

# ADB & WASTE INCINERATION: BANKROLLING POLLUTION, BLOCKING SOLUTIONS

How Asia's "development" bank  
is preventing the region from  
achieving a sustainable  
Zero Waste future

**Global Alliance for Incinerator Alternatives**  
no-burn.org

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Unit 330, Eagle Court Condominium  
26 Matalino Street, Barangay Central  
Quezon City, Philippines

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*GAIA is a global network of more than 800 grassroots groups, NGOs and individuals. We envision a just, zero waste world built on respect for ecological limits and community rights, where people are free from the burden of toxic pollution, and resources are sustainably conserved, not burned or dumped. We work to catalyze a global shift towards ecological and environmental justice by strengthening grassroots social movements that advance solutions to waste and pollution.*

Authors: Tanya Lee Roberts-Davis and Lea B. Guerrero

With special thanks for review and contributions from Cecilia Allen, Mao Da, Li Wen, Von Hernandez, Mageswari Sangaralingam, Janek Vahk, Jed Alegado, Anne Larracas, Pratibha Sharma, Miko Alino and Doun Moon.


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ADB states that its mandate is to help achieve a “prosperous, inclusive, resilient and sustainable Asia and the Pacific.” However, it is using public money to promote and fund waste incinerator facilities, including so-called “waste-to-energy” incinerators that endanger people’s health and well-being, destroy livelihoods, harm the environment, and contribute to climate change.

ADB needs to change its policies by removing all support from any form of waste incineration, and instead enable the region to leapfrog to a sustainable circular economy grounded on just and equitable Zero Waste solutions that conserve resources, protect human health, create jobs and help mitigate climate change.

# **ADB & WASTE INCINERATION: BANKROLLING POLLUTION, BLOCKING SOLUTIONS**

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## **I. Introduction**

### **About this report**

This critical review of how ADB promotes investments in waste incineration as a recommended method for municipal solid waste management for its borrowing member countries<sup>1</sup> is undertaken by the Asia-Pacific office of Global Alliance for Incinerator Alternatives (GAIA). The report comes at a time when the bank is increasing its support of waste incinerators in the region—despite the documented negative impacts of these facilities on public health, the environment, the economy and the climate, and even as these systems are being phased out in other parts of the world.<sup>2</sup>

To date, there remains a significant lack of analytical materials that review ADB investments in waste incinerator projects from a perspective grounded in the concerns of affected communities in the region and principles of environmental, social and economic justice. This paper is conceptualized as an initial scoping of the range of policies, projects and investment directions that are implicated in the bank's current approach.

The report is primarily a desk-based study supplemented by testimonials and input from affiliated members of GAIA in the region. The analysis provided is intended to have applicability and relevance to people in a wide range of ADB's borrowing member countries, though examples below mainly come from the Southeast Asian region and China. This geographical focus reflects the greater availability of ADB project information in these regions, the difficulty in obtaining accurate information about incinerator recommendations within publicly available technical assistance project documents, and the increasing number of WTE incineration projects and proposals in these locations.

In publishing this report, GAIA hopes to catalyze critical engagement with ADB by civil society groups, national and local government officials in the region, and concerned officials in donor countries and within the bank itself, by providing an overview of relevant policies and trends that will need to be fundamentally revised in order to ensure an unequivocal reversal of any endorsement of waste incineration.

## Overview

The first section of this paper provides a brief explanation of the social and environmental toll of waste incinerators based on GAIA's analysis of projects both in the region and internationally. It is intended to provide a concise rationale for why ADB must institutionally acknowledge that these facilities (i) wreak irreversible damage on the health and well-being of communities as well as on the environment and local economies, and (ii) should no longer be approved by the bank for financing.

The second section reviews a range of ADB policies and operational frameworks that are relevant to consider in relation to incinerator investments. The subsequent sections examine instances of investments and support to the sector initiated by ADB over the past decade, provide specific examples of impacts resulting from highlighted projects, and reflect on the reality that non-regional member nations—particularly from Europe—are financing projects based on technologies no longer acceptable in their own countries.

The final section concludes with a set of overarching recommendations to policy and decision makers who hold the balance of power within the bank, to the bank's funding partners, and to national and local government policy makers to whom ADB recommends incinerator projects.

## Context

The Asian Development Bank (ADB) is a development finance institution whose mission is to “reduce poverty and to improve the living conditions and quality of life” of people in Asia and the Pacific.<sup>3</sup> The bank's policies and projects, however, have been the subject of much criticism from civil society groups in the Asia Pacific region and beyond. Its financing for development projects, most of which are focused on large-scale infrastructure, has in many instances led to environmental destruction, negative public health impacts, and community displacement.<sup>4</sup>

Among these projects are waste incinerators: ADB is using public money<sup>5</sup> to promote and fund waste incinerator facilities, including so-called “waste-to-energy” incinerators, that endanger people's health and well-being, destroy livelihoods, harm the environment, and contribute to climate change.

ADB's active endorsement of waste incinerators goes against its stated mandate and hinders the bank's efforts under its Strategy 2030 to “eradicate extreme poverty” and achieve a “prosperous, inclusive, resilient and sustainable Asia and the Pacific.”<sup>6</sup>

Incineration is an unsustainable way of dealing with resources. In addition to the concerns raised above, incinerators are the most expensive way to manage waste and produce electricity.<sup>7</sup> These facilities perpetuate the unsustainable “take, make, waste” linear economic model that abets the continuous extraction of natural resources and the ensuing creation of waste.

By recommending waste incinerators to its borrowing member countries, ADB is replicating an already discredited and destructive linear development model that has put the planet on the brink of ecological and climate chaos. ADB is also enabling the further entrenchment of these countries into poverty, encouraging them to take on an untenable economic burden

that promotes wasting rather than conserving resources, and obstructs the implementation of solutions that create jobs and invigorate local economies.

The bank's agenda to promote incinerators in the region also shows a disconnect with the financial institution's purported support for major global commitments such as the Sustainable Development Goals (SDG) and the Paris Agreement on climate change.<sup>8</sup> Supporting waste incineration directly contravenes SDG 12 (Responsible consumption and production), and hinders the achievement of another nine of the 17 SDGs.<sup>9</sup> Far from helping mitigate climate change, waste incinerators contribute substantially to greenhouse gas emissions.<sup>10</sup>

Experience has proven that incineration is a failed system. Many cities and municipalities around the world are now moving to Zero Waste approaches that address the waste problem at root—primarily through reduction, reuse and redesign. These approaches do not involve waste burning, take us closer to a more sustainable circular economic model, and are recognized as necessary strategies in climate mitigation.<sup>11</sup>

Unfortunately, ADB seems unable to acknowledge these positive developments, and is aggressively promoting so-called “waste-to-energy” (WTE) incinerators packaged misleadingly as “renewable energy.”<sup>12</sup> In Asia, the bank is the leading agency that is bringing into the region the failed incineration model from the Global North. Over the years, ADB has funded and continues to fund many technical assistance projects as well as loans for the promotion and construction of waste incinerators. The bank also proactively partners with waste incineration companies, investing in and lending money to these private companies for the construction of WTE incinerators throughout the region. These practices lock countries into enormous (and onerous) debts for environmentally harmful projects with exploitative “put-or-pay” contracts that obstruct the adoption of best practices for dealing with resources and waste.

As a development agency, ADB is not just a source of funding; their policy recommendations and lending practices have a significant impact on the policy direction of their borrowing member countries. In this respect, ADB's aggressive support for incineration is extremely concerning: instead of responding effectively to the region's changing needs and diverse contexts by enabling countries to transition to a sustainable circular economy where the use of resources are managed more carefully, and with a view to designing waste out of the system, the bank locks countries into the unsustainable repetition of resource extraction, consumption, wastage and destruction.

ADB needs to stop promoting and funding waste incineration. The bank has financed too many projects that have harmed communities and destroyed the environment;<sup>13</sup> it does not need to continue to do so. The world is already pursuing sustainable solutions that conserve resources, protect health and which do not harm the climate. ADB should follow suit and fund waste and resource management approaches higher up the waste hierarchy—in particular, just, equitable and sustainable Zero Waste systems.

## II. Incinerators: problems, not solutions

This section gives an overview of the social and environmental drawbacks of a waste system that includes incineration, including so-called “waste-to-energy” (WTE) incineration.

The European Commission defines a waste incineration plant as “...any stationary or mobile technical unit and equipment dedicated to the thermal treatment of wastes with or without recovery of the combustion heat generated. This includes the incineration by oxidation of waste as well as other thermal treatment processes such as pyrolysis, gasification or plasma processes in so far as the substances resulting from the treatment are subsequently incinerated.”<sup>14</sup> The objective is to convert the waste into ash or slag, thereby reducing its volume before it is dumped into a landfill. Incinerators, however, do not make the waste disappear, but merely convert it into other forms of pollution.

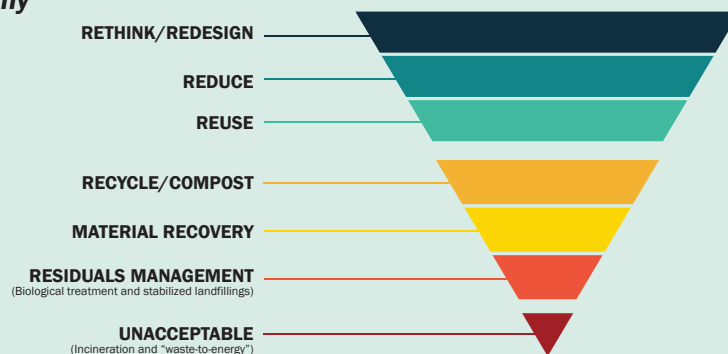
There are different types of incinerators. They may be classified according to the kind of thermal process used for burning, the furnace or reactor design or the kind of waste they burn. Some waste incinerators are referred to as “waste-to-energy” (WTE) incinerators because the heat used to burn the waste is also used to power turbines to generate electricity. In some cases, the waste is processed into fuel before being incinerated, resulting in so-called “refuse-derived-fuel” (RDF). Types of WTE incinerators include mass-burn, RDF, and staged incineration techniques, which include gasification, pyrolysis and plasma arc. (Note that WTE incineration is different from biological waste-to-energy, such as anaerobic digestion, which uses natural biological processes, and not thermal processes).

Waste incineration is not a sustainable way to manage resources. It is an “end-of-pipe” approach for resource and waste management that does not tackle the problem at source. As a waste treatment option, it sits at the bottom of the waste hierarchy,<sup>15</sup> alongside landfilling. In the Zero Waste hierarchy,<sup>16</sup> incineration is not an acceptable waste management practice (see Box 1). Instead of solving the problem of waste production, incineration produces multiple residue streams that are often more hazardous and more difficult to handle than the original waste that was burned.

### The waste hierarchy

#### 1. The Zero Waste hierarchy

From: <http://zwia.org/zw/>

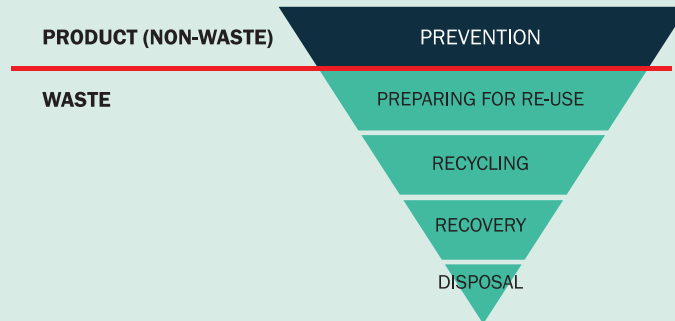


The Zero Waste Hierarchy was developed by the Zero Waste International Alliance. This is a detailed and effective approach that focuses on eliminating wastage instead of relying on incinerators or landfills. Thermal treatment or incineration of waste is considered not acceptable in this hierarchy.



## 2. The waste hierarchy in the European Waste Framework Directive (Directive 2008/98/EC)

From: <http://ec.europa.eu/environment/waste/framework/>



In this hierarchy, waste prevention (reduction), reuse and recycling are on top and are considered the priority actions for any waste legislation and policy by EU countries. “Recovery” (in some European Commission [EC] documents, this is referred to as “Other Recovery”), is a euphemism for “waste-to-energy,” and is the second least desirable option for waste treatment. The EC advises member countries to prioritize prevention and other actions at the top of the hierarchy, and the presence of “recovery” and “disposal” as options (albeit least desired actions) is recognized an obstacle to the effective implementation of the priority actions.

In 2018, the Waste Framework Directive was superseded by the 2018 Circular Economy Action Plan<sup>1</sup> which reaffirms the priority order outlined in the waste hierarchy, and which, significantly discourages landfilling and incineration, stating, the hierarchy “aims to encourage the options that deliver the best overall environmental outcome. The way we collect and manage our waste can lead either to high rates of recycling and to valuable materials finding their way back into the economy, or to an inefficient system where most recyclable waste ends in landfills or is incinerated, with potentially harmful environmental impacts and significant economic losses [emphasis added].”

<sup>1</sup> European Commission. (2015). Communication from the Commission to the European Parliament, the Council, the European Economic And Social Committee and the Committee of the Regions: Closing the loop - An EU action plan for the Circular Economy. Brussels: European Commission.

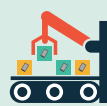
From an economic perspective, incinerators also are impractical and unsustainable: they impose a huge financial burden on cities and communities, contribute to climate change, destroy livelihoods, block the implementation of Zero Waste solutions, and perpetuate the unsustainable “take, make, waste” linear economic model that abets the continuous extraction of natural resources and the creation of more waste.

### The linear economy

In the linear economy, materials are extracted from the earth (mined, logged, etc), to be produced sold and consumed—and eventually thrown away in landfills and incinerators. The linear economy is wasteful, promoting the extraction and depletion of resources as well as the throw-away culture common in many highly industrialized countries, which has led to environmental problems such as climate change and pollution.



EXTRACTION



PRODUCTION



DISTRIBUTION



CONSUMPTION



DISPOSAL

## Health and environmental impacts

Pollution, particularly air and water pollution, remains a global environmental and health problem, especially in Asia where ADB works on interventions to improve air and water quality. But paradoxically the bank also funds waste incinerators, which are recognized as one of the main contributors to this global problem.

