nationally Determined Contribution)

Key pledge: "to develop the National Diagnosis of Residues to identify key waste management issues and solutions which will be presented in the 2025 NDC update"

Does it include the waste sector? Does it propose concrete action plans?	Zero waste solutions?	Civil society engagement and considerations of environmental justice (EJ)?
Waste has a whole separate section which proposes the National Diagnosis of Residues and reinvention of Waste Management with financial help and help from trained consultants.	Recycling and reuse Circular economy Reduction of solid waste Biological treatment Incineration Biofuel Waste recovery Sanitary landfills	It mentions participation of different social actors including people with greater vulnerability, civil society, and indigenous people; focus on ancestral knowledge; social justice; gender equality and social participation.

- Concrete & compatible plans
- Mostly upstream ZW solutions
- Substantive consideration for EJ
- Just a mention
- Neutral
- Vague consideration for EJ
- No mentions of waste
- Incineration included
- No mention of EJ

Analysis

El Salvador greatly considers the waste sector as an important climate change amplifier and is willing to change the management system with a focus on environmental awareness and vulnerable groups of society, such as youth, women, and indigenous communities. The country will develop the National Diagnosis of Residues that will help to identify prime waste problems and effectively structurize solutions by the next NDC update in 2025 or earlier. Key strategies include recycling, circularity and waste reduction in the first place.

However, incineration, landfill and biofuel production are still considered a part of the waste management plan. These false solutions allow continuous waste production and interfere with the idea of circularity. In addition, the plan to review waste management plans every 7 years is not rapid enough and should be replaced with continuous monitoring and a shorter review timeline.

Although El Salvador recognizes the climate mitigation potential in the waste sector and puts emphasis on social justice and public consultations, incineration and landfill plans put the ambitious approach backward.

[⊕ Review El Salvador's NDC \(submitted on January 4, 2022\)](#)

Good practices

El Salvador launches zero garbage campaign



CESTA presented to the Legislative Assembly and with support from Congress representatives, a bill that seeks to progressively reduce single-use plastics. The proposal seeks to establish a regulatory framework to protect the environment and progressively reduce the production, consumption and final disposal of single-use plastics, to replace them with reusable and biodegradable alternatives.

The proposal seeks that in six months, straws, stirrers, bags, lids, swabs, plates, containers and durapax cups will be eliminated.

Then, in 12 months, the following would be removed from the market: refrigerated containers, plastic trays, pastry domes, first contact supports and bags in dry products, cups, plates, cutlery, styrofoam or plastic trays. At 18 months: plastics in printed advertising; newspapers, magazines or other written media in plastic, receipts for services and all information directed to consumers. At 24 months: plastics that can be adhered to other materials for food packaging such as milk or juices, personal care products, sauce sachets.

2

GAIA member: CESTA

CESTA, the first environmental organization founded in the country, is contributing to protecting human life and territory in the face of a changing political-economic system. With a vision to ensure that humans are living in harmony in their environment by recovering lost ecological balance, their strategic programs provide tools on how to work toward climate change mitigation and adaptation, environmental justice, and pollution alleviation. CESTA is currently promoting waste separation programs in 10 municipalities.



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Analysis of the waste sector in Chile's NDC (Nationally Determined Contribution)

Key pledge: “by 2022, establish and implement metrics and indicators on circularity to monitor the country's progress in a circular economy and identify its contribution to climate change mitigation and adaptation.” “In 2020, develop a National Organic Waste Strategy, aimed at increasing the recovery of organic waste generated at municipal level by recovering nutrients, organic materials or substrates into the productive process

Does it include the waste sector? Does it propose concrete action plans?	Zero waste solutions?	Civil society engagement and considerations of environmental justice (EJ)?
Yes; considers National Organic Waste Strategy	Circular economy Extender producer responsibility (existing legislation) Landfill gas (proposed construction)	It mentions waste picker inclusion (no specific plans proposed); climate change education; focus on gender inequality, indigenous people; participation of all sectors, civil society

- Concrete & compatible plans
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Analysis

Chile's NDC provides insights for climate-oriented waste policies based on waste reduction, reusability, job production, and Extended Producer Responsibility (EPR). Chile also proposes to develop a National Organic Waste Strategy aimed at increasing the recovery of organic waste generated at municipal level. The NDC shows considerations for waste pickers, gender equity, and indigenous people, as well as participation of civil society in decision-making.

