

Central America

Actions taken by governments to improve air quality

1.0 Introduction

In June 2014 the United Nations Environment Assembly (UNEA) adopted resolution 1/7 *Strengthening the Role of the United Nations Environment Programme in Promoting Air Quality*. As requested in paragraphs 4 and 7 of the resolution, which requested UNEP to develop a report detailing actions taken by governments to promote air quality, this report details some of the major actions being undertaken by governments in Central America to improve air quality.

This report summarises ten actions being undertaken in the sub-region to improve air quality. In selecting these ten actions, consideration was given to their replicability, global appropriateness to address particular air pollution challenges and potential impact. For more details, please refer to the methodology document.

These actions are: *For Industrial activities*: 1) establishing incentives that promote investments in renewable energy, pollution control technologies, energy efficiency and clean production mechanism; and 2) increasing industrial energy efficiency. *For road transport*: 3) reducing sulphur content in diesel and petrol; 4) tightening vehicle emission standards to at least Euro 4/IV-equivalent; and 5) increasing investments in public and non-motorized transport infrastructure and systems. *For open waste burning*: 6) reducing open burning of both agricultural and municipal waste through provision of legislation, monitoring, enforcement and municipal waste management systems. *For Indoor air pollution*: 7) improving access to cleaner cooking and heating fuels; and 8) improving access to cleaner, more efficient cook/space heating stoves. *For general legislative efforts*: 9) establishing and continuously tightening ambient air quality standards to meet WHO recommendations; and 10) establishing laws and regulations to support efforts to meet ambient air quality standards, and strengthen monitoring and enforcement. Figure 1 provides a summary of these actions for the sub-region.

