



Cairo Air Improvement Project
Overall Management Component

Policy Issues Assessment

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Acronyms and Abbreviations

CAIP	Cairo Air Improvement Project
CNG	Compressed natural gas (both the fuel and the CAIP component)
COP	Chief of Party
CTA	Cairo Transit Authority
EEAA	Egyptian Environmental Affairs Agency
EIA	Environmental Impact Assessment
GCBC	Greater Cairo Bus Company
GOE	Government of Egypt
LSAP	Lead Smelter Action Plan
USAID	United States Agency for International Development (Egypt Mission)
VET	Vehicle Emissions Testing (component of CAIP)

Policy Issues Assessment

1. Executive Summary

The Cairo Air Improvement Project (CAIP) has completed an initial assessment of key policy reform initiatives required to help achieve project objectives and further contribute to reduced air pollution in Greater Cairo. The assessment defines a generic methodology to pursue policy reform, identifies broad policy issues affecting CAIP as a whole, and discusses specific policy issues related to the successful implementation of each project component. The following briefly describes the policy initiatives proposed in this document.

Project-wide Issues

Institutional Capacity

There is both an urgent and a long-term need to strengthen the human resources within the Egyptian Environmental Affairs Agency (EEAA).

Private Sector (Non-governmental) Capacity

CAIP should act as a catalyst for the development and growth of private sector capacity to sustain project initiatives.

Municipal and Industrial Solid and Hazardous Waste Disposal

Work should commence immediately to assign a team of experts to visit each governorate to assist in designating appropriate sites for industrial solid waste disposal. Development and release of international tenders for the collection and disposal of solid waste, and the management of solid waste disposal sites by private-sector contractors should follow.

Economic Incentives: Customs Duties and Tax Treatment

CAIP should facilitate a rapid assessment of the current legal and regulatory framework governing customs charges and taxation as it impacts the price of environmentally friendly equipment. The assessment would recommend

appropriate adjustments to provide greater economic incentives for purchase of such equipment and supplies.

Vehicle Emissions Testing (VET)

USAID Restrictions on Working with Traffic Authorities

CAIP believes that the United States Agency for International Development (USAID) should seek ways to ease the strict interpretation of the law in light of the differences between the original intent of such restrictions (to avoid directly or indirectly enhancing the ability of foreign police institutions to abuse human rights, etc.), and the need to cooperate with traffic authorities on such programs as VET.

Vehicle Testing Frequency

Efforts should begin immediately to enact regulatory change by decree to increase the testing frequency to once a year.

Government Fleet Compliance

The highest level commitments to have government fleets, including the military, comply with Government of Egypt (GOE) vehicle emissions testing requirements should be obtained.

New Vehicle Emission Regulations

The project will continue to provide policy and technical support to EEAA and to coordinate with the Ministries of Trade and Industry in establishing and implementing these important new regulations.

Old and Grossly Polluting Vehicle Retirement or Relocation

Undertake a policy and economic analysis of alternative approaches to reduce the number of old and grossly polluting vehicles permitted to use the public roads of Cairo.

Compressed Natural Gas (CNG)

Fuel Subsidies

Action should be taken now to design, announce, and implement a phased program of diesel fuel subsidy reductions.

Lead Pollution Abatement

National Policy

Prepare a draft National Policy on reducing lead pollution from smelters.

General Metals

The highest-level decision-makers should be convened to catalyze an urgent and serious dialogue to select and commit to a solution that eliminates or reduces smelter emissions at the General Metals site to GOE standard. There must be a clear decision either to shut down the smelter or to relocate and replace it with modern, environmentally sound facilities.

Air Quality Monitoring

Environmental Information Dissemination

Air monitoring data collected under CAIP be available to the public and the Air Quality Database accessible through the Internet.

Public Awareness

Media Access

There should be a national policy allowing broadcast of public service announcements free of charge on radio and television to enhance environmental public awareness.