The NDC includes a plan to send 100% of all urban residential residues to sanitary landfills with burning systems or biogas use by 2035. No specific recycling/composting targets were proposed, even though organic waste diversion is discussed as a priority. Furthermore, the EPR legislation has been denounced by the national waste pickers movement as it is deemed restrictive to waste pickers.

Chile is one of the leading cases of connecting waste and climate policies in the NDC, with the considerations of EPR, organic waste management, waste picker inclusion, and social justice. Explicit restriction on waste incineration and detailed plans for implementation would have completed the NDC.

[⊕ Review Chile's NDC \(submitted on September 4, 2020\)](#)

Good practices

Prioritizing the Recovery of Vegetable Waste



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The Chilean community of La Pintana has found that recycling their largest segment of waste—fruits, vegetables, and yard clippings—can save them money, produce valuable compost, and reduce greenhouse gas emissions. The municipality understands that discarded materials are resources, and as a result, waste is viewed as an opportunity, not as a problem to get rid of. The further waste travels from the point of generation, the bigger a problem it becomes and the more likely its management will be unsustainable. Thus, the priority is to manage resources as close as

possible to where they are generated. The program cost very little to initiate and has grown steadily for seven years, through an ongoing education campaign about source separation for residents who reap benefits in the form of new trees and public parks.

2

GAIA member: Chile Zero Waste Alliance

During 2020, members of the Zero Waste Alliance Chile drew up the “Proposal for a Zero Waste Ordinance”, along with a supplementary document, with the goal of supporting municipal administrations with a model legal instrument to promote and facilitate the implementation of the Zero Waste strategy. The purpose of this tool is to provide 120 municipalities and civil society bodies with a clear reference guide on how to implement and advance sustainable resource and waste management strategies. The project included round table discussions and workshops with environmental professionals and officials. A survey given prior to these activities made it possible to collect helpful feedback from 74 people about present levels of waste management and environmental education. Most municipalities attempt to adopt sustainable waste practices, however, the continuity of these efforts strictly depends on direct support tools, such as policy or ordinance. This online assembly ratified the importance of implementing local environmental management instruments that generate actions toward climate change mitigation and recovery in a conscientious and resilient way, and the importance of citizen participation in the spaces of building these local norms and policies.



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Analysis of the waste sector in Brazil's NDC (Nationally Determined Contribution)

Key pledge: “the target of reducing emissions by 50% between 2005 and 2030 represents an increase of 13 percentage points compared to the previous target of reducing emissions by 37% between 2005 and 2025. The current target is also consistent with a long-term objective of reaching climate neutrality by 2050” – with no mention of waste-related emissions and mitigation potential

Does it include the waste sector? Does it propose concrete action plans?	Zero waste solutions?	Civil society engagement and considerations of environmental justice (EJ)?
No mentions of the waste sector	biomass energy	Social inclusion; women and indigenous people; civil society engagement through the Brazilian Forum on Climate Change

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Analysis

Brazil's latest NDC acknowledges women and indigenous people and provides an option for civil engagement and education via the Brazilian Forum on Climate Change

Brazil does not acknowledge the interlinkages between solid waste management and climate mitigation; energy production from biomass was mentioned, which might include carbon-intensive practices of burning solid waste and landfill gas.

Brazil mainly focuses on land and energy in their NDC, lacking recognition of the waste sector's potential in reducing greenhouse gas emissions.

[⊕ Review Brazil's NDC \(submitted on April 7, 2020\)](#)

Good practices

Londrina



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The city of Londrina in Brazil has a unique and successful waste management system fueled by a positive partnership between local city authorities and waste picker cooperatives. The city area is divided into separate zones that are each operated by a different cooperative unit. There are 7 waste picker cooperatives that have 309 workers, making it efficient and rapid. Cooperatives are in a contract with the city government which covers the costs of collection and education services, and logistical needs, such as uniforms and equipment maintenance. Then the waste workers get paid according to the number of households covered and the number of recyclables collected.