CENTRAL AMERICA POLICIES AND ACTIONS TO IMPROVE AIR QUALITY

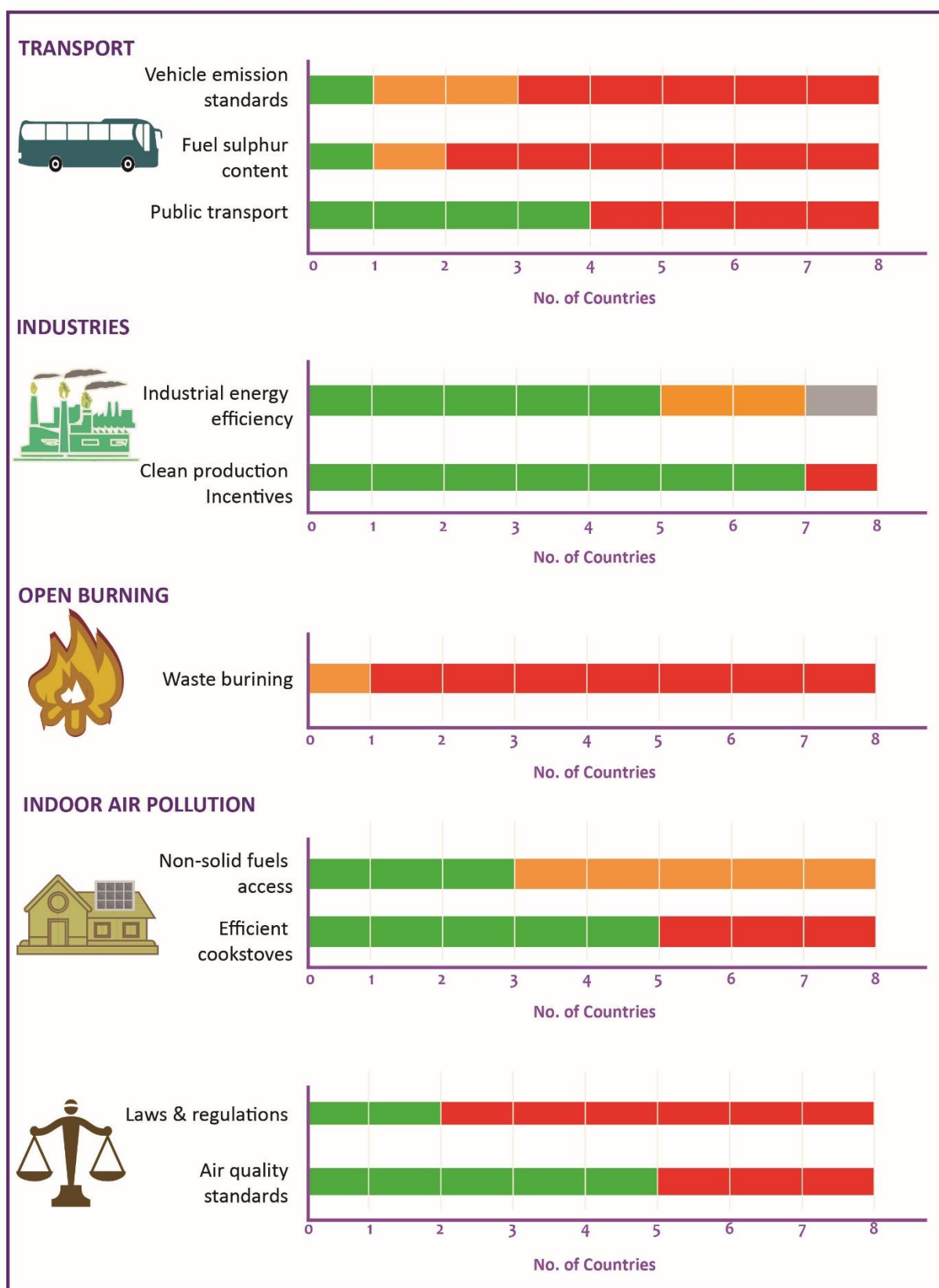


Figure 1: A summary of actions, programmes, policies, laws and regulations undertaken by governments in the sub-region to improve air quality (green = progressing to best practice; red = action still required).

2.0 Regional Overview

Central America includes eight countries: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama. Governments in the sub-region have enacted laws and regulations on air pollution which are at different stages of implementation. At least two out of the eight countries in the sub-region have a comprehensive ambient air quality standard with accompanying air quality policies, laws and regulations. Air quality still remains an issue of concern: WHO estimates that it causes 30,000 premature deaths annually, with most of those resulting from indoor air pollution exposure.

Use of solid fuels to meet household energy demand is the most important driver of deteriorating air quality, and it is responsible for approximately 90% of all premature deaths linked to air pollution in the sub-region. Use of solid fuels is also a considerable contributor to outdoor air pollution. Therefore to effectively manage air quality in the sub-region, governments and their partners have to enact policies and regulations that promote access to clean energy for both rural and urban households. In the past, governments in this sub-region have initiated programmes that were aimed at increasing access to clean burning fuels. However, only three out of eight countries in the sub-region have a non-solid fuels access rate greater than 85%.

Emissions from other sectors such as transport are also significant in areas where the intensity of activities is high, such as urban areas. The current contribution of vehicular emissions to the overall air quality in countries within the sub-region is marginal. However, this sub-region is still experiencing population and economic growth. It is foreseeable that in the future, vehicle emissions will be an important driver of air pollution as vehicle numbers increase. These countries therefore have an opportunity to ensure that the projected growth in vehicle numbers will not compromise air quality significantly. This can be achieved by expanding public and non-motorised transport infrastructure and systems, and also by enacting laws establishing vehicle emissions standards (Euro 4 at the least) and improving fuel quality.

Industrial emissions are also important drivers of air pollution in the sub-region, especially in major urban areas such as Mexico City where industrial production is more developed. With respect to industrial energy efficiency, five of the countries have a GDP per unit of energy use above nine (estimated as GDP per unit of energy use), which indicates high energy

efficiency in the industrial sector. In addition to energy efficiency, seven out of the eight governments in the sub-region have instituted incentives to encourage clean production in the industrial sector.