Burning waste creates and releases thousands of toxic pollutants that contaminate air, soil and water, and which pose significant risks to the health of nearby communities and facility workers, as well as that of the general population. There are many examples of failures of incinerator facilities even when “state-of-the-art” pollution control devices are in place. Many of the pollutants released by incinerators persist in the environment, enter the food supply, and concentrate up through the food chain.<sup>17</sup>

### Toxic pollution in air, ash and slag

All incinerators create pollution. These pollutants include carbon monoxide, dioxins and furans, polynuclear aromatic hydrocarbons, nitrogen oxides, carbon dioxide, methane, volatile organic compounds, aldehydes, particulate matter and heavy metals such as mercury, lead and cadmium.<sup>18</sup>

A considerable part of an incineration facility, as well as its cost, is dedicated to pollution control mechanisms. However, pollution control devices do not neutralize or eliminate pollutants. Instead, they capture or contain some (not all) of the toxic pollution produced. Pollutants captured by filtering devices are transferred to the facility’s by-products, such as the ash, slag or sludge.

Ash, slag or sludge created as by-products of incineration are highly toxic because the hazardous chemicals from the original waste material have become more concentrated. They are also harder and more expensive to manage. For example, specialized trucks and handling are necessary to prevent toxic ash from spreading in the environment during transport. They also need to be dumped in hazardous waste landfills specifically designed to contain fine ash or solidified prior to disposal.

### Dioxins and furans

Incinerators are major emitters of dioxins and furans, compounds which are not normally present in waste but are formed when certain types of materials are burned. Dioxins (polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans) are among the most toxic substances known to science. They are capable of being transported long distances through the air, persist in the environment for generations, and bioaccumulate in the food chain. They can be ingested by humans through fish, meat and dairy. Dioxins are known carcinogens and endocrine disruptors, and pose serious health impacts even at extremely low concentrations.<sup>19</sup> Studies show a significant increase in the risk of dying from cancer in areas near incinerators.<sup>20</sup>

Although newer incinerators have safeguards in place to minimize dioxin formation (e.g. burning waste at temperatures above 850 °C), dioxins are still produced and emitted during start-up, shut down, and “upset” conditions (conditions in which the incinerator is operating outside specified parameters), at concentrations up to 1,000 times higher than during stable operation.<sup>21</sup>

In many countries, incineration facilities are required to have dioxin monitoring systems. However, while this helps gather dioxin release data, it does not help stop the release or spread of dioxins, and the data is usually not accurate. Many facilities, even in Europe, only test for dioxins during optimal working conditions under a pre-agreed schedule once or twice a year, thus skewing actual data. In countries where governance and regulatory structures are weak (for example in the Global South), effective dioxin monitoring is expected to be a bigger challenge. The best way to measure dioxins is continuous monitoring throughout operations. Unfortunately, this kind of monitoring is costly and not required in many countries.<sup>22</sup>

### Mercury and particulate matter

Emission of mercury (a known neurotoxin) is also a major concern. Incinerators emit more mercury than coal plants. The New York Department of Conservation in the United States (US) found that the state's incinerators emit up to 14 times more mercury than coal-fired power plants per unit of energy.<sup>23</sup>

Incinerator emissions are also a source of particulate matter—tiny particles of dust that can lead to decreased lung function, irregular heartbeat, heart attacks and premature death. According to the Health Effects Institute,<sup>24</sup> particulate matter contributed to over four million premature deaths globally in 2015. China and India were identified as the nations most affected by health effects and death from the said pollution.<sup>25</sup> In Europe, according to the European Environment Agency, particulate matter accounted for around 428,000 premature deaths in 2014.<sup>26</sup> Modern incinerators in the European Union (EU) continue to be a major source of ultra-fine particulate emissions.<sup>27</sup>

## Incinerators: not a climate solution

### Carbon emissions

Incinerators emit significant quantities of direct greenhouse gases, and are large sources of indirect greenhouse gases.<sup>28</sup> According to the US Environmental Protection Agency (EPA), incinerators emit more carbon dioxide per megawatt-hour than coal-fired, natural-gas-fired or oil-fired power plants.<sup>29</sup> Carbon emissions from the lifecycle of the materials that were destroyed via burning also need to be taken into account.<sup>30</sup> Indirect greenhouse gases from incinerators include carbon monoxide (CO), nitrogen oxide (NOx), non-methane volatile organic compounds (NMVOCs), and sulfur dioxide (SO<sub>2</sub>).<sup>31</sup>

A study by Eunomia in 2015 found that “[t]he management of waste as residual waste makes a net contribution to the climate change balance” and that “[t]here is not that much difference between the landfill and incineration scenarios.”<sup>32</sup> The report further states that “it is clear that a climate friendly strategy, as regards materials and waste, will be one in which materials are continually cycling through the economy, and where the leakage of materials into residual waste treatments is minimised.”

This is because incineration drives a climate changing cycle of new resources pulled out of the earth, processed in factories, shipped around the world, and then wasted in incinerators and landfills. According to the report *Stop Trashing the Climate* by the Global Alliance for Incinerator Alternatives (GAIA):

Tremendous opportunities for greenhouse gas reductions are lost when a material is incinerated. It is wrong to ignore the opportunities for CO<sub>2</sub> or other emissions to be avoided, sequestered or stored through non-incineration uses of a given material. More climate-friendly alternatives to incinerating

materials often include source reduction, reuse, recycling, and composting. When calculating the true climate impact of incineration as compared to other waste management and energy generation options, it is essential that models account for the emissions avoided when a given material is used for its highest and best use.<sup>33</sup>

Additionally, burning plastics is expected to create significant amounts of carbon emissions. A report published in June 2018 by Material Economics,<sup>34</sup> estimates that “if plastics demand continues to grow as projected, and a larger share of landfilling is replaced with incineration, cumulative CO2 emissions associated with plastics could grow very large,” likely corresponding “to more than a third of the global carbon budget.”<sup>35</sup>

## Waste of energy

Waste is a highly inefficient fuel because of its low calorific value compared to traditional fuels. Incinerators are therefore only able to produce small amounts of energy, and very minimal electricity, by destroying large amounts of materials. This represents a waste of energy that is not factored into the energy balance of an incinerator facility. In contrast, Zero Waste practices, such as recycling and composting, conserve three to five times the amount of energy produced by waste incineration.<sup>36, 37</sup>

A 2014 study commissioned by the United Kingdom (UK) Department of Environment, Food and Rural Affairs (Defra) states that “[i]n reality, not all of the energy stored in the waste can be practically realised. Each step in the system of burning waste, using the resultant heat to make steam and using this steam to drive a turbine results in significant loss of energy.”<sup>38</sup> While older incinerators generate electricity at very low efficiency rates of 19-27%, another study found that conversion efficiencies of new incineration technologies are even lower.<sup>39</sup>

This is corroborated by the European Commission (EC) in a 2017 communication which states that WTE incinerators in Europe contribute considerably less than 1.5% to the region’s final energy consumption.<sup>40</sup> Similarly, a guidebook for decision makers published by the German Development Cooperation (GIZ) in the same year<sup>41</sup> affirmed that energy produced from waste incinerators is marginal, and that “[u]tilization of heat is the most efficient application in Europe, but hardly used in developing countries.”<sup>42</sup>

The energy efficiency of WTE incinerators in ADB’s borrowing member countries is expected to be considerably lower than in Europe due to the high organic content of waste produced in developing countries in Asia.

### Energy loss in so-called “waste-to-energy” incinerators

From: Neil Tangri, *Waste Incineration: A Dying Technology*, Global Alliance for Incinerator Alternatives

Some incinerators, particularly large ones, are married to a boiler and turbine in order to capture a portion of the heat generated as electricity. These are then billed as “waste-to-energy” or “energy recovery” facilities. Proponents argue that these facilities take an unusable waste and convert it to a resource by burning it. However, “waste-to-energy” facilities waste more energy than they capture.<sup>i</sup>

To understand this, it is necessary to recognize that any object that may end up as waste represents more energy than the heat released when it is burned. Any basic life-cycle assessment<sup>ii</sup> will show that the calorific value of most items is a small fraction of their “embodied energy,” the energy used to extract and process raw materials, turn them into products, and transport those products to market. The embodied energy is all lost when an item is burned in an incinerator.



Recycling of the object, on the other hand, avoids the energy costs of additional raw material extraction, as well as some of the transportation and processing energy. Reuse, by eliminating manufacturing, saves the most energy. Since incinerators have limited thermal efficiency, only a portion of the fuel value of the material burned can be recovered. In a standard “waste-to-energy” incinerator, at most only 35 percent of the calorific value of the waste is generated as electric power.<sup>iii</sup>

In many cases, incineration also concentrates ownership and control of energy generation into the hands of a single firm. Whereas waste was produced by society as a whole, the electricity generated by the incinerator is owned by the operator, and sold back to society. In this manner, the larger society is forced to invest increased energy in production to replace those materials destroyed in the incinerator, and pay the incinerator operator for the privilege of getting back a small fraction of the energy in their own waste.

<sup>i</sup> Denison, Richard, “Environmental Life-Cycle Comparisons of Recycling, Landfilling, and Incineration: A Review of Recent Studies. *Annual Review of Energy and the Environment*, vol. 21, pp. 191–237, 1996; see also ECOTEC Research and Consulting Limited, *Beyond the Bin: The Economics of Waste Management Options*, Friends of the Earth and UK Waste and Waste Watch, 2000.

<sup>ii</sup> For a comparison of various life-cycle assessments contrasting municipal waste incineration with landfilling and recycling, see Denison, 1996.

<sup>iii</sup> Rand, T., Haukohl, J., Marxen, U., “Municipal Solid Waste Incineration: Requirements for a Successful Project,” World Bank Technical Paper No. 462, 2000.

## Not renewable energy

Currently, incinerator companies as well as international financial institutions, including ADB, refer to WTE incineration as “renewable energy.” This is misleading: waste is not renewable energy. Renewable energy (RE) is defined as energy created from natural processes that do not get depleted. These include wind, wave or solar energy. Municipal waste is non-renewable, consisting of discarded materials such as paper, plastic and glass that are derived from finite natural resources such as forests, fossil fuels, etc. Burning plastics is also the equivalent of burning fossil fuels.

To claim that waste is a source of RE is also problematic: burning these materials in order to generate electricity creates a demand for more finite materials to be extracted, produced and consumed, in order to burn—therefore discouraging much-needed efforts to conserve the planet’s resources.

Perversely, in order to offset the high costs of construction and maintenance, incinerator facilities take advantage of RE subsidies and feed-in tariffs. Notably, ADB promotes the use of these subsidies for their WTE incinerator projects in the region in order to make incinerators viable businesses for private investors.<sup>43,44</sup> This is a harmful distortion of RE standards. Feed-in tariffs and other RE incentives were developed to support low-carbon, healthy sources of energy around the world, such as wind and solar power. Subsidies for waste incineration encourage the destruction of resources at the expense of waste reduction and materials reuse options that are far better for the climate. (It is worthwhile to note here also that in Europe, the European Commission officially directed its Member States, in June 2018, to remove RE subsidies from the incineration of mixed waste, following the realization that the subsidies were distorting the waste market. The recognition came as the European Parliament and the Council agreed on “waste-to-energy” related provisions to bring the Renewable Energy Directive in line with a Circular Economy.)<sup>45</sup>

Aside from subsidies, incineration also takes investments away from RE solutions, representing lost opportunities for the further development of genuinely climate-friendly RE options

## Prohibitive costs: locking countries, cities and communities into debt

Incinerators are capital intensive. According to the US Energy Information Administration (EIA), the projected capital cost of new waste incinerator facilities is twice the cost of coal-fired power plants and 60% more than the cost of nuclear energy facilities on a per installed kilowatt basis.<sup>46</sup> WTE incinerator operations and maintenance costs are also 10 times the cost of that for coal plants and four times the cost for nuclear plants.<sup>47</sup>

### Cost comparison of power plant capital and operating costs

From: US Energy Information Administration, *Updated Capital Cost Estimates for Utility Scale Electricity Generating Plants*, April 2013, Washington DC

The table below shows how WTE incineration of municipal solid waste compares unfavorably to other types of energy generation.

Type	Capacity MW	Capital cost USD/kW	Fixed O&M USD/kW-y	Variable O&M USD/MWh
Coal (Single Unit Advance PC)	650	3,246	37.80	4.47
Coal (Dual Unit Advanced PC)	1,300	2,934	31.18	4.47
Coal (Single Unit IGCC with CCS)	520	6,599	72.83	8.45
Natural Gas (Advanced CC)	400	1,023	15.37	3.27
Nuclear (Dual Unit Nuclear)	2,234	5,530	93.28	2.14
Onshore Wind	100	2,213	39.55	0.00
Offshore Wind	400	6,230	74.00	0.00
Solar Thermal	100	5,067	67.26	0.00
Solar Photovoltaic	150	3,873	24.69	0.00
<b>Municipal Solid Waste</b>	<b>50</b>	<b>8,312</b>	<b>392.82</b>	<b>8.75</b>

Because of the high costs, incinerators present an expensive investment that substantially raises the cost of waste management and presents a huge financial risk to cities and municipalities. For example, many municipalities across the US have ended up in debt because of incinerators.<sup>48</sup>

Cities and municipalities also need to factor in additional costs for repairs, pre-treatment of waste (necessary for municipal solid waste), and replacement of parts such as filters, etc., as well as cost for disposal of ash. At the same time, revenues are limited and uncertain, and the energy produced is not sufficient to cover capital and operational costs.<sup>49</sup>

ADB borrowing member countries face even greater disadvantages when it comes to maintenance and associated costs. For instance, the GIZ warns developing countries that “[a]ccess to foreign currency is essential for all spare parts which are not locally available, as part failure will otherwise lead to shut down of operations—or failure to meet operating standards,”<sup>50</sup> and that “[i]f key technology of the WtE plant must be imported or delays in getting access to purchases in foreign currency can be expected, incineration, pyrolysis and gasification should not be chosen.”<sup>51</sup>

The biggest revenue stream for a WTE incinerator is the tipping fee (the charge a city pays for bringing a ton of waste to a waste facility), not electricity generation.<sup>52</sup> Tipping fees for incinerators are drastically more expensive than tipping fees for landfills. For example, in ADB's pre-feasibility study for WTE incineration for Quezon City, Philippines, the projected cost of the tipping fee for the recommended WTE incinerator facility is more than 500% of what the city currently pays.<sup>53</sup>

## Waste as fuel: worsening—not solving—the waste problem

Aside from high tipping fees, cities are locked into long-term “put-or-pay” contracts for a period of up to 30 years in order to guarantee revenue for the facility. This means that in that period, the city or municipality will promise to deliver a minimum quantity (and sometimes quality) of waste and pay the company tipping fees for the contract quantity—even when the city or municipality produces and delivers less waste to the facility.