São Paulo

The city of São Paulo mainly landfills its waste, most of which is organic waste that can be diverted through composting. In response to a plan to build an expensive mechanical-biological treatment (MBT), waste pickers and advocates at the citizen organization Pólis Institute have proposed an alternative proposal that integrates existing waste picker expertise and networks to institute separate collection for recyclables and organics and divert materials from landfill through composting and recycling. This would be complemented by a ban on certain single-use plastic, greatly reducing the amount of waste sent to the landfill without costly investments in MBT facilities.



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2

Brazilian workers toward zero waste

The recycling workers of Brazil have long been a powerful force in protecting their communities and the climate. Now they are at the forefront of a nation-wide movement for zero waste, with a vision for providing solutions to the climate, waste, and air pollution crises that impact their families, communities, and the entire world. Since its formation in 1999, the Brazil-based National Movement of Recycling Workers (MNCR) achieved major victories, including defeating a proposal by an incineration company Usina Verde in 2002. MNCR has become the cornerstone of the recycling industry in Brazil with waste pickers providing 90% of recyclable materials in the country.

GAIA member: MNCR

The National Movement of Collectors of Recyclable Materials (MNCR) is a social movement formed in the 2000s with the aim of organizing and protecting waste collector rights in Brazil. The organization fights for social class independence, self-management, and inclusion in policy-making.

⊕ See the methodology and criteria applied to the analysis in: **Wasted Opportunities: A review of international commitments for reducing plastic- and waste-sector GHG emissions (GAIA, 2021).** www.no-burn.org/cop26-ndcs



Analysis of the waste sector in the U.S.'s NDC (Nationally Determined Contribution)

Key pledge: “the United States is setting an economy-wide target of reducing its net greenhouse gas emissions by 50-52 percent below 2005 levels in 2030. Unfortunately, within the waste sector, the US's NDC considers investments for waste-to-power.”

Does it include the waste sector? Does it propose concrete action plans?	Zero waste solutions?	Civil society engagement and considerations of environmental justice (EJ)?
Just a brief mention	Using waste to make hydrogen	Engagement with local, indigenous communities, environmental justice leaders, activists; NDC was prepared through multi-stakeholder consultations

- Concrete & compatible plans
- Mostly upstream ZW solutions
- Substantive consideration for EJ
- Just a mention
- Neutral
- Vague consideration for EJ
- No mentions of waste
- Incineration included
- No mention of EJ

Analysis

Key positives regarding the United States’s NDC is recognition of environmental justice, and the emphasis on collaboration with local and indigenous communities and authorities in a ‘gender-responsive manner.’ Climate plans are planned to be delivered by collaborating with an extensive number of stakeholders and environmental justice leaders. Furthermore, deprived communities that are most affected by changing climate are also recognized to be put at the forefront of green investment support.

On the other hand, the NDC barely touches upon the potential to curb emissions in the waste sector. In fact, waste management is only mentioned on the topic of new energy needed for hydrogen production: ‘new sources of hydrogen – produced from renewable energy, nuclear energy, or waste’. No further considerations on the options of reducing GHG emissions and increasing resilience to climate change in the waste sector are provided.

The US’s NDC recognizes the importance of the wide participation of environmental justice actors such as disadvantaged communities, tribal people, and climate leaders. However, the U.S. commits to false solutions for waste, such as waste-to-hydrogen, and is missing the opportunity to connect relevant legislation on waste with the NDC and develop further waste prevention options that can deliver GHG emissions mitigation, adaptation, and additional benefits.

[⊕ Review the U.S.'s NDC \(submitted on April 22, 2021\)](#)

Good practices

San Francisco, Creating a culture of zero waste



San Francisco has established itself as a global leader in waste management. The city has achieved 77% waste diversion, the highest in the United States, with a three-pronged approach: enacting strong waste reduction legislation, partnering with a like-minded waste management company to innovate new programs, and working to create a culture of recycling and composting through incentives and outreach.

In 2002, the city set an ambitious goal to achieve zero waste disposal by 2020. The city's excellent waste management programme employs separate experts in commercial, residential, city government and toxic waste sectors, who help push the city, residents, and businesses to increase their recycling rates in accordance with citywide zero waste goals.

