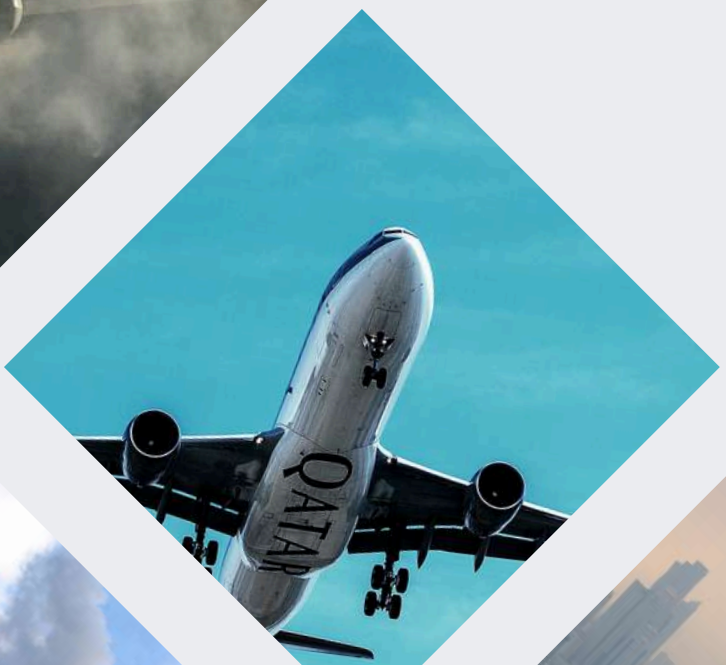
General Audit Chamber
Algemene Rekenkamer

MINI AUDIT: MONITORING THE QUALITY OF AIR

GOVERNMENT OVERSIGHT AND ACCOUNTABILITY

JANUARY 2026



January 2026

General Audit Chamber, Juancho Yrausquin Blvd #10, unit 4 & 5

FOREWORD

How certain are we that the air we breathe is safe and regulated with our interest in mind? How often do we consider the impact within our bodies when we take a step outside, go to work, an event or casual stroll? While it may not be our focus, it is a requirement for the government to ensure that the quality of air we breathe is safe. This means putting in place policies, financing, and measures to monitor and regulate the activities and developments which negatively impact the environment.

We do not know what we do not measure. For that reason, this audit does not examine whether air quality on St. Maarten is good or bad, but whether the government has put in place the necessary policies, systems, and arrangements to monitor and manage air quality risks. By tracking environmental indicators and related health trends, authorities can detect potential risks early and respond in an informed and timely way. Many countries have established such monitoring frameworks to support transparency, evidence-based decision-making, and public accountability. This report therefore looks at whether St. Maarten is equipped to understand and manage air quality over time, rather than at the current state of the air itself.

St. Maarten is not immune to the global environmental challenges. As we showed in our 2025 ClimateScanner assessment, the country lacks a coordinated framework for implementing, financing, and enforcing climate-related policies. While we encourage public communication on sustainability (particularly in the tourism and hospitality sectors) questions remain about the substance behind these claims. Against this backdrop, we believe this warrant investigating whether public resources are used to assess the impact of air quality on residents.

We are grateful for the assistance of Dr. M. Tilanus, Pediatrician at the St. Maarten Medical Center who provided us with valuable insight through research conducted on the Saharan dust impact on minors. We also thank the Ministry of VROMI for their cooperation and input during the audit.

CONTENT

SUMMARY

This report identifies the Government's efforts to set, monitor, and enforce air quality standards. We reviewed relevant legislation, policy frameworks, budgets, and other government documents while communicating with stakeholders. We found that the government can be more effective in protecting the population from air pollutions risks.

Efforts to procure air quality monitors began in 2018 under the Trust Fund managed by the World Bank but have repeatedly stalled due to delays. Health departments currently do not monitor respiratory cases related to air pollution, resulting in limited data for residents and policy frameworks. Strengthening monitoring would support the government in fulfilling its constitutional duty to protect public health and in advancing its commitments under the United Nations Sustainable Development Goals. Decisions on urban planning, waste management and renewable energy transitions would benefit from reliable, local air quality data to support policymaking.