Thus, instead of solving the problem of waste through upstream approaches that minimize waste production, incineration removes incentives for waste minimization, and creates perverse incentives for cities and municipalities to generate more waste.<sup>54</sup>

This situation is compounded by the scale of the facilities being promoted by development banks such as ADB. In order to be economically viable, incinerators need to be planned as large scale facilities (processing at least 150,000 tons of waste per year),<sup>55</sup> leaving a very small margin for cities to reduce waste generation.

### Locking in cities and municipalities into huge debts for incinerators

The *Pre-feasibility Study on Conventional Waste-to-Energy Project, Quezon City, Philippines*<sup>i</sup> commissioned by ADB, illustrates how the bank is potentially locking in cities in developing countries into huge debts for prohibitively expensive, and socially and environmentally detrimental projects.

The study proposes a PHP 13.1 billion (~USD 244 million) facility for the city. Under a long-term put-or-pay contract with the developer (25 years), the city would be required to allot a tipping fee of as much as PHP 3,700 (~USD 69) per ton (equivalent to more than PHP 1.3 billion a year)—representing a 500% increase from the current tipping fee of PHP 600 (~USD 11) per ton.

In contrast, investment in actions higher up the waste hierarchy (reduction, reuse and recycling, alongside better waste segregation), translated into tangible savings for the city. Quezon City already lowered its expenses for waste management from PHP 1.014 billion (~USD 18.9 million) in 2014 to PHP 768.3 million (~USD 14 million) in 2015 through grassroots approaches, segregation programs, the establishment of materials recovery facilities, solid waste management summits for village heads, a recyclable trading program, and an ordinance on plastic bag reduction.<sup>ii</sup>

ADB's recommendations for Quezon City to invest in a waste incinerator thus raises fundamental questions about the bank's rationale for advancing a facility that will impose a huge debt as well as health and environmental risks on a city and its residents—instead of supporting proven cost-saving initiatives that will help a city reduce, rather than increase, its waste generation and associated costs of management.

<sup>i</sup>AECOM. (2016). *Prefeasibility Study - Conventional Waste-to- Energy Project: Quezon City, Philippines*. Retrieved from: <https://k-learn.adb.org/system/files/materials/2016/12/201612-prefeasibility-study-conventional-waste-energy-project-quezon-city-philippines.pdf>

<sup>ii</sup><https://www.manilatimes.net/qc-cuts-garbage-hauling-expenses/299329/>

## European incinerators in trouble: overcapacity and waste trade

The incineration boom in Europe in the past decades has created a different set of problems for EU member states, notably the overcapacity of incinerators and the increase of trade in waste meant for burning.

According to a report by Eunomia, countries that rely heavily on incinerators, such as Sweden, Denmark and the Netherlands currently have more incinerators than residual waste to burn.<sup>56</sup> With the increase in recycling rates as per the EU’s Circular Economy Package targets, several European countries are expected to still end up with incineration overcapacity, even with increase in waste generation factored in. Because of this, countries with overcapacity may have to increase imports, switch feedstock from waste to biomass, or shut down incinerators.<sup>57</sup>

### Residual and treatment capacity in selected countries in Europe

From: Eunomia. (2017). *Residual Waste Infrastructure Review Issue 12*. Bristol: Eunomia.

Countries in Europe are experiencing an overcapacity in waste incineration facilities, and several more are nearing overcapacity.

Country	Total residual waste (kt)	Total treatment capacity
Belgium	3,400	3,600
Czech Republic	4,600	1,300
Denmark	3,800	4,700
France	31,900	13,900
Germany	40,000	36,500
Ireland	1,500	1,100
Netherlands	7,000	8,100
Norway	4,400	1,900
Poland	21,100	3,200
Sweden	4,700	7,600
United Kingdom	27,500	19,500

Treatment capacity considered above is either ‘operating’, ‘under construction’, or ‘committed’ as of 2016. This capacity includes: 338 WTE incineration facilities, 14 Advanced Conversion Technology (ACT) facilities, 103 pre-treatment facilities, 72 Industrial Emissions Directive (IED) compliant biomass facilities, including those co-firing residual waste, and 102 cement kilns capable of processing solid recovered fuels.

Anticipating this EU-wide incineration overcapacity, the European Commission in 2017 released a communication on the role of WTE in the circular economy which advised member states to “gradually phase out public support for recovery of energy from mixed waste” in order to “avoid potential economic losses due to stranded assets.”<sup>58</sup> It also recommends to member states with low or no incinerator capacity to “give priority to further development of separate collection schemes and recycling infrastructure in line with EU legislation.”<sup>59</sup>

Coupled with recent experiences of other failures of these facilities, including technical failures (such as fires, failure to operate, etc.),<sup>60, 61, 62</sup> the EU is now experiencing a slowdown in the new construction of these facilities.

However, despite such evidence of the failures of waste incineration, ADB continues to recommend WTE incinerators to developing countries as a desirable option or a “must”<sup>63</sup> for



solid waste management, instead of encouraging countries, or allotting priority funding for countries, to first work on sustainable waste management options located higher up the waste hierarchy.

### **III. Waste incineration in developing countries: an ill-advised proposition**

While incinerators do not belong in anyone's backyard, they particularly should not be considered for ADB's borrowing member countries for the following reasons.

#### **1. Waste volume is low, and waste composition in Asia is mostly organic.**

Consumption and waste generation patterns are markedly different in the Global North compared to the South. For example, in Western Europe and North America, per capita plastic consumption is around 100 kg a year, while in Asia, it is 20 kg a year.<sup>64</sup> Waste generation is also different: in 2016 average national waste generation per day in South Asia, East Asia and the Pacific was around 0.52 and 0.56 kg per capita respectively—far lower than waste generated in North America (2.21 kg/person/day) and in Europe and Central Asia (1.18 kg/person/day).<sup>65</sup> There are also variations in waste characteristics. Waste in Asia is comprised of up to 57% organics, while in North America and Europe, organics make up only 27% and 33% respectively.<sup>66</sup>

This high portion of organic matter makes waste in Asia unfit to be burnt without preparation (which will cost additional resources); and the low portion of residual waste, as well as low energy content of the waste in general, makes burning waste an uneconomic proposition.

For instance, in China, where the waste composition is mostly organic, the average heating value of municipal solid waste is 3-6.7 MJ/kg (megajoules per kilogram), significantly lower than the heating value of waste in Europe and North America (between 8.4-17 MJ/kg).<sup>67</sup> To sustain heat, "waste-to-energy" incinerators in China need an additional input of coal, aside from waste. The official limit placed by China's government on coal as a percentage of the fuel in WTE incinerators is 20%, but studies note that local incinerators use as much as 50-70% coal.<sup>68</sup>

#### **2. Developing countries generally have weak regulatory and governance structures, and often lack necessary technical resources and infrastructure, making it difficult to effectively monitor—and hold accountable—operators of environmentally and socially sensitive infrastructure.**

Specific to waste infrastructure in the Global South, there is a lack of capacity for effective maintenance, emissions monitoring, public reporting and transparency. For example, one study revealed that in China, only 65 of 160 WTE incinerators in operation at the time publicly revealed their pollution emissions data; and of these, only 20 plants were in compliance

with legal limits on emissions.<sup>69</sup> Other cases of lax governance and monitoring with regard to waste infrastructure in ADB borrowing countries have also led to incidents and accidents with disastrous consequences on local populations, particularly those living on the margins.<sup>70</sup>

Technical infrastructure (including personnel, and testing and maintenance facilities), as well as capacity and funds necessary to maintain incinerator facilities, are also typically lacking in the Global South. As the United Nations Environment Programme (UNEP) Division of Technology, Industry and Economics warns in their website,<sup>71</sup>

...for environmentally sound incineration, air pollution control equipment must be serviced regularly by highly specialized personnel. Monitoring equipment is costly and requires aggressive maintenance and servicing by trained technicians. In summary, when incineration is done in a manner that has low adverse health and environmental impacts it is expensive. When it is done poorly (with low financial costs) it can be expensive in terms of human health and environmental impacts... Given these conditions, incineration with or without energy recovery does not appear to be a sound option for most situations encountered in developing countries.

### **3. Many developing countries in Asia lack the waste infrastructure and associated policy framework that address approaches higher up the waste hierarchy, and which need to be prioritized instead of waste incineration.**

Many countries in Asia still do not have efficient waste segregation and collection systems in place, so that oftentimes, mixed waste end up in open dumps. There is also a significant lack of recycling infrastructure and associated policy support not just for recycling, but also for waste reduction and policies such as extended producer responsibility (EPR) schemes to regulate waste and pollution. Local and national governments have limited public money to improve waste systems—funds that would be further depleted should the money be used for waste incinerators.

At the same time, however, developing countries are home to millions of informal waste workers who sort, clean and process recyclables, filling a huge gap in the recycling infrastructure in the Global South. Working under very hazardous conditions without adequate social protection, these informal workers are largely unacknowledged despite their immense knowledge of, and contributions to, reduction, reuse and recycling in cities and municipalities.

If recognized, organized, and invested in, informal waste workers represent a huge opportunity for people-centered source-segregation and recycling that can provide green, decent and improved livelihoods that can help lift them out of poverty. In developing countries, prioritizing actions higher up the waste hierarchy means supporting recycling and reduction efforts that improve the quality of the livelihoods of waste workers. Governments and international agencies should thus commit to including the informal sector in policy and project design in maximizing recycling, minimizing landfilling, and eliminating incineration altogether.<sup>72</sup>

### **4. Support for incinerators locks countries in the Global South into a destructive, linear resource management and development model.**

Building incinerators in developing countries will block the adoption of sustainable resource management systems in places where they are most needed. A shift in the way we manage our resources—from the destructive linear economy to a sustainable circular economy, is essential

in order to decouple economic growth from environmental destruction. Incinerators will prevent developing countries from avoiding the mistakes of industrialization in the Global North, creating even greater pressure on the planet. (See further discussion in Section VI.)

## **IV. ADB policies: fast-tracking incinerator investments, backtracking on social and environmental commitments?**

The following section will consider ADB's policy commitments in relation to their current investments and promotion of WTE incineration projects in Asia. In particular, relevant components of the following operational strategies and policies will be considered: the revised poverty reduction strategy (2004), promotion of renewable energy as per the 2009 Energy Policy, environmental and social safeguards as per the 2009 Safeguard Policy Statement (SPS), information disclosure as per the 2011 Public Communications Policy,<sup>73</sup> the bank's climate change operational framework (CCOF), and standards for integrated solid waste management (ISWM). In addition, this section also reflects on the bank's policies to facilitate large-scale infrastructure developments through the mobilization of the private sector, particularly public-private partnerships (PPPs), equity investments and support to financial intermediaries (FIs).

### **Poverty reduction strategy**

According to ADB's Poverty Reduction Strategy (PRS), all bank operations are supposed to be directed towards helping borrowing member countries reduce poverty and improve living standards through the three pillars of "pro-poor sustainable economic growth, social development, and good governance."<sup>74</sup> "Inclusive development" is proposed to be achieved by investing in "capacity development, environmental sustainability, gender equality, private sector development, and regional cooperation." In addition, both private and public sector operations of the bank are supposed to adhere to "social dimensions" by ensuring compliance to social safeguards, upholding principles of participation as well as gender equality and mitigating social risks "especially among vulnerable groups."<sup>75</sup>

Although the PRS has been updated since the bank's founding more than fifty years ago to adjust to changing times, it does not reference or commit to international laws and standards outlined in internationally accepted human rights or environmental agreements. As a result, the bank can remain fundamentally unaccountable to the people and governments it is mandated to serve, protected by a guarantee of legal immunity. It is in this context that the bank continues to finance projects, investments and technical assistance in toxic industries, such as incineration and fossil fuel extraction, which exact a heavy toll on people's health and livelihoods.

## 2009 Energy Policy

The 2009 Energy Policy is written with a stated mandate to drive forward “inclusive growth in a socially, economically, and environmentally sustainable way” through promoting the development of “reliable, adequate, and affordable energy.”<sup>76</sup> Its framework is based on several key principles, including the following: prioritizing RE projects, encouraging private sector participation and public-private partnerships, particularly by “increasing the synergy of ADB’s public and private sector operations”<sup>77</sup> and ensuring compliance with the bank’s environmental and social safeguard policies (SPS 2009). In general, the policy considers RE as being cost effective and contributing to increased quality of life of communities.<sup>78</sup>

However, the policy incorrectly defines WTE incineration as RE (and therefore to be prioritized). As mentioned in the previous section, it is misleading to define WTE incineration as RE. Waste, in any form, is not a renewable fuel comparable to the sun or wind. Waste generation is also avoidable, as proven by today’s increasing trend toward Zero Waste systems and design principles.

The Energy Policy does not explain how it defines “renewable energy,” nor for whom and how the various RE options, including WTE incineration, would be cost effective or support a better quality of life. For example, incinerating wastes produces dioxins, ash particulate and other contaminants. No level of exposure to this cocktail of toxic pollutants, whether in the air, soil and/or groundwater is safe; nor can it be claimed such investments “do no harm” or take a precautionary approach (as per the principles outlined in SPS 2009).

It is also not “cost effective”: many analyses have shown that WTE incineration is the most expensive approach to both electricity generation and waste management. Neither are these facilities cost effective for the people who have to deal with the life-long impacts on their health, the local institutions that need to respond to these impacts, or for governments that get locked into “put-or-pay” contracts with private developers (i.e. being essentially penalized for not producing enough waste to maximize capacity).