Open burning of waste is another major source of air pollution. Open burning of both agricultural and / or municipal wastes occurs in all of the eight countries in the sub-region.

Progress has been made in different areas in different countries, and there are several positive case studies to be found across the sub-region. There are however specific areas in each country that can be improved, while standards need to be established and continuously tightened, public transport expanded, the use of best practice increased etc. In addition, for policies and legislation to lower air pollution, countries must also improve implementation and enforcement, without which actions to improve air quality will not achieve their potential impact.

3.0 Actions Taken to Improve Air Quality

3.1 National air quality standards & regulations

Based on the UNEP Air Quality Policy Catalogue, five out of the eight countries in the sub-region have nationwide ambient air quality standards, although none of the countries have a PM_{2.5} standards as part of their air quality standards. Out of the five countries that have nationwide ambient air quality standards, at least two countries (Costa Rica and Mexico) have national legislation, law, policy or act specifically for air quality. Figure 2 shows the number of countries in the sub-region that have enacted air quality standards or laws/regulation to manage air quality.

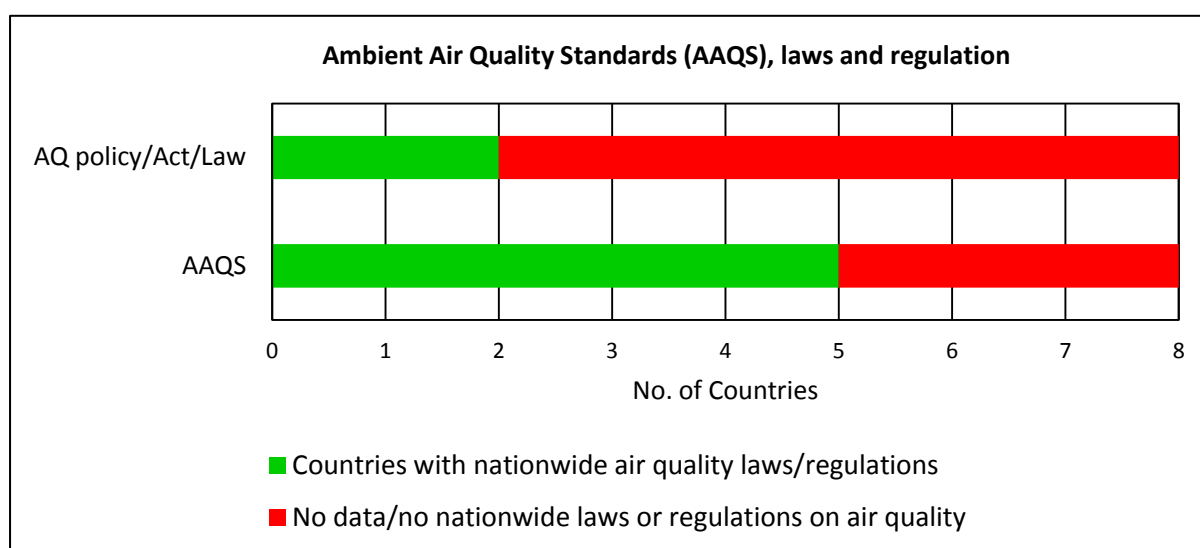


Figure 2: Number of countries in the sub-region that have enacted nationwide air quality laws and regulations, and the number of countries that have enacted and promulgated Ambient Air Quality Standards (AAQS).

3.2 Transport

Actions and policies being implemented in the sub-region to reduce vehicular emission include the expansion of public and non-motorised transport. Given the increased congestion experienced in many urban areas, maintaining and increasing the modal share of public transport is essential to increase mobility while decreasing transport emissions.