Symbolic actions such as SDG Flag Day celebrations reflect awareness of the issue, while further steps could help translate this awareness into sustained policy action. Central to our findings is the absence of government-generated air quality testing itself. Although efforts are ongoing, the government lacks effective monitoring systems, enforcement mechanisms, or public reporting that would protect the health of residents. We concluded that St. Maarten should follow through with its responsibilities by establishing a functioning air quality monitoring system, update its legal framework, and dedicate resources to further protect public health.

1. THE AUDIT

1.1 The basis

This mini performance audit is conducted on the basis of article 30 of the National Ordinance General Audit Chamber which provides grounds to audit the performance of the services of the country. The purpose of this audit is to review the Government of St. Maarten's actions and commitments to sustainable development and public health, specifically, on air quality management.

This mini audit was conducted as a descriptive, limited-scope engagement. Its purpose is to present findings and insights rather than to issue formal recommendations, allowing policymakers to consider appropriate next steps.

1.2 Audit objective

This audit was conducted as part of the General Audit Chamber's 2025 annual plan, in where climate is designated as the main theme for the year. Air quality is directly related to both public health and the environment, and it reflects how government responds to long-term climate risks.

Air quality often goes unnoticed, especially when there are no visible signs of pollution, but its impact on daily life can be significant. This audit was chosen to explore whether air quality is being monitored, whether policies are in place, and whether government is using available information to protect the population.

In our 2025 ClimateScanner assessment, we noted that St. Maarten's climate-related efforts face challenges in structure, funding, and follow-through. This audit builds on that observation by looking more closely at one specific area (air quality) that sits at the intersection of health, environment, and government responsibility. As development on the island continues, this creates an opportunity to strengthen action in this area in ways that support public health and environmental sustainability

By reporting on air quality, the Audit Chamber aims to contribute to a better understanding of the current situation and support evidence-based decisions in the future.

1.3 Audit questions

This audit seeks to answer the following questions:

1. Does government have systems in place to monitor air quality?
2. Are there any laws, regulations, or government policies addressing air quality, and which entities are responsible for their implementation and oversight?
3. Has the government allocated public funds, directly or indirectly, toward air quality monitoring, pollution mitigation, or related public health initiatives in the past five years?
4. Has air quality been addressed in government planning documents (e.g. health, environment, tourism, infrastructure) since 2015, particularly in relation to the Sustainable Development Goals?
5. Are there organizations, systems, or tools that help keep track of and manage air quality?

1.4 Reading guide

Chapter 2: Monitoring, review and public health impact
Chapter 3: The way forward
Chapter 4: Conclusion

2. MONITORING, REVIEW & PUBLIC HEALTH IMPACT

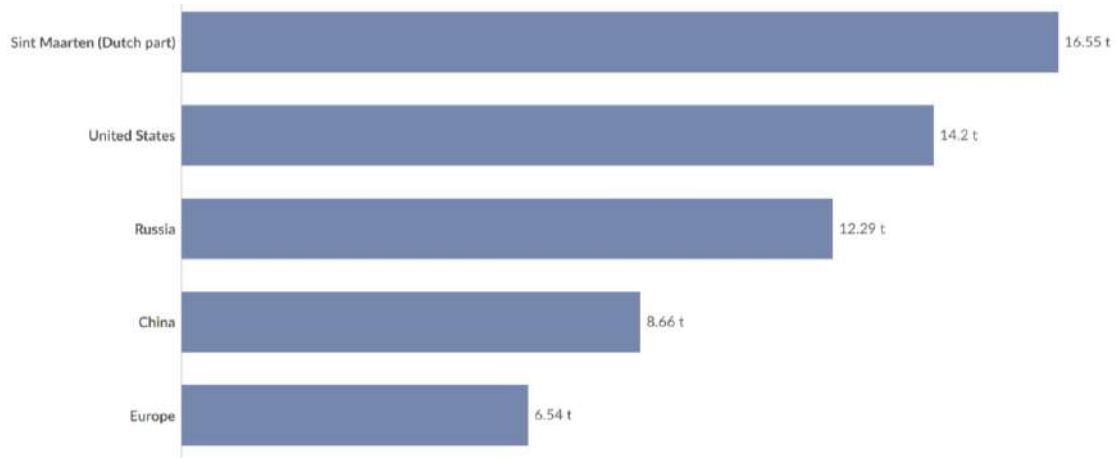
The government is constitutionally bound to protect the health of the population according to article 21 and 22 of the Constitution. This means that policies and plans for the development of the island must keep the people at the center.