The advice provided by the bank (see section on ISWM below) is consequently that member countries should mitigate these problems by investing in expensive technologies to pre-treat the waste before burning, and afterwards, to treat the resulting pollutants.

Key opportunities are therefore lost that could otherwise support member countries to shift towards low-cost forward-looking alternatives with greater longevity based on recognized forms of RE (wind, water—excluding large-scale hydropower—and solar power), and ensuring accessible composting options for organic wastes.

## Safeguard Policy Statement (2009)

As a result of the heavy environmental and social impacts of waste incineration, and the possibility of encroaching on indigenous peoples’ communities and ancestral domain, ADB investments in WTE incineration facilities could conceivably trigger any of the three categories in the bank’s 2009 Safeguard Policy, namely those related to the environment, involuntary resettlement, and Indigenous Peoples.<sup>79</sup>



## On the environment

ADB requires that a “no project” alternative be considered by project developers from the outset.<sup>80</sup> In addition, prior and during the project, direct, indirect, cumulative and induced environmental impacts and risks are all to be considered, monitored and managed within the entire project “area of influence.” In terms of management and mitigation, the ADB policy also specifies that developers should follow procedures that “do no harm,” uphold the “polluter pays principle,”<sup>81</sup> and take a “precautionary approach.”<sup>82</sup>

Notably, however, given the promotion of private sector interests, particularly in relation to the development of infrastructure to provide energy and waste disposal services, entertaining a “no project option” based on community or environmental considerations could be labeled as unreasonable by governments seeking to attract corporate investments. Furthermore, put-or-pay incinerator projects would effectively comply neither with a precautionary do no harm approach, nor with a “polluter pays” principle.

## On forced displacement of communities

The involuntary resettlement safeguard applies to cases of both physical and economic displacement (inclusive of impacts on income, livelihoods, land and access to assets) that can be partial, permanent or temporary. People whose livelihoods have been impacted are to be provided with support to restore or improve their conditions, with compensation paid for any impacts prior to project implementation.<sup>83</sup> Given the impacts of incineration on the air and soil in the surrounding area, residents may be induced to abandon their homes, agricultural fields or areas where they graze livestock, for example. However, it appears that WTE incinerator investments by ADB reviewed for this paper do not take these impacts into account from the outset of financing them, despite ample evidence-based literature documenting such implications on community health.

## Indigenous Peoples’ Rights

The Indigenous Peoples’ safeguard is triggered in cases where ancestral lands, cultural resources or assets are impacted and/or where Indigenous Peoples’ dignity, livelihoods or rights are affected. It is also applicable in cases where communities continue to self-identify as Indigenous, but no longer hold collective ancestral claims or identification with certain territories due to past relocations or displacement. “Broad community agreement”<sup>84</sup> to the project is supposed to be granted before a project is built and plans are supposed to be developed in a participatory way (verified in an “Indigenous Peoples’ Plan”).<sup>85</sup> However, this principle remains vaguely defined, explicitly failing to match the more stringent wording outlined in the internationally accepted *UN Declaration on the Rights of Indigenous Peoples*.<sup>86</sup>

All three safeguard standards require consultation with stakeholders and their informed participation in project-related discussions, the implementation of project-level grievance mechanisms and regular monitoring of impacts to be recorded in publicly disclosed reports. However, key challenges in effective implementation of both investor-led consultation processes and company grievance mechanisms can arise in relation to WTE incinerator facilities. For example, affected communities generally lack access to independent evaluations of project impacts and may fear retaliation for raising concerns (especially when, as outlined below, ADB’s 2017 *Integrated Solid Waste Management: A Practical Guide for Local Governments* recommends that municipal officials champion incinerator projects and effectively deflect public criticism, while company proponents are encouraged to offer “socially

responsible” activities, such as funding for recreational programs and promotional activities backed by government officials).

### **National laws, regional policies and international commitments**

Central to the bank’s safeguard policies is compliance with the national laws of the country where a project will be hosted. In the “Overarching Statement on ADB’s Commitment and Policy Principles” of its Safeguard Policy Standards, ADB states that it will not finance “projects that do not comply with the host country’s social and environmental laws and regulations, including those laws implementing host country obligations under international law.”<sup>87</sup>

However, there are very clear cases of projects where this safeguard policy appears to be disregarded by the bank. Aside from apparently diverting countries from the pathway of resource sustainability, ADB’s active endorsement of incineration seems to undermine national and regional environmental laws and policies, and international commitments of countries in Asia.

### **Contravening environmental laws in the Philippines**

The Philippines has a ban on incineration. The ban is enshrined in the country’s Republic Act 8749, or the Clean Air Act of 1999.<sup>88</sup> The ban is considered a landmark environmental law; it recognizes the innate hazards that waste burning poses on public health and the environment. This ban is further reinforced in another landmark environmental legislation, Republic Act 9003 or the Ecological Solid Waste Management Act,<sup>89</sup> which sets forth ecological Zero Waste approaches for waste management in the country.

However, ADB actively promotes WTE incineration in technical assistance projects in the Philippines, in apparent contravention to the country’s national environmental laws. In 2017, under the regional project, “Mainstreaming Integrated Solid Waste Management in Asia” (project no. 46248-001)<sup>90</sup> the bank commissioned a pre-feasibility study for the recommendation of an incinerator facility in Quezon City.<sup>91</sup> In the same year, it granted USD 40 million for another study on the establishment of a WTE incinerator in Cebu City.<sup>92</sup> Another technical assistance project in 2014, “Republic of the Philippines: Solid Waste Management Sector Project” (no. 45146-001)<sup>93</sup> also recommends incinerators in several cities and municipalities in the country.

The 2014 project report acknowledges the incineration ban, but avoids the word “incineration” to refer to its recommended “thermal method” for treating residual waste for creating energy (which is a technical description of WTE incineration). The document goes on to say that its goal is to “pave the way for WTE in all major urban cities.”<sup>94</sup>

The Quezon City pre-feasibility report for project no. 46248-001 glosses over the ban, stating, “[u]pon discussing with the QCEPWM [Quezon City Environmental Protection & Waste Management Department] it was clarified that incineration technologies could be accepted as long as the proposed technology complies with the stringent air emission standard in the Clean Air Act.” It should be noted, however, that the QCEPWM is not the authority for the interpretation of the country’s national laws. Tellingly, this is also the interpretation of the Clean Air Act which incinerator proponents are using to erode public trust in the said law, and which ADB is now using as basis for its recommendations.

Additional to the apparent efforts that erode trust in the incineration ban are articles in ADB's online portals. One article validated ADB's seeming efforts to subvert the ban, stating that its project "assisted with the contractual mechanics for a WTE facility under a public-private partnership, including the associated social, legal, and financial issues that need to be clarified and simplified."<sup>95</sup> In another article, the incineration ban is cited as one of the "major obstacles" to waste management in the country, and its importance as the first environmental law of its kind in the world was derided.<sup>96</sup>

Moreover, ADB appears to disregard provisions in the Philippines' Republic Act 9513, or the Renewable Energy Act. The Renewable Energy Act was established in order to "[e]ncourage the development and utilization of renewable energy resources as tools to effectively prevent or reduce harmful emissions and thereby balance the goals of economic growth and development with the protection of health and the environment."<sup>97</sup> The law therefore explicitly promotes actual renewable sources of energy such as wind, solar, hydro, geothermal, biomass and ocean energy. The law clearly defines "[b]iomass resources" as "non-fossilized, biodegradable organic material originating from naturally occurring or cultured plants, animals and micro-organisms, including agricultural products, by-products and residues."

However, ADB's Quezon City pre-feasibility study states that in order for their proposed WTE incinerator project to earn more revenues, the project "would be classified as part of the biomass category within Renewable Energy Act" for it to be "eligible for a feed-in tariff."<sup>98</sup> This goes against Philippine laws: the WTE incinerator proposed in the study is meant to handle municipal waste (which is a mix of plastics, paper, glass, metals, textiles, etc.) and not biomass waste.

### **Disregarding regional policies that aim for sustainability**

In terms of regional policies, the South Asian Association for Regional Cooperation (SAARC) in 2004 adapted the Dhaka Declaration on Waste Management. The declaration aims to "promote an effective, efficient, affordable, safe and sustainable waste management system of all the urban/rural settlement of SAARC countries with special attention to addressing the needs of the poor."<sup>99</sup> Notably, the declaration states that "SAARC countries agree that incineration as well as unproven technologies...should not be considered as an option for the treatment of their municipal solid wastes" because of the low calorific value of the waste and the high potential for pollution.<sup>100</sup> The declaration is a good example of a waste management framework that considers the local realities in South Asia (including waste composition, community-based source segregation, and the plight of informal waste workers) as well as the need for sustainable approaches.

The *Dhaka Declaration on Waste Management* is referenced in the ADB report *Toward Sustainable Municipal Organic Waste Management in South Asia: A Guidebook for Policy Makers and Practitioners*.<sup>101</sup> However, while the document focuses on organics management, it devotes some recommendations for refuse-derived fuels from the thermal treatment (i.e. incineration) of mixed waste, which includes non-biodegradables such as plastics). Knowledge about the declaration has also not stopped the bank from recommending incinerator facilities to SAARC countries, such as in the Maldives, where the bank is proposing the establishment of a WTE incinerator.<sup>102</sup>

### **Undermining obligations under international law**

In terms of international law, many ADB borrowing member countries are parties to the Stockholm Convention on Persistent Organic Pollutants (POPs). The Stockholm Convention is a global treaty “to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of humans and wildlife, and have harmful impacts on human health or on the environment.”<sup>103</sup> The treaty’s initial goal is the eventual elimination of 12 identified POPs—including dioxins and furans, which it identifies to be predominantly emitted through incineration. With regard to POPs produced as by-products of industrial processes (such as dioxins and furans), the convention calls for their “continuing minimization and, where feasible, ultimate elimination.”<sup>104</sup> ADB has in the past funded projects with the goal of helping eliminate POPs in line with the goals of the convention.<sup>105</sup> But by supporting waste incineration, ADB directly contributes to the increased release of POPs into the environment. In effect, the bank’s schizophrenic funding policy serves to prevent its borrowing member countries from fulfilling their obligations as signatories or parties to the Stockholm Convention.

### **Public Communications Policy (2011) and Access to Information Policy (2018)**

ADB has a public disclosure policy which on paper means project affected communities, concerned civil society members, including NGOs, trade unions representatives or academics have access to timely and a much greater range of information than provided by private banks.<sup>106</sup> For example, the policy requires public disclosure (online) of all initial project data sheets (PDS) and updates throughout the project cycle for both private and public sector operations.<sup>107</sup> Although project data sheets are limited in detail, they are meant to provide basic information about the financing, for example, summary and rationale for the project, committed investments, staff contacts, safeguard categorization, timetable for approval, list of tenders and contracts awarded, and downloadable project documents (including Environmental Impact Analysis [EIA] reports, a poverty and social analysis, resettlement action plans, and periodic evaluation and monitoring reports).

The policy requires that a draft EIA be disclosed publicly on the ADB website 120 days before it goes to the board for approval, with disclosure of the final EIA at the time of ADB receiving it.<sup>108</sup> It also requires disclosure of all environmental monitoring reports. Similarly, a draft and final resettlement action plan and, if applicable, Indigenous Peoples’ Plan are also to be disclosed online along with reports on respective monitoring and corrective actions taken.<sup>109</sup> The policy further calls for project developers to “ensure full communication and consultation” with affected communities and other interested stakeholders (including NGOs).<sup>110</sup>

Beginning in 2019, this policy will be replaced by the Access to Information Policy. This new policy has a mandate to promote “stakeholder trust,”<sup>111</sup> but does not explicitly state which stakeholders it will prioritize for trust building (given that, for example, garnering trust from affected communities or from investors on matters of transparency require different approaches). There are no time-bound requirements for disclosure of an EIA or Resettlement Action Plan, nor requirements to update the Project Data Sheet. This new policy also appears to offer a wide range of possibilities for exceptions to disclosure to be requested by project proponents based on claims that information is “proprietary” and consequently to be kept confidential. The policy text further states that “full disclosure is not always possible”



particularly because of a need to pay attention to the “views of borrowers and clients regarding the manner and timing of disclosure.”<sup>112</sup>

However, full disclosure of information is critical for both affected communities and concerned non-governmental organizations so that they can be informed of proposed and approved projects and the projected social and environmental implications as this will help stakeholders to review whether safeguard standards are being implemented. From this perspective, although limited and clearly defined exceptions could be potentially considered for genuinely confidential company information contained in contracts, specific information to assess environmental and social impacts along with broader terms and conditions of financing should still be available publicly in a timely manner.

### **Integrated solid waste management (ISWM)**

Based on the bank’s various project and public documents, incineration is deeply embedded in ADB’s approach to solid waste management. The bank puts forward incineration as an approach that cities and municipalities can consider whenever funds are available. However, there is a significant absence of information from the bank which discusses the social, environmental and economic drawbacks of incineration necessary for government decision makers and communities to know about when considering the range of options available.

The discussion below of ADB’s framework for approaching solid waste management is gleaned from two key publications it has published on the subject that relate to Asia and the Pacific: *Integrated Solid Waste Management for Local Governments: A Practical Guide* (2017) and *Toward Sustainable Municipal Organic Waste Management in South Asia: A Guidebook for Policy Makers and Practitioners* (2011), which promotes the processing of highly toxic refuse-derived fuels (RDF) composed of mixed waste, i.e. plastics and biodegradable waste, for incineration.

These documents claim that “mass burn” WTE is “attracting increasing interest” among municipalities in the region.<sup>113</sup> The bank acknowledges within the text of these publications that communities where incinerators are proposed, as well as civil society groups, are concerned about the impacts of emissions on people’s health and the environment.<sup>114</sup> Yet, it does not pursue this angle by validating concerns in the text, or by explaining how investments can be considered clean and green or appropriately meet the social and environmental commitments as outlined above.