In the sub-region a number of countries have made investments towards promoting and expanding public and non-motorised transport infrastructure and systems. Three out of eight countries in Central America have mass public transport projects. Guatemala City for instance has a bus rapid transit (TransMetro) as well as 2km of bicycle paths, with an additional 20km planned for the historical centre. Eight cities in Mexico have a bus rapid transit system, while vehicles have restricted access to downtown and surrounding areas on weekends to encourage bicycle use and walking. The Panama Metro has an urban railway line, and includes twelve train stations, with a second line under construction. Figure 3 below indicates the number of countries in the sub-region that have invested in significantly expanding public and non-motorised transport.

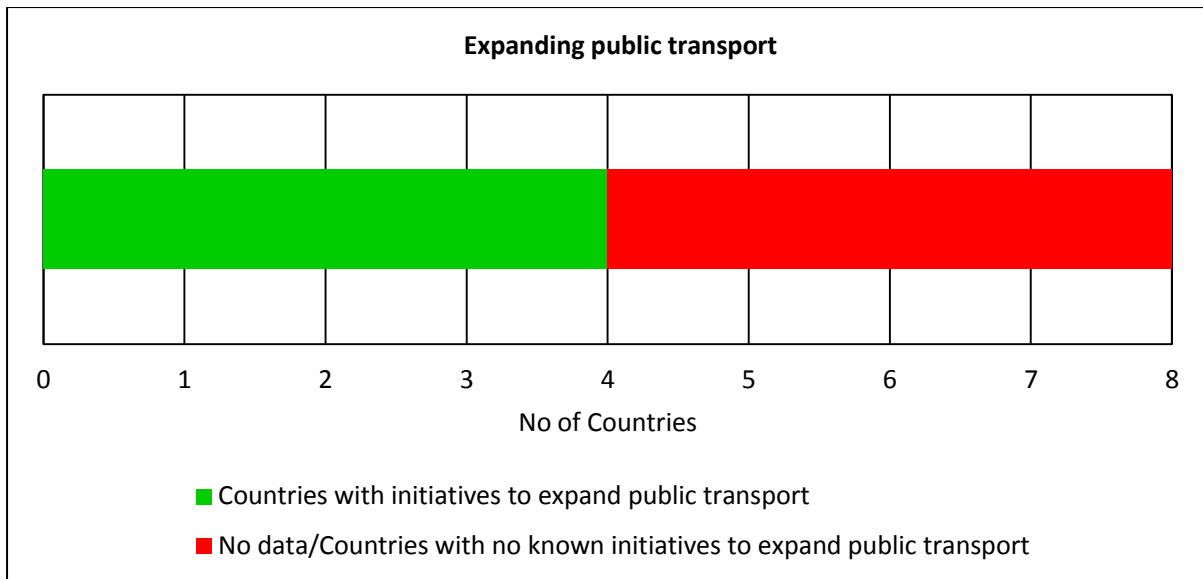


Figure 3: Number of countries in the sub-region that have initiated programmes and initiatives to significantly expand public transport.

Improved fuel quality and implementation of vehicle emission standards are also required to minimise emissions created from transport. Other actions being implemented in the sub-region to mitigate against emissions from the transport sector include the establishment of vehicle emission standards. In the sub-region, only Mexico has Euro 4 vehicle emission standards. Two other countries have vehicle emission standards below Euro 4, while five countries do not have an operational vehicle emission standard. Figure 4 below summarizes the number of countries in the sub-region that have enacted policies or regulations to limit vehicle emissions.