2.1 Why monitor air quality

Air quality affects how people live, work, and stay healthy. When the air contains harmful pollutants, it can lead to serious health problems such as asthma, chronic respiratory issues, and heart disease. On our island, where activities like waste burning, traffic, and construction are common, it is important to know what is in the air people breathe.

By measuring air quality regularly, the government can better understand where risks are coming from and act when pollution levels rise. It also allows health officials to connect changes in the environment with trends in illness and hospital visits, especially among children and people with pre-existing conditions. Reliable air quality data also helps government make informed decisions about public services, environmental rules, and long-term planning. Without measurements, it becomes difficult to know whether actions are working or if new problems are developing. To give an example: in 2024, St. Maarten (Dutch side) ranked 9th place in the world when it comes to CO^2 emissions per capita.[1] Figure 1 shows a comparison with some of the largest countries in the world.

Figure 1: comparison of CO2 emissions per capita (2024)



The fact that our country appears in the top tier of global per-capita CO^2 emitters shows a broader issue: without local air-quality monitoring, policymakers cannot assess how local pollution sources translate into actual health and environmental impacts. High emission levels increase the need for reliable measurements, not decrease it.

Collecting air quality data helps Government meet its responsibilities under both national law and international agreements. The Constitution states that the government must protect public health and the environment. As a signatory to the Sustainable Development Goals, the Government has also committed to reducing the harmful effects of pollution. A recent, draft study conducted in St. Maarten on pediatric hospital admissions found a notable increase in respiratory tract infection (RTI) admissions in the days following Saharan dust events. The strongest effect was observed three days after exposure. From the 596 admissions ages 0-17 included in the study, all had varied respiratory impacts linked to air quality.[2]

We were unable to find data on the impact on adults. Limited studies already show links between dust, landfill emissions, and respiratory illness. This gap prevents the government from enforcing its own laws and meeting national and international commitments.

[1] https://ourworldindata.org/grapher/co-emissions-per-capita?tab=table

[2] Unpublished local health research (under editorial review) entitled "*The impact of Saharan dust on pediatric respiratory morbidity in the Caribbean*", containing a five-year dataset on pediatric RTI admissions. With curtesy of Dr. M. Tilanus, Pediatrician at the St. Maarten Medical Center.

2.1.1 RIVM testing

One study available on-air quality measurement was conducted by the Dutch National Institute for Public Health and the Environment (RIVM) near the Philipsburg landfill in 2019. No or hardly any harmful substances were measured during the two-week study period, as there were no open fires during sampling. Because of that, potential health risks of substances released during a landfill fire could not be assessed. During the two-week testing period, odors from the landfill were often noticed by the field team and exposure can cause nausea and headaches, even when pollution levels are below health limits.[3]

The study stated that to properly assess health risks from fires, measurements must be taken during an actual fire event. It also recommended that the local fire department should be equipped and trained to take air samples during fires, with RIVM offering support.[4] In an interview with the Fire Chief, he stated that there was no government follow-up to conduct the tests nor train and equip the fire brigade.[5] Regular monitoring is a practical step toward meeting those commitments.