Instead, the first publication mentioned suggests municipalities could undertake concerted communications efforts to deflect (and apparently ultimately silence) such forms of criticism and public engagement.<sup>115</sup> In doing so, ADB appears to follow an approach that fails to consider the actual concerns expressed by people within member countries, as well as the need to advance low cost renewable energy and waste management solutions that do not rely on outdated or harmful technologies. This raises a significant cause for concern as it implies that the bank condones stifling democratic debate and dialogue in order to prioritize private sector interests; this often leads to community members fearing retaliation for raising legitimate concerns.

According to ADB publications, including the two referenced, much of the waste in Asia and the Pacific is organic waste.<sup>116</sup> While the 2011 publication does recommend composting

or anaerobic digestion (which are the best ways to deal with organics), both publications perversely endorse how organic waste can be treated in order for it to be incinerated, detailing preparation in a bunker for multiple days in order to keep it away from moisture and to drain it of leachates.<sup>117</sup> No information is provided by the bank on how they expect such facilities to be financed or maintained, or how municipalities should deal with remediating any resulting contamination from the leachate residue. It is also not clear why less costly municipal solutions are not suggested in this context, such as the possibility of local governments investing in institutionalizing accessible household level composting and organic waste collection.

In addition, ADB publications do recognize the “long lead time” needed before incinerator facilities are functional, and the requirement of municipalities to commit to providing high volume capacities of waste on an ongoing basis to ensure the facilities recoup their steep investments.<sup>118</sup> The bank does not problematize this situation in light of regional realities, such as the fact that municipalities need timely, appropriately scaled and cost-effective options that are accountable to the communities they serve. Instead, it would seem that ADB has assumed a role to recommend that borrowing member countries simply accept facilities designed and built by corporate energy or waste management firms that require high capital expenditures, entail heavy operating costs (economically, socially and environmentally), and which lock municipalities into risky and long-term put-or-pay contracts that require committed payments even if full capacity of the facilities are not used.

In terms of specific recommendations, the 2017 publication suggests that moving grate technology is the “most appropriate” for municipalities in the region because of the “flexibility” it offers in terms of burning different types of waste.<sup>119</sup> Nevertheless, it notes the drawbacks of typical requirements for large expanses of land, and commitments by authorities to provide a large volume of waste on a regular basis given the large capacity of these facilities.<sup>120</sup>

The publication also claims that given that emissions typically “contain various pollutants,” investments would be needed in appropriate air pollution technologies to “mitigate harm” to the surrounding communities.<sup>121</sup> It is not clear how the municipality is expected to pay for such mitigation measures, how communities would be compensated if their land or assets are usurped for the project, nor what scrubbing technologies the bank envisions being used for emissions, given the lack of scientifically-sound methods to eliminate persistent organic pollutants, such as dioxins, found in the particulate matter emitted by such facilities.

In developing such projects, ADB suggests local governments pursue a private-public partnership (PPP) model based on “Design Build Own Operate” basis (DBOO).<sup>122</sup> This means that a company that wins the project bid makes the final decision on how to design and build the facility, effectively owns it throughout the contract term, makes operational decisions, and profits from their investments by requiring payments from the community or municipality using the facility. This is recommended as being a way for local governments to “attract private financing” to build costly infrastructure, in a project specific model that “reduces commercial risks”<sup>123</sup> through guarantees to use the facility based on multi-year contracts. However, such recommendations from the bank do not take into account the corresponding risks that are then borne by communities and the government, given that it is corporate interests that wield the balance of power.

## Private sector operations

In 2017, ADB released a report entitled *Meeting Asia's Infrastructure Needs*. The report states that infrastructure financing required for Asia to meet the needs of the region's rapidly urbanizing populations will reach over 25 trillion dollars of new investment.<sup>124</sup> The report claims that a major portion of this investment will need to be sourced from the private sector, and that as a result, countries need to create an enabling regulatory and investment environment that is attractive to the private sector, developing opportunities for a "robust pipeline of bankable PPPs [public-private projects]"<sup>125</sup> and other private sector financing modalities.

Although the study claims that it takes into account climate-related adaptation and mitigation needs of member countries, projections appear to be based on large-scale projects designed, built and operated by the private sector that would not necessarily need to comply with stringent environmental standards, commit to ensuring no greenhouse gas or other toxic emissions, nor be built at an appropriate scale, tailored to the needs of local people (and not the company's shareholders).

For example, there is no guarantee that these projects will aim to serve the more vulnerable sectors of society who would not be able to offer "full returns" on investment or a profitable "consumer" base. In addition, the notion of "climate proofing" infrastructure remains vaguely defined in this projection of required financing,<sup>126</sup> with large-scale facilities unlikely to be forward-looking, resilient and adaptable.

An analysis of the report shows that instead of helping countries in the region meet commitments to the Paris Agreement, or to shift towards the circular economy models based on no-waste and low/no carbon emission approaches (such as those being pursued by several key non-regional member countries), the advice provided appears to prioritize the bank's own private sector strategy and public-private partnership operational framework, as outlined below.

ADB's institutional approach to the private sector as outlined in its revised operational framework (2006) is based on the idea that the private sector is critical to "economic growth and sustainable development," and requires a public sector that "understands, values, and facilitates private sector activity," "a sound policy and regulatory environment...to enable business to function efficiently," and "the certainty... needed to make substantial and long-term commitments."<sup>127</sup>

To maximize the private sector role in its operations, ADB identifies three main priorities: (i) establishing an enabling policy and institutional environment for private sector development; (ii) promoting public sector goods and services to attract and sustain private sector involvement; and (iii) making direct private sector investments on "market developing" transactions.<sup>128</sup> Similarly, according to the bank's Public-Private Partnership Operational Plan (2012-2020), priorities include: (i) advocating for PPPs; (ii) developing and enhancing the enabling environment for PPPs; (iii) identifying, developing and preparing PPP projects; and (iv) providing non-sovereign and sovereign financing to leverage assistance to the private sector.<sup>129</sup>

As a result, the bank aims to "shift from its current 'project focus' towards a role as a finance aggregator, not dissimilar to that of an investment bank," meaning increasingly focusing on financing through equity and financial intermediary modalities.<sup>130</sup> As described by ADB on the

Private Sector Operations section of its website, in making investments in the infrastructure sector, assistance is provided to companies in the form of equity investments, loans, guarantees, “complementary financing schemes,” and technical advisory services to promote state restructuring of existing policies and approaches to infrastructure development.<sup>131</sup>

Private sector operations may, for example, advance investments in banks, capital market institutions (such as stock and fixed income exchanges, central depositories and rating agencies), insurance companies, and funds (including private equity funds, venture capital funds, mutual funds and distressed asset funds). Offering support to financial intermediaries (FIs), ADB claims it can facilitate greater investments in infrastructure development and climate change finance.

Significantly, these investments (i) do not require public disclosure of the component projects that are eventually financed, and (ii) do not necessarily comply with the banks’ social and environmental standards, including offering limited opportunities for affected communities to raise concerns through grievance or complaints mechanisms. Accordingly, in advancing support for a “bankable” investment climate and project pipeline, ADB directly ends up promoting the idea that compliance with guidelines on transparency and standards for respecting the economic, social and cultural rights of people in borrowing member countries can be voluntary, subject to decisions by investors.

Within this model, people reliant on the infrastructure operated by the private sector are viewed as consumers of goods and services developed by business entities that are accountable to their shareholders—as opposed to an engaged citizenry working with their governments. As a result, affected communities are left with fewer opportunities to raise legitimate concerns as citizens, facing a lack of access to information because of business confidentiality clauses. They also can end up facing further barriers to become aware of, or to be able to access any grievance mechanism processes. In effect, such investments do not open democratic spaces where affected communities have possibilities to engage elected officials in dialogues about the pros and cons of private sector investment in infrastructure.

These are factors which are critically important if local governments are considering being locked in put-or-pay contracts for toxic industrial facilities, such as waste incinerators. In addition, if local governments consider, or do lock in, contracts to develop infrastructure for the provision of services to communities (including for waste management, for example), but changes are sought after an initial contract is discussed (for instance, due to concerns related to environmental implications or social impacts), there is an increasing risk that the corporations involved can launch a legal suit using an investor-state appeals system, which are common in relevant investment treaties to which member states are party, such as the international “Energy Charter Treaty.”<sup>132</sup>

## Climate Change Operational Framework (CCOF)

Alongside the above approach to accelerate private sector investment regardless of potentially devastating impacts to local environmental health, ADB's Climate Change Operational Framework (CCOF) articulates an agenda to (i) support developing member countries in meeting "ambitious climate objectives articulated in nationally determined contributions (NDCs) [to significantly decrease carbon emissions] and other climate plans," (ii) advance "low greenhouse gas emissions development," and (iii) "link climate actions to the wider sustainable development agenda."<sup>133</sup> Although on paper, this framework would seem to be positioned to support the needs of the wider public sector, its substance reveals an agenda that prioritizes incentives to the private sector to "stimulate deployment" of "climate technologies,"<sup>134</sup> including WTE incinerator projects.

To make mitigation and adaptation actions more "competitive" and "affordable" for member countries, specific funding facilities have been developed by the bank, such as the Climate Investment Funds and Clean Energy Financing Partnership (CEPF). The grants made through these modalities are not necessarily outlined prior to approval in member countries' partnership strategies (as is the case in more "traditional" project-level financing undertaken in the past), nor consistently listed on the bank's online project database. As a result, communities and concerned civil society groups can find it more difficult to access information about investments under these facilities prior to the project cycle being approved.

Increasingly worrisome, some of the top funding priorities for these fund facilities—including the CEPF—are WTE incinerator projects.<sup>135</sup> Accordingly, a recent report published by ADB (about helping countries meet and go beyond their Nationally Determined Contributions [NDCs] climate commitments), suggests that under "enhanced low carbon scenarios," member countries could exceed their NDC commitments by increasing reliance on technologies classified by the bank as renewable, including WTE incinerator facilities.<sup>136</sup> But at the same time, another report published by ADB on "Green Financing" for infrastructure categorizes WTE incinerator projects in the region as among options for generating energy that "raise questions of their construction and operational effects on land, air, and water, related lifecycle costs, as well as risks due to malfunctioning, system independence, and retirement."<sup>137</sup>

Although outdated perspectives on incinerating wastes evidently continue to be promoted by senior officials and policy makers within ADB, as illustrated above, WTE incinerator facilities advanced in borrowing member countries present significant investment risks, fail to comply with key provisions of the bank's safeguard standards as well as core pillars of the bank's poverty reduction strategy, and presents a lack of accountability to the very people within member countries it is mandated to serve.

At a time when ADB is adopting updated frameworks for moving forward to 2030, it is critical for bank officials to revise all current policies on waste management and WTE incinerator projects. It is only through such a fundamental shift that the bank could move into a position to promote genuine downstream, forward-looking and transparent investments in waste and energy programs in line with its own safeguard standards and appropriately tailored to the needs of the people and communities it is tasked to serve.



## V. Investing in incinerators: a snapshot of ADB's promotion of harmful waste incinerators

ADB documentation shows that financing for private sector incinerator investments was identified as a priority focus for the Infrastructure Finance Operations Division 2 (for China, Mongolia and Southeast Asia) as early as 2006. Over a decade later, an initial scan of ADB financing for incineration from information accessible on the ADB website illustrates that active, approved and proposed projects now span South, Southeast and Central Asian member countries, and that several hundreds of millions of dollars are accordingly at stake.

However, precise numbers of projects and funding involved is more difficult to discern from the perspective of concerned stakeholders for several reasons: (i) the wide range of projects to consider (e.g. technical assistance, public sector projects, regional financing, financial intermediary modalities and general capital loans via private sector operations); (ii) the different sectors involved (for which investments are not necessarily cross-listed online); and (iii) the vagueness of wording of investment descriptions in relation to providing advice or support for ISWM or urban waste management infrastructure. In addition, some financing, particularly with regard to private sector equity and financial intermediary modalities, is earmarked for multiple subcomponent projects as determined by the corporate proponent, with little, if any, data provided about the actual facilities prior to construction stages.

There also appears to be more informal channels of support for the sector evident in public relations materials, ranging from promotional press releases to advice provided through blogs and columns written and published on the ADB website (examples of which are cited below). Nevertheless, according to an analysis undertaken by ADB in 2013, the bank had:

funded only a few projects with more than 1,000 tons/day treatment and/or disposal capacity, a common quantum of daily generation of municipal solid waste in many cities in Asia. These projects largely are waste-to-energy applications in the People's Republic of China, funded through the Private Sector Operations Department...[but] do not provide a long-term holistic management of municipal solid waste on a city-wide scale.<sup>138</sup>

The official account at the time, affirmed that less than 10 projects in ISWM were part of the ADB portfolio. However, the data provided within this evaluation did not identify these projects, and as a result, it remains unclear which ones among them incorporated components for incineration of waste.<sup>139</sup>

Within the context of offering advice to member countries to invest in incinerator facilities, the bank specifically suggests reliance on support from the private sector, accordingly calling for member countries to ensure an "enabling environment" for business, both in terms of policy and legal frameworks. However, the bank does not insist that member countries offer an enabling environment for the communities affected in order to ensure key provisions of their safeguard policies are not undermined. As a result, where incineration projects are proposed in member countries (including China, Vietnam and the Philippines), there remains a lack of safe space available for community-based advocates to raise critical concerns about such investments without fearing repercussions on their own and/or their family's security.

To illustrate the ongoing promotion of incineration as a viable solution to waste management—despite serious economic social and environmental risks involved—examples of specific investments in the sector in China, the Philippines and Vietnam, are discussed below. Aspects of the projects are outlined briefly, highlighting some notable concerns, but do not provide comprehensive assessments.

## Private and public sector financing in China

The most prominent recipient of investments in incinerator projects within ADB private sector operations portfolio are two Chinese corporations, China Everbright International Limited (CEIL) and Dynagreen, with the former submitting projects for ADB's consideration as early as 2008 (approved in 2009)<sup>140</sup> and the latter being awarded a project loan worth USD 200 million in 2012. Indeed, ADB financing in the incinerator sector most recently approved in Vietnam has also engaged partnerships with these same Chinese firms.