Efficient waste reduction laws require recycling construction debris and restaurants to use compostable or recyclable materials, and all of them are responsible for common strategies, policies and incentives to reach zero waste. San Francisco landfilled 15% less in 2010 than it did in 2009. More astounding, its disposal in 2010 was approximately half what it was in 2000.

Road to zero-waste Detroit

Just a few years ago, Detroit hosted the largest waste incinerator in the U.S., which burned not only the city's waste but that of surrounding suburbs and even waste imported from Canada. The overcapacity of the incinerator discouraged investment in alternative approaches to waste management, resulting in very low rates of recycling. Breathe Free Detroit coalition, Zero Waste Detroit (ZWD) Coalition, East Michigan Environmental Action Council, the Great Lakes Environmental Law Center, the Ecology Center, and other organizations, Detroit residents finally succeeded in closing down the incinerator in 2019. Even though official recycling rates remained low, community-led zero waste initiatives have proliferated, including a community recycling drop-off center; community education campaigns to increase recycling program participation rates; food rescue programs; citywide decentralized compost networks; and robust informal upcycling, sharing, reuse, donation, and repair networks. Continuing to scale up this zero waste approach would reduce annual residual waste by 62%, landfill methane emissions by 71%, and overall GHG emissions by 102%, compared to the business-as-usual 2030 scenario.



⊕ See the methodology and criteria applied to the analysis in: **Wasted Opportunities: A review of international commitments for reducing plastic- and waste-sector GHG emissions (GAIA, 2021).** www.no-burn.org/cop26-ndcs



Analysis of the waste sector in the Philippines' NDC (Nationally Determined Contribution)

Key pledge: The Philippines commits to a projected GHG emissions reduction and avoidance of 75% for the period 2020 to 2030 for the sectors of agriculture, wastes, industry, transport, and energy.

Does it include the waste sector? Does it propose concrete action plans?	Zero waste solutions?	Civil society engagement and considerations of environmental justice (EJ)?
Just a brief mention	No mention	gender-responsive measures; participation in policy-making of different social groups (race, gender, age); mentions social and climate justice

-  Concrete & compatible plans
-  Mostly upstream ZW solutions
-  Substantive consideration for EJ
-  Just a mention
-  Neutral
-  Vague consideration for EJ
-  No mentions of waste
-  Incineration included
-  No mention of EJ

1

Analysis

The Philippines' NDC acknowledges all climate-related social considerations. The aim is to work toward sustainable development that would allow the participation of women, youth, the elderly, indigenous communities, and people of diverse gender identities and faiths. Collaboration with local and civil society organizations is a crucial component of the NDC, yet it fails to mention the inclusion of waste pickers who play a key role in the waste sector.

However, the NDC includes no specific targets, plans or further details about greenhouse gas reduction in the waste sector and social participation and justice. The waste sector is briefly mentioned without further information.

In conclusion, the Philippines' NDC addresses the waste sector poorly, failing to tap into the climate mitigation potential in waste policies in their national climate plans.

[⊕ Review the Philippines' NDC \(submitted on April 15, 2021\)](#)

Good practices

The Philippines have progressive waste management and is the only country in the world that has banned incineration. Waste management is decentralized at the village level and governed by a national law which requires each district to adopt waste segregation at the source, and collect biodegradable, reusable and recyclable waste.



The Story of Tacloban City

Lack of an efficient waste management system (only 30% of households could afford collection services) and overfilling of the main landfill caused by typhoon Haiyan prompted a new requirement for residents to segregate waste at home. Over 36,000 households were provided with face-to-face training, as part of the city's information, education, and communication campaigns. A new door-to-door collection system by bikes was also implemented since big vehicles would struggle onto muddy roads. Now the city operates on almost 100% waste collection coverage and saves money, putting 31% less waste into landfill.

2

GAIA member: Mother Earth Foundation

Mother Earth Foundation (MEF) have pioneered a particular type of brand audit which focuses on upstream pollution by identifying the problematic products sourced from household waste that cannot be recycled or composted and the brands behind them. MEF not only identifies the biggest sources of waste but prevents these materials from becoming waste in the first place. As movement leader Sonia Mendoza explains, "By creating zero waste communities, we can see exactly what products and packaging do not fit into the cycle, and which brands are responsible. Instead of passing the blame onto Southeast Asian countries like the Philippines, brand audits force companies to confront their role in the plastic pollution crisis."