2.2 Government's legal obligations

St. Maarten has air quality standards originally set by the former Netherlands Antilles. These standards, developed by the Working Group on Environmental Standards Netherlands Antilles (WMNA), were concluded and published in a 2007 report. It covers pollutants like dust, methane and carbon monoxide. Global air quality standards were also updated in 2021, following the last update in 2005. The new air quality guidelines are more stringent on how much pollution is safe to breathe due to stronger scientific findings. They show that even small amounts of air pollution can harm our health.

Government has the opportunity to fill current gaps by establishing a new baseline, updating and implementing its environmental legislation while monitoring and reporting on air quality. By using resources like the ClimateScanner- which we reported on- government and Parliament can track existing initiatives and identify opportunities.

We reviewed the available laws, policies and planning documents to determine whether air quality is a priority of government. The Ministry of VROMI in particular is responsible for the care, management, policies and enforcement of the law regarding environmental matters.[6] Legislation that details those responsibilities are:

1. The Hinder Ordinance; and
2. The National Ordinance on the Principles of Nature Management and Protection

The Hinder ordinance provides the minister with the authority to grant or turn down a permit of works that may be a health risk and a nuisance through noise, as well as the spreading of dirt or odor.[7] The works requiring permits are also regulated in the Hinder decree which regulates air emitting activities which can be considered a nuisance. In his response, the Minister noted that the 2007 Environmental Norms under the WMNA are applied in the assessment and issuance of Hindrance Permits. The Minister also indicated that these norms are currently under revision and that the update will take international guidance into account, including the 2021 WHO air quality guidelines. The revised standards will be aligned with those used in the Netherlands, which themselves reflect international benchmarks.[8]

2.3 Policy Gaps

The National Ordinance on the principles of nature management and protection mentions that the Minister is required to establish a nature policy plan every 5 years. Upon our review of the Nature Policy Plan of Sint Maarten (2021–2025) and its accompanying implementation plan, no specific references to air quality or government strategies addressing air pollution were identified. We note that none of the laws provides a strong basis for monitoring and regulation of ambient air on the island. Therefore, we believe a gap remains in enforcement of national standards.

[3] Investigation of the air quality around the landfill in St. Maarten, RIVM, January 2019
[4] rivm.nl/bibliotheek/rapporten/2019-0056.pdf
[5] Interview with the Chief of the Fire Department, September 3, 2025
[6] National decree, containing general measures, to subdivision and further elaboration of the Ministry of Housing, Spatial Planning, Environment and Infrastructure | Local laws and regulations
[7] Hinder ordinance
[8] Response of the Minister d.d. December 29th, 2025.

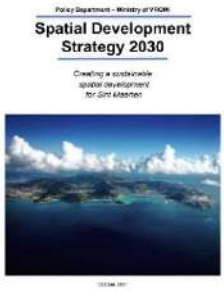
2.3.1 The Spatial Development Strategy 2030

The Spatial Development Strategy 2030, approved by the Council of Ministers in 2022, states:[9]

"It is the intention to have additional policies and legislation put into effect

to address the matter of air quality."

Air quality is included because it is considered part of the goal to create a better place to live, work, and enjoy life by 2030. The document recognized the threat of poor air quality in industrial areas which can deteriorate the quality of life of residents near those zones.



The policy document outlines general policy areas of focus and states that:

"The quality of air on St. Maarten is in general good due to the small size of the island and the winds coming from the open sea."

It does mention industrial areas, the landfill and the airport as areas of concern. The report adds, "These activities tend to compete for space with other activities, such as residential neighborhoods, thereby causing the quality of life in these areas to deteriorate. Only when certain conditions are met it is safe for people to live near those industries."

To address air quality, the Spatial Development Strategy proposed the following:

- Implement a zoning strategy whereby polluting industries are isolated (for example, by way of zoning distances) from residential and recreational areas;[10]
- Impose emission standards and regulations on polluting industries and activities to minimize the adverse effects on air quality and noise.[11]

The Strategy notes the SDG's and the use of zoning and Hindrance permits to regulate air-polluting industries. Regarding air quality is states that "it is the intention to have additional policies and legislation into effect within a short period."[12] It sets objectives for the 2030 SDG by stating "reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management."[13]

The strategy document also mentions that if collaboration is not enough to meet national goals or complete specific tasks, the government can step in to manage and set up the needed systems. To reach national goals, the government would also "set standards and thresholds value" for air quality. This includes imposing needed restrictions. Yet existing standards, nor monitoring, is imposed.