Since the bank's investments for Everbright and Dynagreen have proceeded as capital investments or in the form of financial intermediary grants, no details of precise incinerator projects to be planned and financed are available prior to approval. Specifically, for example, sites are chosen according to a corporate growth plan and shareholder interests, identified subsequent to financing.<sup>141</sup> For CEIL, ADB approved the "Municipal Waste to Energy Project" (no. 43901-014) through a financial intermediary (FI) arrangement with China Everbright Environmental Energy Limited (CEEEL, Everbright's special purpose company for developing incinerator projects). To carry out this project, the bank provided (i) a direct loan of USD 100 million; (ii) a "complementary loan" of USD 100 million funded by international banks; and (iii) a Technical Assistance grant of USD 653,000 funded by the Clean Energy Fund. The funds were then funneled by Everbright into several different incinerator projects "according to CEIL's investment plan," specifically in Jinan, Zhenjiang, Suzhou, Pizhou, and Sanya.<sup>142</sup> The TA grant meanwhile was issued to undertake an (i) assessment and evaluation of the WTE plants, and (ii) capacity building of CEIL environmental and social safeguards in relation to the plants.

The most recent online ADB evaluation claims that CEEEL "introduced state-of-the-art technologies to address urban waste management problems," "creating better living standards in the cities of Jinan, Suzhou, Zhenjiang, Pizhou, and Sanya," and that as a result, its contribution to "ADB's strategic development objectives is rated excellent."<sup>143</sup> It also asserts the following: (i) "[e]nvironmental impacts during construction were assessed as minor, short-term, and temporary;" (ii) that the facilities comply with local laws and international standards and "have incurred no fines or penalties due to environmental non-compliance"; (iii) no material environmental claims have been filed; and (iv) "no grievances or complaints regarding environmental impacts or significant spills have been recorded."<sup>144</sup> Everbright's active community outreach and development program that provides grants and funds for municipalities and festival celebrations for surrounding communities is praised along with the conclusion that there are no outstanding compensation or land acquisition concerns among people affected.<sup>145</sup>

## Communities bear the impacts of ADB's incinerator projects in China

Information gathered by independent researchers who undertook site visits to Everbright's ADB-financed facilities of Jinan, Suzhou and Zhenjiang in 2015 provides a nuanced account of the situation based on observations and first-hand interviews of local people, including government officials and health authorities. Several alarming environmental and social issues recorded (some of which are highlighted below) illustrate fundamental failures of the projects to comply with local laws and ADB safeguard policies on the environment as well as involuntary resettlement (including consultations prior to project development and the provision of accessible grievance mechanisms).

For instance, at all three sites, fly ash was found to be stored in areas lacking protection from rainwater, and was disposed of openly in municipal waste landfills in powder (non-stabilized) form.

This practice fails to comply with national regulations on disposal of incinerator waste (classified as toxic) as well as municipal waste landfill disposal policies. The facilities therefore fail to meet local standards, let alone "international standards" as claimed in reports available on the ADB website.

Researchers found that the incinerator slag contained significant quantities of plastics and other unburned waste, meaning that the temperatures applied were not sufficiently high, and would accordingly lead to greater levels of emissions containing highly toxic chemicals such as dioxins. They also saw slag being stored and cleaned with water in open areas where contaminants could leach into the surrounding area, including municipal water sources. Lastly, according to local regulations for incinerators, facilities should be displaying up-to-date information about emissions testing results on LED boards visible at the entrance gate. Researches confirmed that such detailed information was not available at the facilities visited, and according to the staff at local environmental departments, neither had such data on emissions testing been submitted when requested, as was legally required.

In relation to project-affected communities, both the Jinan and Suzhou facilities are located close to residential areas where people raised several key concerns when interviewed by researchers. For instance, while the residents near the Jinan project testified that they had protested vocally in opposition to the siting of Everbright's facility from the outset of its proposed construction, the communities around the Suzhou project reported they had not been informed about the facility prior to construction (meaning they were not appropriately consulted as per ADB safeguards).

Near the Jinan incinerator, parents and health authorities reported noticeable impacts on their children's respiratory health. In addition, given that people rely on the food they grow in the surrounding area, they had noted significant impacts of environmental contaminants on their crop harvests, resulting in significantly decreased quantities and quality of fruits and vegetables. However, despite the fact that local people interviewed stated that they had raised concerns to company management, no response or reaction had apparently been forthcoming.

Further underscoring of Everbright's systematic disregard for environmental and social concerns, are recent reports published in Chinese language news that the company is set to build a waste incinerator facility in community-cultivated paddy fields near a sanctuary for migratory birds in Jiujiang, Jiangxi Province.<sup>1</sup>

Source: *Report Investigating Everbright International Incinerators in China*. (2015). Unpublished investigative report.

<sup>1</sup>See [https://mp.weixin.qq.com/s/ZvrK9cEtY\\_1kHBq4yPsbGQ](https://mp.weixin.qq.com/s/ZvrK9cEtY_1kHBq4yPsbGQ)

Since 2012, ADB's Private Sector Operations Department (PSOD) has financed the "Dynagreen Waste to Energy Project" (nos. 46930-012; 46930-014) in China, in which Dynagreen (an infrastructure branch of Beijing State-Owned Assets Management Company), as the project proponent, determines the siting and models of at least nine incinerator projects.<sup>146</sup> The amount approved for the facilities has totaled USD 200 million to date (two tranches, with 50% as a "complimentary loan"), with an additional half a million USD provided in the form

of a technical assistance grant for the purposes of assessing and improving the company's corporate governance framework and systems for internal risk management.

Few mechanisms are available to hold the company accountable to ADB's safeguard or disclosure policies, given that the company is meant to make decisions based on the evaluations of its own staff/consultants. In addition, although the second tranche of financing (USD 100 million) was launched by ADB in China with loan syndicating financiers (arranged and financed by Bank of Tokyo-Mitsubishi UFJ with contributions from BNP Paribas, Cathay United Bank, CTBC Bank, Shanghai Pudong Development Bank, Fubon Bank, Hang Seng Bank, Shinhan Bank, Sumitomo Mitsui Trust Bank, and Korea Development Bank) in February 2017,<sup>147</sup> no environmental or social monitoring report has been posted on ADB's website since 2015.<sup>148</sup> As a result, although the project data provided in the 2014 annual report (2014 Annual Report on Environmental and Social Management System) demonstrates that facilities are being built with ADB financing in Huizhou, Huiyang, Jixian, Anshun and Zhangqui, as of 2014, all remained in different stages of construction.<sup>149</sup> Consequently, the information publicly available fails to provide information about the actual functioning of these facilities. No disclosure of the additional plans to build the remaining four or more facilities has been provided at the time of writing.

Based on the significant gap in information available, it would appear that there is a lack of compliance in relation to the bank's requirements for public disclosure of scheduled annual updating of environmental and social monitoring reports.<sup>150</sup> This is of critical concern both to independent researchers and other civil society members, as this points to inadequate information about the facilities being financed (where, what stages of development, impacts expected to result and be mitigated, etc.). This non-compliance with disclosure requirements means that there is a resulting lack of opportunities available to undertake independent verification about the situation at project sites and surrounding residential areas.

In relation to public sector financing for incineration, ADB has also provided a technical assistance grant of USD 300,000 to government line ministries in Tianjan for the "Sustainable Management of Fly Ash from Municipal Solid Waste Incineration" (project no. 49019-001) from 2015 to 2018.<sup>151</sup> According to the project description, "Fly ash [produced by incinerator/WTE facilities] is considered toxic in most countries including the PRC [and] typically contains heavy metals and salts and may contain dioxins."

In Tianjin, ADB suggests that there is an estimated 50,000 tons of toxic fly ash waste produced per year out of a total estimation of 3.2 million tons per year in China.<sup>152</sup> To address this, the grant supported consultants to develop (i) technical standards for the processing and disposal of fly ash from municipal solid waste incineration plants; (ii) policy recommendations and plans for reusing/disposing of fly ash; and (iii) the knowledge base available to municipal officials, particularly through the establishment of an information centre on fly ash management.<sup>153</sup>

In its explicit acknowledgement that incinerators produce toxic waste that is not appropriately disposed of in regular municipal facilities, this project would seem to directly demonstrate the lack of a "precautionary" and "do no harm" approach entailed by building incinerator projects, raising key questions about the efficacy of the bank's explicit approval of incinerators, not only in China, but across the region. The additional project that was required to be undertaken to handle fly ash also begs the question why ADB recommends incinerator facilities to their member countries in the first place, when it creates problems that need to be addressed by a separate project that in turn also requires hundreds of thousands of dollars in funding.

## Regional and national project financing in the Philippines

Through the Urban Environment Infrastructure Fund facility, the “Mainstreaming Integrated Solid Waste Management in Asia” (project no. 46248-001) provided advice between December 2013 and March 2017 to municipal governments in Thailand, Philippines and Myanmar on integrated solid waste management.<sup>154</sup> In particular, the technical assistance provided by the bank issued a set of recommendations to suggest the necessity of engaging the private sector in ISWM, particularly to “infuse funds, technical skills and operational efficiencies,”<sup>155</sup> and in some cases, to build of large-scale incinerators.

For example, (as mentioned in the previous section) in the case of Quezon City, ADB consultants undertook a study on the feasibility of a private-public partnership to develop a stoker-type incinerator with a price tag of PHP 13.1 billion (~USD 244 million).<sup>156</sup> This technical assistance investment also resulted in a “Practical Guide” on ISWM for local governments<sup>157</sup> (referenced in the above section on ISWM), which unequivocally advances the suitability of moving grate incinerators for waste management, despite noting concerns of dioxin emissions, opposition by affected communities, the reality that much of the waste generated is actually organic and wet, requiring pre-treatment to dry it, and the need for post-treatment to deal with air pollution, ash and slag.

The Philippines “Solid Waste Management Sector Project” (PSWMSP) (no. 45146-001),<sup>158</sup> an active technical assistance grant and loan with financing of USD 71 million, approved in 2012, builds on a completed project that engaged Proctor & Gamble in planning waste incinerator facilities for two different municipalities.<sup>159</sup> The PSWMSP has resulted in consultants providing detailed recommendations to several local governments to develop incinerator projects with support from the private sector, and financing for the initial development of a facility in one municipality. Support for the incinerator project was augmented with a specific grant from the Urban Environmental Infrastructure Facility. As the project description affirms from the outset, it is intended to “pave the way for WTE in all major urban cities” in the Philippines and that in particular, the “proposed SWM framework points the way for the use of WTE with PPP.”<sup>160</sup> It also explains that ADB is positioned to finance pilot projects for incinerators, but “private-sector involvement is necessary” in order to achieve more comprehensive support for building incinerators across the country.<sup>161</sup>

To carry out the PSWMSP, project consultants undertook a scoping of several “Proposed Highly Urbanised Cities,” developing profiles of these cities for consideration in the technical assistance report. Several of these profiles, including for Baguio, General Santos, Santa Rosa, Zamboanga, La Trinidad and Dumaguete provide recommendations that WTE incineration facilities should be considered as effective ways to manage waste, including organic household materials, particularly via public private partnerships (Annex 3, 3.1, 3.2, 3.4).<sup>162</sup> In addition, Metro Manila, Clark Special Economic Zone, and Bulacan, Pampanga, Metro Iloilo, Metro Cebu, and Metro Davao are all described as places where “WTE operators and financiers” should be engaged.<sup>163</sup>

In the case of La Trinidad, specific planning advice was provided for developing plans for an incinerator facility to supplement the existing sanitary landfill site.<sup>164</sup> In addition, the financing for PSWMSP entailed planning and developing a proposed WTE incinerator facility in Manoc Manoc (in Boracay Island), located 500 meters from the coastline. A USD 2.1 million grant from the Urban Environment Infrastructure Facility was to be drawn upon for this facility along with substantial financial support from the local government unit in Malay Municipality in Aklan Province, in the range of USD 5 million.<sup>165</sup>



Despite advancing waste incinerator technologies through this project, environmental risks noted include an acknowledgement that such facilities “generate residues consisting of bottom ash”<sup>166</sup> that would need to be disposed given the level of toxicity (suggested for landfilling), and that it does generate measurable quantities of greenhouse gases. Policy risks identified include the concern that WTE incineration facilities would be deemed incompatible with current regulations, but mitigation could be undertaken by encouraging recognition of WTE incineration under the national Renewable Energy Act.<sup>167</sup>

More informal communications, such as ADB’s “Asian Development Blog” have also been leveraged to issue recommendations for building more incinerators in the Philippines. For instance, a recent column suggests that local governments should invest in incinerators through engaging with the private sector, suggesting that “it’s time for private companies—especially energy and recycling businesses—to step in,” while the national government can step up to the challenge by loosening environmental regulations, by for example, repealing the incineration ban on the Clean Air Act, as this “[has] eliminated a viable alternative to landfilling.”<sup>168</sup>

Similarly titled waste management components of Integrated (and Socioeconomic) Urban Development Projects have been—and continue to be—advanced in both South and Southeast Asia, including Bhutan, the Maldives, Sri Lanka, Nepal, Indonesia and Vietnam. However, because of the vague description of advice being provided for ISWM recommendations, it is not clear from project data provided whether such suggestions include incineration. Nevertheless, it is notable that a key resource for consultants to rely upon would be the handbook and its promotion of investing in large-scale moving grate incinerator technologies.

### **Bringing waste burning to the Mekong**

As of August 2018, ADB’s PSOD will move forward with a new investment in China’s incinerator company Everbright, to build waste burning facilities in several municipalities in Vietnam (project no. 50371-001).<sup>169</sup> ADB has already posted media releases<sup>170</sup> in praise of the financing. Given that siting of facilities and the concerns of affected communities have yet to be considered, with the poor environmental and community relations track record of Everbright’s facilities in China not evidently considered, such premature celebratory public relations efforts from the on the part of ADB would seem risky and questionable at best.