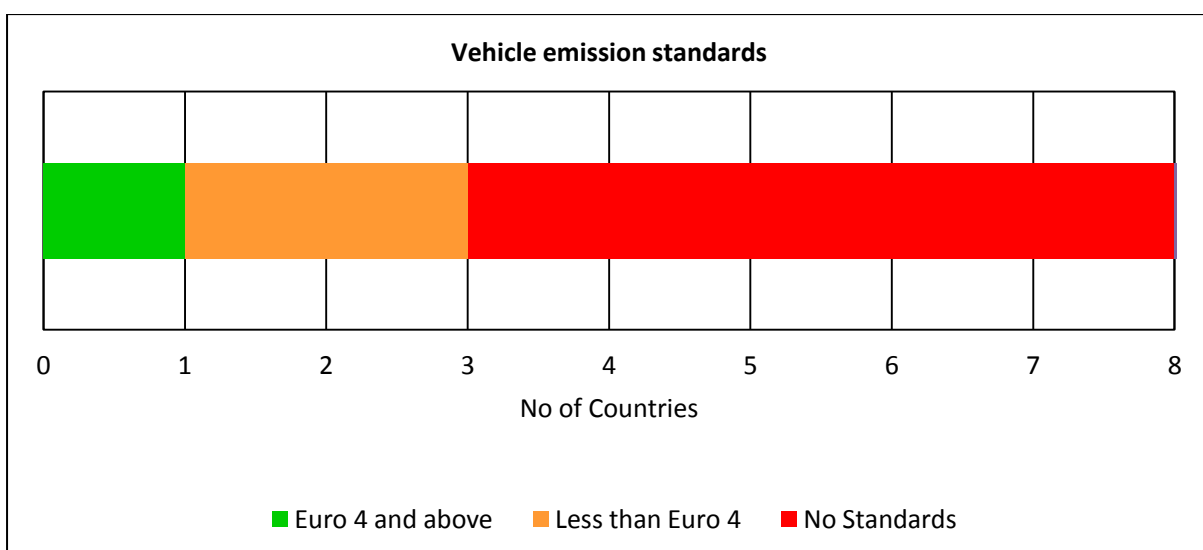


Figure 4: Number of countries in the sub-region that regulate vehicle emission at Euro 4 (or equivalent) standards

Fuels and vehicles work as a system; in order to benefit from improved vehicle standards, low sulphur fuels are needed as these allow the advanced pollution control devices to work optimally. Panama has adopted fuel quality standards that limit sulphur content to below 50ppm. In some countries, the fuel available in the market has lower sulphur content than demanded by the regulations: for example, although Mexico's national standard is at 500ppm sulphur in diesel, ultra-low (15ppm) sulphur diesel is used in three major metropolitan areas (Mexico City, Guadalajara and Monterrey), the northern border cities and eleven national freight corridors. This provides air quality benefits of cleaner fuels to high density population centres until the country can move to a nationwide low sulphur standard. Figure 5 shows the quality of fuel used by different countries within the sub-region; fuel sulphur content is used as an indicator of fuel quality.