⊕ See the methodology and criteria applied to the analysis in: **Wasted Opportunities: A review of international commitments for reducing plastic- and waste-sector GHG emissions** (GAIA, 2021). www.no-burn.org/cop26-ndcs



Analysis of the waste sector in China's NDC (Nationally Determined Contribution)

Key pledge: "To reach a peak in CO₂ emissions before 2030 and achieve "carbon neutrality" before 2060", however, the pledge is jeopardized by false waste management solutions which account for massive emissions.

Does it include the waste sector? Does it propose concrete action plans?	Zero waste solutions?	Civil society engagement and considerations of environmental justice (EJ)?
Waste sector is mainly mentioned as a energy production source	Incineration Cement production Biomass energy Biogas Recycling Circular economy (too vague) Reduce food waste	Limited mention about strengthening people's understanding but not including their participation; 'public participation' is repeatedly mentioned with no further details on implementation

- Concrete & compatible plans
- Mostly upstream ZW solutions
- Substantive consideration for EJ
- Just a mention
- Neutral
- Vague consideration for EJ
- No mentions of waste
- Incineration included
- No mention of EJ

Analysis

Ideas of waste reduction at source and circularity can be found throughout different sections of the document, such as industry, business, and services (e.g. "reduction in waste and carbon emissions have been achieved by promoting waste reduction at source and the development of the circular economy to turn waste into resources").

The NDC lacks systematic plans to reduce waste. More alarmingly, it includes a set of false solutions, such as incineration, waste burning in cement kilns, and biomass energy. Even though the NDC repeatedly mentions participation, education, and community, concrete plans remain absent.

knowing China's global influence, climate plans ought to be ambitious, detailed, and stringent. The current strategies are full of false solutions and vague commitments on community engagement.

⊕ [Review the China' NDC \(submitted on October 28, 2021\)](#)

Good practices

Shanghai may become a model for zero-waste cities



Following the new zero-waste cities pilot program, Shanghai adopted a new Domestic Waste Management Law which strictly requires all city residents and businesses to recycle their waste into four categories at specific times of the day. Fines are set for non-compliance, and the city has been strengthening education and community outreach efforts, providing video games, songs and apps as well as AI-operated smart bins that track the amount of waste deposited and accordingly count cash credits back to the citizens. Now, more than 8,000 tonnes of kitchen waste are being sorted every day and further circular economy measures could help save 5.1 trillion dollars on products and services.

Island Province in China bans all disposable plastics

The Chinese government decided that the smallest province of Hainan will be the first area of a new 'national ecological civilization pilot zone' to curb plastic pollution by progressively banning plastic products. The new measure includes the prohibition of selling single-use plastic items, such as food boxes, cutlery, cups, straws, and bags at major public establishments. Local firms are also increasingly aware of long-term ecological benefits of reusable alternatives, despite higher short-term costs. China is aiming to control plastic pollution throughout its nation by 2025 by establishing a complete plastic waste management system.

2

GAIA member: China Zero Waste Alliance

The China Zero Waste Alliance was founded in 2011 as one of the first Chinese networks consisting of environmental NGOs, activists, scholars, and legal experts who focus on the issue of plastic pollution. Alliance aims to put the voice of environmental NGOs in China's legislative process and has already successfully submitted more than 60 policy proposals for various scale projects. Since 2013, the Alliance has hosted 9 conferences where legislators, activists and academics could collaborate and unify strategies to alleviate plastic pollution. Moreover, the Alliance has been promoting 'Zero Waste Day' since 2018 to amplify the destructiveness of hyper-consumption in modern Chinese society and promote alternative lifestyle choices. Authorities are starting to respond to Alliance's action with a single-use plastic cutlery ban on a national scale.