In July 2017, ADB approved a USD 75 million equity investment and USD 20 million loan through the Canadian Climate Fund for the Private Sector (administered by ADB) in B. Grimm Power Company, under its private sector operations. The corporate loan and investment is to be used to carry out the “ASEAN Distributed Power Project” (no. 50410-001) which entails building several power projects (categorized as generating “RE”), including gas fired plants and WTE projects (potentially WTE incinerators) in Thailand, Cambodia, Indonesia, Lao PDR, Myanmar, the Philippines, and Vietnam. (B. Grimm is a Thailand-based energy company that operates, among other power plants, a WTE incinerator for industrial waste in Rayong Province.<sup>171</sup>)

Project locations and specifications are still to be determined (dependent on decisions to be carried out by the company and its shareholders), but nevertheless has been deemed to apparently not have adverse effects on the environment or indigenous peoples or require substantive forced resettlement of communities. Key information has been redacted from

all ADB documentation about the project, and listed as confidential, including details about the “Implementation Period,” “Operational and Maintenance” indicators for projects built, ADB’s “Assistance” to the company, “Risks,” “Safeguards and Social Dimension Compliance,” “Investment Limitations,” as well as “Performance Indicators with Timelines and Baselines” for required outcomes and outputs. In effect, this means that members of the public, including potentially affected communities and civil society groups in the region have no channels by which to hold either the bank or the company accountable for decisions about power projects planned or built, and no information to rely upon to undertake any form of evaluation from the beginning to end of the project cycle.

Taken together, the above examples are meant to provide an understanding of the range of projects approved since 2009 to promote incineration. As a scoping, it highlights some serious concerns and risks related to the undermining of, and non-compliance with, ADB safeguard, disclosure, and poverty reduction policies. Nevertheless, a more detailed assessment of projects described (given access to necessary information), is necessary to allow for more specific recommendations to be developed and addressed to a range of actors, including both ADB and community members.

## **VI. The shift toward a sustainable circular economy: a death knell for the incineration industry**

In 2015, the European Commission (EC) introduced the EU Action Plan on the Circular Economy. Seen as the region’s strategy to advance a low-carbon, sustainable economy, it states:

The transition to a more circular economy, where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimised, is an essential contribution to the EU’s efforts to develop a sustainable, low carbon, resource efficient and competitive economy.<sup>172</sup>

The action plan acknowledged the unsustainability of the linear economic model of extraction to destruction, and affirmed that the shift toward a circular economy (CE) will “save energy and help avoid the irreversible damages caused by using up resources at a rate that exceeds the Earth’s capacity to renew them in terms of climate and biodiversity, air, soil and water pollution.”<sup>173</sup>

With reference to the waste hierarchy in the EU Waste Directive (2008), the action plan directed member states to prioritize “increasing waste prevention, reuse and recycling”<sup>174</sup> over waste burning and landfilling, in their public policies and investments.

Under this strategy for sustainability, the role of incinerators, including WTE incinerators, are called into question. At the time, the 2015 action plan did not discuss the role of WTE incinerators within a circular economy, but promised a further communication to examine this issue. In January 2017, the EC issued its *Communication on the Role of “waste-to-energy” in*

*the Circular Economy*.<sup>175</sup> The communication acknowledged the need for any plans for new WTE incinerator facilities in the EU “to be framed in a longterm circular economy perspective and to be consistent with the EU waste hierarchy, which ranks waste management options according to their sustainability and gives top priority to preventing and recycling of waste.”<sup>176</sup>

It further states that “[p]ublic funding should also avoid creating overcapacity for non-recyclable waste treatment such as incinerators” since waste feedstock for incinerators are “expected to fall as a result of separate collection obligations and more ambitious EU recycling targets.” Notably, it acknowledges that WTE incinerators are “infrastructural barriers to the achievement of higher recycling rates.” It thus calls on EU member states to “phase-out public support for the recovery of energy from mixed waste,” and warns them that “the risk of stranded assets [in the form of WTE incinerators] is real.” Member states with high incineration capacities are advised to issue a moratorium on new facilities and decommission older and less efficient ones.<sup>177</sup>

More recently, in a report released in September 2018, the EC issued a set of guidelines to Member States at risk of not meeting the 2020 EU recycling targets. Among the priority recommendations were for these states to:

- “Introduce measures (incl. taxes) to phase out landfilling and other forms of residual waste treatment (e.g. Mechanical Biological Treatment, and incineration) to provide economic incentives to support the waste hierarchy”; and
- “Use EU funds more effectively to develop waste infrastructure by ensuring that cofinancing supports prevention, re-use and recycling performance.”<sup>178</sup>

### **The EU’s double standards**

There is clarity in the form of firm recommendations provided to states by the European Commission (EC) that incinerators are not appropriate methods for waste management in Europe or for the people who live there.

In contrast, the European ambassadors at ADB, as well as dedicated funding facilities that draw on European state contributions, continue to advance incinerator facilities as acceptable for governments and people in China, the Philippines, Vietnam and other countries within the Asia Pacific region. Several of ADB’s Climate Investment Funds and Urban Financing Facility Funds support investments in technical assistance or projects for building incinerators. The majority of these funds are sourced from contributions by non-regional member countries in Europe and Scandinavia.<sup>179</sup> In addition, key voting power on the ADB board, which approves the bank’s projects, is held by the European block of member countries, which occupies three of 12 seats.<sup>180</sup>

Therefore, while the EU considers the waste hierarchy “the cornerstone of EU policy and legislation on waste and a key to the transition to the circular economy,”<sup>181</sup> with a primary purpose “to establish an order of priority that minimises adverse environmental effects and optimises resource efficiency in waste prevention and management,”<sup>182</sup> it is of significant concern that their support for waste management projects in developing countries in Asia via funding facilities managed by ADB are in fact moving in the exact opposite direction.

Instead of enabling countries in Asia to leapfrog toward a sustainable circular economy by supporting segregation, reduction, and recycling systems and programs which are much-needed and clearly under-developed in many developing countries in Asia, European countries are funding incinerators which will lock Asia into outdated systems being phased out in the EU. Developing countries, which are already disadvantaged, will be committed into 30-year contracts for waste

burning, and will therefore lose out on many opportunities to develop sustainable, low-carbon, resilient economies being pursued in the EU.

Accordingly, it appears that people in ADB's borrowing member states can only conclude that influential European countries are promoting double standard policies that promote markets for outdated technologies deemed no longer "fit for purpose" in Europe—at the expense of the health and well-being of millions of people in the Asia-Pacific region.

As proven by progressive strategies adopted by several cities and municipalities, political will to improve waste reduction programs can gradually phase out incinerators. One recent example is the City Council of Madrid's new strategy on waste which prepares for the shut down of the city's incinerator by 2025.<sup>183</sup> Another good example is the C40 Cities' Advancing Towards Zero Waste Declaration which pledges to reduce the amount of waste sent to landfills and incinerators by (i) "reducing municipal solid waste generation per capita by at least 15% by 2030 compared to 2015;" and (ii) "reducing the amount of municipal solid waste disposed to landfill and incineration by at least 50% by 2030 compared to 2015, and increase the diversion rate away from landfill and incineration to at least 70% by 2030."<sup>184</sup>

The trend towards a sustainable circular economy is already putting pressure on the global incinerator industry. In the past decade, incinerator companies have been moving to "new markets" in Asia. But it is clear that without the massive support it enjoys from funding institutions such as ADB, waste incineration is on its way to becoming a sunset industry.

At the same time, the agenda for resource sustainability such as the direction towards a truly circular economy, is not confined to Europe or to other developed countries. Many countries and cities around the world have already adapted the concept and are pursuing initiatives aligned with the aim to preserve limited natural resources. China, for example, had already set out its "Circular economy promotion law" as early as 2008. This law aims to "improv[e] the resource utilization efficiency, [protect] and improv[e] the environment and realiz[e] sustainable development," and directs private and public institutions to "take measures to reduce the consumption of resources, reduce the production and discharge of wastes and improve the reutilization and recycling level of wastes."<sup>185</sup> The circular economy is also gaining traction in the policy agenda of many countries in the Global South including those in South and Southeast Asia, many of which are ADB's borrowing member countries.

### **A host of opportunities for growth within a sustainable circular economy in the Asia-Pacific**

The successful and early transition of countries in Asia and the Pacific toward a truly circular economy will provide many opportunities to decouple economic growth from excessive resource extraction, consumption and wastage. This is especially significant at a time when countries in the region are struggling to improve the management of their natural resources, address growing pollution and waste in cities, and cope with climate change impacts.

A policy paper published in 2017 by think tank Chatham House<sup>186</sup> affirms that a circular economy strategy "could help lower-income countries 'leapfrog' to a more sustainable development pathway that avoids locking in resource-intensive practices and infrastructure."<sup>187</sup> It also states that "multilateral financial institutions (MFIs) will play a critical role in facilitating investment in resource productivity and the [circular economy]."<sup>188</sup>

However, as demonstrated by ADB's funding priorities for waste management approaches at the bottom of the waste hierarchy, the bank is far behind in enabling the region's transition to a sustainable circular economy. As long as ADB promotes incinerator facilities for borrowing member countries, the window for these countries to fully integrate principles of resource sustainability and conservation into their national agendas will be lost.

Borrowing member countries need to have the political will to ensure they are not forced into an "incineration trap," and instead proactively demand from ADB funding and programs that will lead them towards, and not away from, a sustainable circular economy that embraces Zero Waste approaches.

## VII. Zero Waste: what ADB should be financing

This global shift towards circularity and sustainability is seeing many countries embracing Zero Waste principles and investing in long-term waste management strategies that do not involve waste burning. However, there is a substantial financing gap in mainstreaming Zero Waste approaches. Instead of funding waste incinerators, this is the gap that ADB and other international financial institutions can fill.

### **Zero Waste: the strategy for a sustainable future**

Zero Waste is an innovative approach to the use of our resources that ensures ecological and social sustainability. It redesigns the unsustainable "business-as-usual" linear industrial system into a circular system that minimizes unnecessary extraction and consumption, reduces waste, and ensures that products and materials are reused or recycled back into nature or into the market. Zero Waste is an integral part of a sustainable circular economy. With its core principles of reduction and redesign to eliminate excessive resource extraction and wastage, Zero Waste systems protect the environment and public health, help communities and cities build robust local economies, generate productive jobs and livelihoods, and help mitigate climate change.

Zero Waste approaches provide a set of guiding principles that enable an entity (whether an individual, household, institution, village, municipality, city, province or country) to continually work towards reducing, and eventually eliminating, waste. For cities and municipalities, the first step is to commit to pursue a Zero Waste approach. Some of the elements for the success of Zero Waste strategies include: (i) strong at-source segregation programs; (ii) the establishment and implementation of national and local participatory Zero Waste targets and plans; (iii) management of organics so that these are diverted from landfills and incinerators; (iv) producer responsibility policies; and (v) regulations to limit and ban single use plastic products and packaging.

For more information on Zero Waste, visit [www.no-burn.org](http://www.no-burn.org).

Hundreds of cities and municipalities around the world are pursuing Zero Waste approaches with technical and financial success. The implementation of Zero Waste strategies have diverted as much as 90% of waste from landfills and incinerators, translating to substantial cost-saving for cities and increased employment rates.<sup>189, 190, 191</sup>



Innovative financing mechanisms are necessary to replicate and mainstream these programs. Implementing Zero Waste approaches cost considerably less than constructing and operating incineration facilities, and the investment goes to people and communities rather than destructive infrastructure. This is the right direction that should be pursued by international funding institutions that claim to work towards the eradication of poverty, and inclusive and equitable societies. Examples of such projects can include participatory elaboration of city-level Zero Waste plans, decentralized compost and anaerobic digestion facilities, infrastructure to process source segregated recyclable materials, research development on waste reduction, redesign policies, among others.

## VIII. Conclusions and recommendations

Taken together, the above analysis and scoping of ADB's investments in WTE incinerator projects and applicable policy frameworks are written with the intention of compelling the bank and its funding member countries to remove support for WTE incineration projects. The bank must move away from investing in incinerators as waste management strategies that systematically fail to take a "do no harm," "precautionary" approach or meet other basic principles outlined in ADB's own social and environmental safeguard standards.

The hope is that this report will also lead to a much-needed critical engagement on the subject by communities, civil society, local and national policy makers, as well as ADB management. Stranded assets and technologies which hinder the adoption of more sustainable waste approaches and are deemed inappropriate in other parts of the world should be treated as such in the context Asia and the Pacific; they do not belong in anyone's "backyard."

To conclude, the following overarching recommendations are issued to challenge ADB to consider fundamentally shifting towards more forward-looking solutions that support member countries in holistically eliminating waste production problems over the long-term, while providing support for Zero Waste management approaches and solutions appropriately tailored to the needs and aspirations of communities served.

### **To that end, it is incumbent upon ADB's policy makers and senior management to proactively and unequivocally:**

- Phase out all private and public sector financing (including but not limited to technical assistance, projects, equity and capital investments) for waste incineration, including WTE incineration, and revise project pipelines accordingly, withdrawing proposed projects and not entertaining new proposals;
- Explicitly promote Zero Waste solutions for waste management concerns in borrowing member countries as well as energy solutions that do not rely on the incineration of waste;
- Revise the 2009 Energy Policy to eliminate WTE incinerators from the list of renewable energy options to be financed and recommended;
- Revise all policy documents in relation to ISWM to withdraw recommendations for borrowing member countries to invest in WTE incinerator projects;

- Revise guidelines for financing facilities directed towards energy and urban infrastructure to withdraw any support (project-based, equity investments or technical assistance) for WTE incinerator projects; and
- Phase out all financial intermediary agreements for waste and energy sectors that do not explicitly exclude WTE incineration investments and revise PSOD pipeline investments accordingly.

In addition, this report puts forward the following recommendations for ADB member countries:

**ADB donor member countries:**

- Remove support from projects and technical assistance involving waste incineration; and
- Ensure that their funding is channeled to Zero Waste solutions for the bank's borrowing member countries.

**ADB borrowing member countries:**

- Reject any funding, whether in the form of projects or technical assistance, earmarked to promote or build waste incineration facilities, and demand funding for Zero Waste solutions.

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- <sup>111</sup> ADB. (2018). *Access to Information Policy*. Mandaluyong City: Asian Development Bank.
- <sup>112</sup> *ibid.* (para 8).