2.3.2 The National Development Vision 2020-2030

The National Development Vision 2020–2030, outlines St. Maarten's long-term goal of a resilient and sustainable society. It supports cleaner air through stronger environmental laws, improved land and water use, and climate action, and notes that adequate funding is needed to achieve these aims.[14]

Before these reports, initial air-quality testing was done after Hurricane Irma as part of the recovery program. A 2018 World Bank–funded preliminary study measured hazardous pollutants from subsurface landfill fires, compared results to international standards, and provided recommendations to guide fire-suppression efforts and worker safety measures.[15]

[9] See page 67, paragraph 5.2.1 of the Spatial Development Strategy
[10] See page 67, sub-heading Proposal
[11] See page 68, sub-heading Proposal
[12] See page 67, paragraph 5.2.1
[13] See page 84, paragraph 6.1.1
[14] National Development Vision 2020-2030 and beyond
[15] nrpbsxm.org/wp-content/uploads/2019/07/Media_Air-Quality-Assessment_Air-Screening-Report.pdf

2.3.3 Policy priorities in the National budgets of 2024 / 2025 and the governing program

The policy priorities of the 2024 and 2025 budget mention the protection of the environment and reduction of fossil fuel dependence but no specific mentions of air quality. Nonetheless, despite the unsuccessful attempt to garner air quality monitors through the Trust Fund, the government expressed its commitment to legislation and policies to address air quality.

The 2024-2028 governing program proposes the establishment of an Environmental Impact Fund, but little detail is shared on how it will operate and the objectives of the fund. It proposes that the St. Maarten Development Fund independently manage it, and talks are ongoing to decide the legal foundation and how the partnership will work. With aligned policies and legal framework, this can serve as a channel to structurally address air quality. The government also has a responsibility to back its expressed concern and plans related air quality in the national budget. As 2030 nears, rapid but measurable and meaningful investment is necessary to fulfill the agreed intention towards sustainability.

No public funds have been allocated to air quality, signaling a lack of priority for St. Maarten. Via the trust fund, monies were directed to acquire air quality monitors. However, the project and procurement resulted in delays (see paragraph 2.4 of this report). There is currently no monitoring or mitigating public programs to address air quality. Figure 2 shows our findings graphically.

Figure 2: Summary of our findings on monitoring air quality

2.4 Air quality management within the Kingdom

Air quality is a shared concern across the Kingdom, and each country has its institutions to monitor, report, and inform policy.

- **The Netherlands**: The National Institute for Public Health and the Environment (RIVM) operates a nationwide air quality monitoring network. Data is continuously collected, analyzed, and published on public platforms. The Ministry of Infrastructure and Water Management (IenW) uses the data to develop strategy, set rules, and oversee enforcement.

- **Curaçao**: Responsibility lies with the Inspectorate of Public Health, Environment and Nature (IVMN) to monitor and report. The Central Bureau of Statistics Curaçao's Environmental Statistics Compendium (2020) notes active monitoring stations in industrial and residential areas, with compliance assessments issued by IVMN. However, reports are published annually.[16]

- **Aruba**: The Department of Nature and Environment (DNM) carries out research, monitoring, and inspection. DNM also develops and implements environmental policy. In addition, the local utility company WEB, has a project with Aeroqual AQM 65 monitoring stations that provide real-time data.

In each territory, monitoring mechanisms are established although the manner of reporting and accessibility from direct government sources vary. In St. Maarten's case no monitoring or reporting exists although there are expressed commitment and established frameworks.