⊕ See the methodology and criteria applied to the analysis in: **Wasted Opportunities: A review of international commitments for reducing plastic- and waste-sector GHG emissions** (GAIA, 2021). www.no-burn.org/cop26-ndcs



Analysis of the waste sector in India's NDC (Nationally Determined Contribution)

Key pledge: "To reduce the GHG emissions 45 percent by 2030, from the 2005 level (net-zero by 2070)" (no commitments or goals specified for the waste sector)

Does it include the waste sector? Does it propose concrete action plans?	Zero waste solutions?	Civil society engagement and considerations of environmental justice (EJ)?
No mention	No mention	No mention

-  Concrete & compatible plans
-  Mostly upstream ZW solutions
-  Substantive consideration for EJ
-  Just a mention
-  Neutral
-  Vague consideration for EJ
-  No mentions of waste
-  Incineration included
-  No mention of EJ

Analysis

India's NDC doesn't include any references to the waste sector and it offers a very slim description of their intended plans to reduce GHG emissions.

Overall, India's NDC is very limited, providing vague guidelines, without mentioning the waste sector or social justice. Given the high ratio of organic waste in India's waste stream, strategies to divert organic waste from open dump/landfills through source separation and composting can bring about immediate and substantial greenhouse gas reduction, along with other benefits such as strengthening soil resilience to climate-induced disruptions.

There is a lack of reference to zero waste solutions in the NDC while local environmental organizations have been already addressing climate change mitigation through effective zero waste practices (as explained below). The NDC misses an opportunity to mitigate a big portion of GHG emissions by highlighting local community efforts and implementing them in the national climate policy.

[⊕ Review the India' NDC \(submitted on August 26, 2022\)](#)

Good practices

Greening Kerala. The Zero Waste Way



Kerala, India is known for its high rates of literacy and environmental awareness, thus, the city of Thiruvananthapuram successfully applied a new form of a decentralized waste management system. Since organic waste accounts for 72% of the total waste, households supported with subsidies handle their own organic waste with separate composts. Other projects include shifting to reusable catering for events and launching an Anti-Littering Enforcement Team (ALERT) to ensure the tidiness of public areas. All this effort is supported by NGOs and volunteers and mentors who educate and motivate the public even further.

GAIA members

The Alliance of Indian Waste-pickers (AIW) was founded in 2008 to ensure that the collective voice of waste pickers is represented at the national public agenda. Activities involve advocating the cause of waste pickers, conducting policy analysis and recommendations, research and organizing waste picking activities. The members are working on a database which would summarize the conditions of waste pickers and serve as a fundamental resource for advocacy work in the future. AIW works toward ensuring that waste pickers have social protection, medical care and inclusion in waste planning programs such as the Extended Producer Responsibility (EPR) scheme.

Hasiru dala in Bengaluru aims to address overfilling landfills and clogged waterways by processing waste upstream, within the areas it is created. They also promote decentralized composting of municipal waste as well as anaerobic digestion of organic waste to get compressed biogas as fuel. Seeking government action and stakeholder collaboration is a very important factor to make the system efficient.

KKPKP in Pune mobilized waste pickers for providing door-to-door segregated waste collection, sorting, and recovery of non-biodegradable discards including plastics. Moreover, the organization assisted to decentralize composting facilities for managing municipal waste in the city with a population of 5 million. The federation of waste pickers now covers more than 90% of the city and is considered a cornerstone for successful waste management.

Stree Mukti Sanghatana in Mumbai is based on environmental justice-based values, women's empowerment and promoting sustainable livelihoods. One of their programs facilitates source-level composting and community-level anaerobic digestion of municipal organic waste with the help of waste pickers.

Green Communities Foundation hopes to achieve a waste free Mumbai by raising awareness of polluting actions performed both by consumers and companies. Along with adopting a community-level decentralized composting of organic waste in about 100 villages in rural Maharashtra, Foundation promotes green job opportunities in sustainable waste management as well.

Thanal based in Thiruvananthapuram aims to raise an environmentally conscious generation in education, advocacy, and training. A big focus is put to stop incineration in the region and replace it with equitable solutions which led to the first Zero Waste campaign in 2002. The organization greatly contributed to the State Policy of Kerala on decentralized solid waste management as well.

⊕ See the methodology and criteria applied to the analysis in: **Wasted Opportunities: A review of international commitments for reducing plastic- and waste-sector GHG emissions (GAIA, 2021).** www.no-burn.org/cop26-ndcs