<sup>113</sup> Notably, there is no rationale as to why local governments in the region are “attracted” to technologies that ADB’s non-regional member countries are abandoning and communities typically oppose. Similarly, the *South Asia Guidebook for Policy Makers and Practitioners* claims incineration technologies are “effective” but fails to mention or take into account the negative impacts on social and environmental health and the shifts being taken within Europe, North America and Aotearoa/Australia to phase out and shut down operations that incinerate wastes. Ultimately, if local governments in the region do not have the resources to invest in independent evaluations to provide an understanding of the realistic range of environmentally and socially sustainable options for generating energy and dealing with municipal waste, their decision-making powers are necessarily limited.

<sup>114</sup> ADB. (2017). *Integrated Solid Waste Management for Local Governments: A Practical Guide*. Mandaluyong City: ADB. (pp. 40; 41; 46; 50).

<sup>115</sup> *ibid.* (pp. 50-51).

<sup>116</sup> *ibid.* (pp. 42-43).

<sup>117</sup> *ibid.* (p. 43).

<sup>118</sup> *ibid.* (p. 46).

<sup>119</sup> *ibid.* (p. 46-48).

<sup>120</sup> *ibid.* (p. 46-48).

<sup>121</sup> *ibid.* (p. 48).

<sup>122</sup> *ibid.* (pp. 103-106).

<sup>123</sup> *ibid.* (pp. 103-6).

<sup>124</sup> ADB. (2017). *Meeting Asia’s infrastructure needs*. Mandaluyong City, Philippines: Asian Development Bank. (pp. xi, xiii, 5, 43).

<sup>125</sup> *ibid.* (p.66).

<sup>126</sup> *ibid.* (pp 39-45).

<sup>127</sup> ADB. (2006). *Private Sector Development: A Revised Framework*. Mandaluyong City, Philippines: Asian Development Bank. (p. 2).

<sup>128</sup> *ibid.* (p. 8).

<sup>129</sup> ADB. (2012). *Public Private Partnership 2012-2020*. Mandaluyong City, Philippines: Asian Development Bank. (p. 9).

<sup>130</sup> ADB. (2017). *Climate Change Operational Framework 2017-2030*. Mandaluyong City, Philippines: Asian Development Bank. (p.25).

<sup>131</sup> Private Sector (Nonsovereign) Financing: Core Sectors. (2018). *Asian Development Bank*. Retrieved from <https://www.adb.org/site/private-sector-financing/core-sectors>.

<sup>132</sup> The Energy Charter Treaty (ECT) is an international agreement that purports to “[provide] a multilateral framework for energy cooperation that is unique under international law. It is designed to promote energy security through the operation of more open and competitive energy markets.” (See The Energy Charter Treaty. (2018). *International Energy Charter*. Retrieved from: <https://energycharter.org/process/energy-charter-treaty-1994/energy-charter-treaty/>.) Civil society around the world have critiqued this treaty for “[granting] corporations in the energy sector enormous power to sue states at international investment tribunals for billions of dollars, for example, if a government decides to stop new oil or gas pipelines or to phase out coal.” (See What is the Energy Charter Treaty?. (2018). *ECT’s Dirty Secrets*. Retrieved from <https://www.energy-charter-dirty-secrets.org/>.)

<sup>133</sup> ADB. (2017). *Climate Change Operational Framework 2017-2030*. Mandaluyong City, Philippines: Asian Development Bank. (pp 13-16).

<sup>134</sup> *ibid.* (p. 26)

<sup>135</sup> Clean Energy Financing Partnership Facility. (2018). *Asian Development Bank*. Retrieved from <https://www.adb.org/site/funds/funds/clean-energy-financing-partnership-facility>.

Notably, loans or grants from these “special funds” can be used only for procurement of goods, works and services produced in, and supplied from, developed member countries that have contributed to such resources for borrowing member countries. As a result, countries contributing financial resources to waste to energy projects through these funding modalities (for example, in the case of CEPF: Australia, Canada, Norway, Spain, Sweden, the United Kingdom, and Japan), are able to provide technologies, goods and services produced by domestically headquartered companies that would not necessarily meet national standards but nevertheless could be acceptable (or “bankable”) under less stringent conditions in Asia and the Pacific. The policy also requires that bidding for procurement be done in English, which presumably would lead to greater ease of access to non-regional member countries, or well-resourced companies in borrowing member countries.

<sup>136</sup> ADB. (2017). *Catalyzing Green Finance: A Concept for Leveraging Blended Finance for Development*. Mandaluyong City, Philippines: Asian Development Bank. (p. 7).

<sup>137</sup> Zhai, Y., Mo, L. & Rawlins, M. (2018). *The Impact of Nationally Determined Contributions on the Energy Sector: Implications for ADB and Its Developing Member Countries*. Mandaluyong City, Philippines: Asian Development Bank. (pp. 52-85; 105).

<sup>138</sup> ADB. (2013). *Technical Assistance Report: Mainstreaming Integrated Solid Waste Management in Asia*. Mandaluyong City, Philippines: Asian Development Bank.

<sup>139</sup> *ibid.*

<sup>140</sup> ADB. (2015). *Extended Annual Review Report: Loan: Municipal Waste to Energy Project (People’s Republic of China)*. Mandaluyong City, Philippines: Asian Development Bank.

<sup>141</sup> This fast-tracking of investments contrasts with the process applied to public sector investments, which requires proponents to have already identified particular sites, and correspondingly outline loans to ensure compliance with ADB safeguards.

<sup>142</sup> ADB. (2015). *Extended Annual Review Report: Loan: Municipal Waste to Energy Project (People’s Republic of China)*. Mandaluyong City, Philippines: Asian Development Bank.

<sup>143</sup> *ibid.*

<sup>144</sup> *ibid.*

<sup>145</sup> *ibid.*

<sup>146</sup> ADB. (2012). *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Dynagreen Environmental Protection Group Company: Dynagreen Waste-to-Energy Project (People’s Republic of China)*. Mandaluyong City, Philippines: Asian Development Bank.

<sup>147</sup> ADB, Dynagreen, 10 Banks Partner to Boost Clean Waste-to-Energy PPP in PRC. *Asian Development Bank*. Retrieved from <https://www.adb.org/news/adb-dynagreen-10-banks-partner-boost-clean-waste-energy-ppp-prc>.

<sup>148</sup> China, People’s Republic of: Dynagreen waste to energy project: Project Documents. (2018). *Asian Development Bank*. Retrieved from <https://www.adb.org/projects/46930-014/main#project-documents>.

<sup>149</sup> ADB. (2015). *Annual Environmental and Social Monitoring Report: PRC: Dynagreen Waste-to-Energy Project*. Mandaluyong City, Philippines: Asian Development Bank.

<sup>150</sup> ADB. (2012). *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance*

*Dynagreen Environmental Protection Group Company: Dynagreen Waste-to-Energy Project (People's Republic of China)*. Mandaluyong City, Philippines: ADB.

<sup>151</sup> China, People's Republic of: Sustainable Management of Fly Ash from Municipal Solid Waste Incineration. (2018). *Asian Development Bank*. Retrieved from <https://www.adb.org/projects/49019-001/main#project-pds>.

<sup>152</sup> *ibid.*

<sup>153</sup> *ibid.*

<sup>154</sup> Regional: Mainstreaming Integrated Solid Waste Management in Asia. (2018). *Asian Development Bank*. Retrieved from <https://www.adb.org/projects/46248-001/main#project-pds>.

<sup>155</sup> Philippines: The Procter & Gamble Company Waste To Worth Project. (2018). *Asian Development Bank*. Retrieved from <https://www.adb.org/projects/46248-001/main>.

<sup>156</sup> Quezon City: Making Waste Management a Rewarding Investment. (2017). *Development Asia*. Retrieved from <https://development.asia/case-study/quezon-city-making-waste-management-rewarding-investment>.

<sup>157</sup> ADB. (2017). *Integrated Solid Waste Management for Local Governments: A Practical Guide*. Mandaluyong City, Philippines: Asian Development Bank.

<sup>158</sup> Philippines: Solid Waste Management Sector Project. (2018). *Asian Development Bank*. Retrieved from <https://www.adb.org/projects/45146-001/main>.

<sup>159</sup> Philippines: The Procter & Gamble Company Waste To Worth Project. (2018). *Asian Development Bank*. Retrieved from <https://www.adb.org/projects/46927-012/main#project-overview>.

<sup>160</sup> ADB. (2014). *Technical Assistance Consultant's Report: Republic of the Philippines: Solid Waste Management Sector Project (Financed by ADB's Technical Assistance Special Fund [TASF other sources])*. Mandaluyong City, Philippines: ADB.

<sup>161</sup> *ibid.*

<sup>162</sup> *ibid.*

<sup>163</sup> *ibid.*

<sup>164</sup> *ibid.*

<sup>165</sup> *ibid.*

<sup>166</sup> *ibid.*

<sup>167</sup> *ibid.*

<sup>168</sup> Plaza, A. (2017, Oct 13). Ditch NIMBY to fix Philippines' municipal solid waste problem. [Web log post]. *Asian Development Blog*. Retrieved from <https://blogs.adb.org/blog/ditch-nimby-fix-philippines-municipal-solid-waste-problem>.

<sup>169</sup> Viet Nam: Municipal Waste-to-Energy Project. (2018). *Asian Development Bank*. Retrieved from [www.adb.org/projects/50371-001/main](http://www.adb.org/projects/50371-001/main).

<sup>170</sup> ADB, China Everbright International Facilitate Clean Waste-to-Energy PPP in Viet Nam. (2018). *Greater Mekong Subregion*. Retrieved from <https://greatermekong.org/adb-china-everbright-international-facilitate-clean-waste-energy-ppp-viet-nam>.

<sup>171</sup> B. Grimm. (2018). *BGRIM: Investor Presentation for Year End 2017*. Bangkok, Thailand: B. Grimm. Retrieved from [https://investor.bgrimpower.com/misc/presentation/20180312-bgrim-investor\\_presentation-fy2017.pdf](https://investor.bgrimpower.com/misc/presentation/20180312-bgrim-investor_presentation-fy2017.pdf).

<sup>172</sup> European Commission. (2015). *Communication from the Commission to the European Parliament, the Council, the European Economic And Social Committee and the Committee of the Regions: Closing the loop - An EU action plan for the Circular Economy*. Brussels: European Commission.

<sup>173</sup> *ibid.*

<sup>174</sup> *ibid.*

<sup>175</sup> European Commission. (2017). *Communication from the Commission to the European Parliament, the Council, the European Economic And Social Committee and the Committee of the Regions: The role of waste-to-energy in the circular economy*. Brussels: European Commission.

<sup>176</sup> *ibid.*

<sup>177</sup> *ibid.*

<sup>178</sup> European Commission. (2018). *Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of EU waste legislation, including the early warning report for Member States at risk of missing the 2020 preparation for re-use/recycling target on municipal waste (24.9.2018 COM(2018) 656 final)*. Brussels: European Commission.

<sup>179</sup> See for example, the projects and funds earmarked by ADB as "Funds and Facilities for Climate Change" at <https://www.adb.org/themes/climate-change-disaster-risk-management/funds-facilities>; and the "Urban Environmental Infrastructure Fund" at <https://www.adb.org/site/funds/funds/urban-environmental-infrastructure-fund>.

<sup>180</sup> About ADB: Board of Directors. (2018). *Asian Development Bank*. Retrieved from <https://www.adb.org/about/board-directors>.

<sup>181</sup> European Commission. (2017). *Communication from the Commission to the European Parliament, the Council, the European Economic And Social Committee and the Committee of the Regions: The role of waste-to-energy in the circular economy*. Brussels: European Commission.

<sup>182</sup> *ibid.*

<sup>183</sup> Rosa, F. (2018). Madrid plans to phase out incineration by 2025. *Zero Waste Europe*. Retrieved from <https://zerowasteurope.eu/2018/07/madrid-plans-to-phase-out-incineration-by-2025/>.

<sup>184</sup> Advancing Towards Zero Waste Declaration. (2018). *C40 Cities*. Retrieved from <https://www.c40.org/other/zero-waste-declaration>.

<sup>185</sup> *Circular Economy Promotion Law 2008* (PRC).

<sup>186</sup> Preston, F. & Lehne, J. (2017). *Briefing: A Wider Circle? The Circular Economy in Developing Countries*. London: Chatham House, the Royal Institute of International Affairs.

<sup>187</sup> *ibid.*

<sup>188</sup> *ibid.*

<sup>189</sup> Allen, C. et al. (2012). *On The Road To Zero Waste: Successes and Lessons from Around the World*. Berkeley: Global Alliance for Incinerator Alternatives.

<sup>190</sup> Mother Earth Foundation. (2013). *MEF@15: On the Road to Zero Waste*. Quezon City, Philippines: Mother Earth Foundation.

<sup>191</sup> Zero Waste Case Studies. (2018). *Zero Waste Europe*. Retrieved from <https://zerowasteurope.eu/case-studies/>.



# ADB & WASTE INCINERATION: BANKROLLING POLLUTION, BLOCKING SOLUTIONS

This report is a critical review of how Asian Development Bank (ADB) promotes investments in waste incineration, including so-called “waste-to-energy” (WTE) incineration, as a recommended method for municipal solid waste management for its borrowing member countries. It comes at a time when the bank is increasing its support of waste incinerators in the region, despite the documented negative impacts of these facilities on public health, the environment, the economy and the climate. At present, waste incineration is also being phased out in other parts of the globe in recognition of how the world needs to shift away from the destructive linear economic model abetted by landfilling and incineration, and transition to a circular economic system grounded on the principles of Zero Waste.

Countries in the Asia-Pacific region are currently struggling to improve the management of their natural resources, address growing pollution and waste in cities, and cope with climate change impacts. Their successful transition toward a Zero Waste circular economy will provide many opportunities to decouple economic growth from excessive resource extraction, consumption and wastage. Borrowing member countries need to have the political will to ensure they are not forced into an “incineration trap,” and instead proactively demand from ADB funding and programs that will lead them towards, and not away from, a Zero Waste circular economy.

In publishing this report, the Global Alliance for Incinerator Alternatives (GAIA) is calling on ADB to remove all financing from any form of waste incineration, and to instead fund just, equitable and sustainable Zero Waste systems.