[16] New Air Quality Standards Come Into Effect in Curaçao - Curaçao Chronicle

2.5 Saharan Dust

Saharan dust is a seasonal Caribbean event. Government and media issue alerts (see Figure 2 below), and the Meteorological Department and CPS provide advisories and recommended precautions.[17]

Figure 3: Example of CPS sending out an alert on Sahara Dust

However, monitoring and tracking of the Saharan dust does not take place on St. Maarten itself nor is there data collected on the general health impact on the population.[18] Breathing in fine dust can make lung and heart problems worse, especially for children, older people, and anyone who already has breathing issues.[19] We found a study which tracked Saharan Dust particles and its impact on climate change related to the Caribbean. This research can prove beneficial for action towards risk communications and early warnings, as well as health and environmental policy.

The data can further help establish a baseline to identify high-risk periods and understanding the environmental cost of seasonal dust flow.

Although Saharan dust arrives from outside the island and cannot be controlled, having reliable information allows authorities to prepare, communicate risks, and take timely measures to protect vulnerable groups. Even with Saharan dust alerts coming from external sources, we believe St. Maarten still needs local tracking to understand its specific exposure, identify health impacts, and make evidence-based decisions. Local monitoring provides island-specific data that regional forecasts cannot, especially when dust combines with local pollution sources.

2.6 Present and future realities

The ministry acknowledged that air quality monitoring is limited and that most measurements so far were project-based and carried out by third parties.[20] These parties have recommended continuous monitoring, especially for landfill fires and debris management. The ministry also noted services from the Meteorological Department and online sources like Plume, IQAir, and AQICN, but mentioned these do not replace a formal government-run monitoring network. An "Environmental Norms Report," revising the 2007 Netherlands Antilles version under the Hindrance Ordinance, is being drafted to include air quality, noise, and odors. The report is still in draft and not yet available.

Air quality is mentioned in several government documents, including the Spatial Development Strategy 2030, the National Development Vision, and the Nature Policy Plan. These documents recognize that pollution and poor air quality can affect quality of life and the environment. However, they stop short of offering concrete solutions. There are no clear goals, timelines, or assigned budgets to measure or improve air quality. In addition, there is no dedicated national policy that focuses specifically on air pollution or sets limits on harmful emissions.

[17] CPS Calls on the Community to Take Action on Harmful Effects of Saharan Dust / (2) Facebook
[18] Email from director of Meteorology Department, October 23, 2025
[19] CARPHA: Take Action to Avoid the Harmful Effects of Saharan Dust - CARPHA > Articles
[20] Email from VROMI Policy Department, September 9th 2025.

3. THE WAY FORWARD

3.1 Financing and implementation

Although air quality standards were adopted in 2007, no monitoring has taken place. The NRPB is procuring air quality monitors on behalf of the government. The ERP-1 was set in motion on July 18, 2018 and during that year frequent fires at the landfill highlighted the importance of having actual air quality measurements, not just general warnings. Following the period of frequent fires at the landfill, by 2019 the visible flames and smoke stopped, though concerns of subsurface fires persists.

Since 2019 several components of the ERP-1 were executed and delivered, however the air quality monitors (coupled with automatic weather system) were not prioritized.

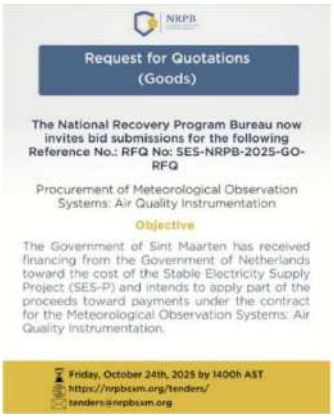
The aim is that the monitors will be operated by the Meteorological Department. While not part of its formal mandate, the department already provides general measurements such as haze and forecasts to stakeholders like the Ministry of Health. Recognizing the need for data, the department considered air quality monitoring an important task and part of its role. The monitors are intended to support a real-time dashboard and community alert system, which could show particles such as Sahara dust and the chemical composition of the atmosphere. The department has a project underway to update their website and as the monitors come online, it can provide real-time monitoring and serve as a database. The procurement of the monitors were approved along with automatic weather stations but due to budget cuts, the initial 12 stations for the island were reduced to 4 stations.[21]

The procurement of air quality monitors began as part of an emergency equipment initiative. Challenges included combining air quality and meteorological equipment into one lot, which complicated vendor bids and led to the equipment being separated into two lots.