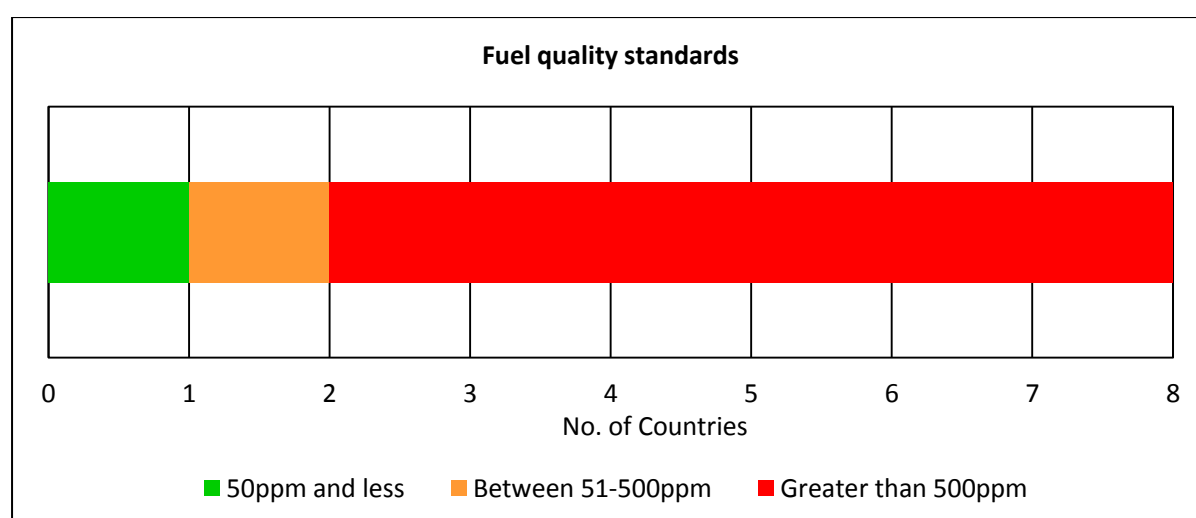


Figure 5: Number of countries in the sub-region that regulate fuel quality using Sulphur content as a proxy for fuel quality

3.3 Open burning of waste

Most countries in the sub-region have regulations prohibiting open burning of waste, however these are either not implemented or enforced. In Costa Rica for instance, outdoor burning of municipal waste is banned, but it still does occur. The burning of agriculture

waste is authorized, although it is governed by a regulation that seeks to reduce this practice. For companies who wish to burn their agricultural waste, special permits are required. Figure 6 shows that open waste burning for both agricultural and municipal waste is commonly practised in the sub-region.

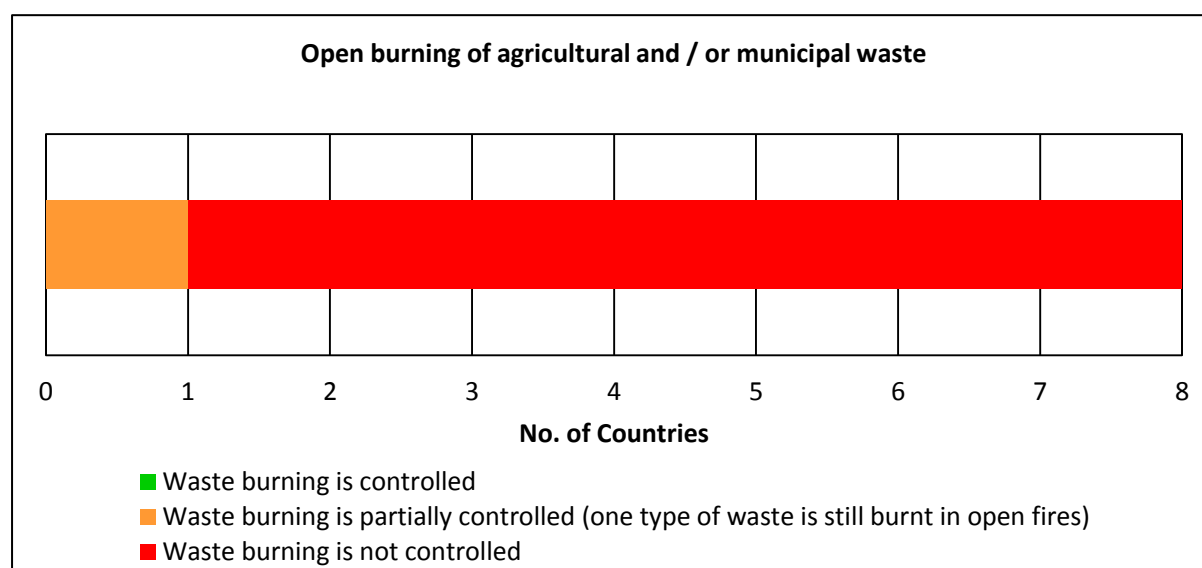


Figure 6: Number of countries where laws, regulations and actions to ban and regulate open waste burning have been implemented.

Other countries in the sub-region are emphasising municipal waste collection to minimise instances of open burning of municipal waste. For example, Belize is institutionalizing a national solid waste management plan that includes a sanitary landfill and transfer stations. The first phase covers the western corridor, while the second phase includes the southern and northern corridors of the country. The government is also working with the sugar

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