After retendering the first bid published in October 2024, due to a non-compliant submission, the NRPB republished another request for quotations (RFQ) with intentions to award in May 2025. However, due to the high cost and specifications challenges, the RFQ had to be rewritten and to ensure the department could afford to operate the monitors.

According to the project manager, the new specifications were completed and almost faced termination due to the prior December 31 deadline for the Emergency Recovery Project (ERP). We note that on October 2nd, 2025, a request for quotations was published for the procurement of Air Quality Instrumentation. Figure 3 shows a version of the publication.

Figure 4: Request for quotations for air quality instrumentation *(Facebook)*



[21] Interview with Director of Meteorology Department, July 18, 2025

4. CONCLUSION

This audit looked at whether the government is taking action to monitor and protect the quality of air in St. Maarten. We reviewed laws, budgets, planning documents, and efforts made by different departments and projects. While there are signs that the government recognizes the importance of clean air, the actions taken so far have not led to working systems or real results. Below, we explain our overall findings, grouped by theme.

4.1 Governance

At the time of this audit, there is no government-run system in place that continuously monitors the air quality in St. Maarten. Although air quality monitors were promised and ordered under the Emergency Recovery Project as far back as 2018, they have still not been installed. Because of this delay, there is no official data being collected to show what air quality is like in our communities.

Although documents like the Spatial Development Strategy and the National Development Vision mention air quality as a concern, these ideas have not been turned into working systems or specific government programs.

St. Maarten has agreed to follow the Sustainable Development Goals, including goals related to health, climate, and sustainable cities. However, there are no clear steps, systems, or progress reports that show how the country is meeting these goals when it comes to air quality. In addition, there is no public website or reporting tool where people can see local air quality data or get alerts about health risks caused by pollution.

4.2 Budget and implementation

The national budget does not include a regular line of funding to measure or improve air quality. Some funds were made available through the Trust Fund and international support, but these are not structural. Despite years of discussion, air quality monitoring has not yet been implemented. Projects have started but were stalled. The process has been slow, with unclear responsibilities and missed deadlines. As a result, St. Maarten still does not have a working air monitoring system.

4.3 Current monitoring arrangements

At present, there is no structured system that links environmental information, such as air quality indicators, with public health data. As a result, there is limited insight into whether and how environmental factors relate to health trends, which constrains evidence-based policymaking and timely evaluation.

Without regular monitoring and integrated data, government is not well positioned to assess patterns, evaluate developments over time, or determine whether policy measures are having the intended effect. Establishing routine air quality monitoring and connecting it with relevant health information would strengthen the government's capacity to inform decisions, support transparency, and manage environmental and public health responsibilities in a more informed manner.

5. EPILOGUE

In accordance with the General Audit Chamber's Audit Protocol, the Minister was invited to provide comments on the draft report on December 15, 2025, with a requested response deadline of December 23, 2025. At the Minister's request, an extension was granted until December 29, 2025, and a response was received on that date. In his reply, the Minister indicated that additional time or a follow-up opportunity could allow the Ministry to provide more detailed input to further strengthen the report.

Given the value we attach to executive feedback, a further extension was granted until January 21, 2026. No additional response was received. We appreciate the time and effort invested by the Minister in reviewing the draft and sharing feedback.

The Minister's response of December 29th was carefully considered in finalizing this report. Where relevant, clarifications and contextual information provided by the Ministry have been reflected. While the perspectives of the executive contribute valuable insight, the conclusions in this report remain grounded in the Chamber's independent assessment of the evidence collected during the audit.

We thank the Ministry for its cooperation throughout the audit process and trust that this report will contribute constructively to ongoing efforts to strengthen policy, monitoring arrangements, and decision-making related to air quality governance on St. Maarten.

General Audit Chamber

Algemene Rekenkamer