New Initiatives

Integration of Environmental Standards in the Design of New Facilities

The project should support the formulation and drafting of a policy requiring all new facilities to integrate pollution prevention design standards. This will have tremendous impacts and benefits in Egypt's fight against environmental degradation.

Follow-up on Past Industrial Pollution Control and Pollution Prevention Activities

Conduct an assessment of the policy-related impediments to the implementation of successful pollution control and pollution prevention measures and recommend appropriate policy reforms that will result in greater use of pollution prevention measures by industry.

Solid Waste Management

Undertake a study to explore the feasibility of a solid waste exchange center, allowing for some wastes—including toxic wastes—to be burned in cement kilns and organic wastes to be disposed in waste-to-energy landfills. Such a study will highlight the need for the GOE to adopt and implement a nationwide policy for dealing with municipal and industrial solid waste.

2. Introduction and Background

The purpose of this assessment is to define policy reform initiatives that are likely to help achieve the objectives of the Cairo Air Improvement Project and contribute to long-term, sustainable programs for the reduction of harmful emissions. It deals with evolving policy matters, and, as such, will continue to be refined as CAIP implementation progresses. Some of these issues also coincide with or complement sector policy reform initiatives and constitute part of the agenda under the US-Egypt Partnership, also called the Mubarak–Gore Initiative.

This assessment of CAIP policy issues was initially scheduled for completion early in the first project year. When initial drafts were prepared and reviewed by CAIP’s internal policy committee, it became obvious that many policy issues identified in the early drafts were, in fact, strategic management issues, some of which needed resolution before broader policy challenges could be articulated. For this assessment, we focus on matters central to the successful implementation of CAIP and to the advancement of related USAID/Egypt sector policy reforms. In general, proposed actions may require coordination with parties outside the immediate family of CAIP stakeholders. These include all the agencies identified in the original CAIP Scope of Work: EEAA, the Organization for Energy Planning, the Traffic Authorities, the Cairo Transit Authority (CTA), the Greater Cairo Bus Company (GCBC), and Misr Labs.

An example will help further distinguish between strategic management and policy issues. One CAIP policy issue arises from the development of new regulations to restrict the import and local assembly of motor vehicles not complying with US or European emissions standards. Such new regulations will involve the definition and assumption of new responsibilities and authorities by agencies outside EEAA, specifically the Ministries of Trade and Industry. Effecting the involvement of these ministries is a CAIP policy issue. On the other hand, defining the flow and distribution of funds collected from motorists for emissions testing is a strategic management issue and is a direct responsibility of CAIP management and technical staff to accomplish in cooperation with affected stakeholders.

Inevitably, we have found gray areas dividing the larger policy issues from strategic management issues making it necessary to invoke management judgement on what should and should not be included in this assessment. This assessment focuses only on

the larger policy issues whose early resolution will have a greater long-term impact in sustaining project interventions to reduce air pollution in Cairo.

The remainder of this assessment defines a methodology to pursue policy reform, identifies broad policy issues affecting CAIP as a whole, and discusses specific policy issues related to the successful implementation of each project component.

3. Methodology for Pursuing Policy Change

CAIP needs to establish a generic path of action to follow for each policy reform initiative for which it has obtained consensus with key stakeholders. The pace of policy change will vary with factors such as the size of the population affected, potential economic impact, degree to which outside stakeholders have already discussed the issue, complexity of implementation, and perceived benefits to interested parties. In general, the steps should include the following:

1. Clearly define the issue.
2. Identify cognizant agencies and stakeholders.
3. Establish dialogue with decision-making individuals.
4. Conduct analysis of current status and desired change.
5. Identify and enlist support of strategic intermediaries where appropriate.
6. Define a clear path and sequence of actions required to effect change.
7. Draft new decrees, regulations, and, if necessary, new legislation.
8. Work to enlist political support through concept papers, workshops, and individual meetings.

The responsibility to initiate action on each policy issue lies with the CAIP Chief of Party (COP). Working with the Policy Advisory Group, Senior Technical Advisors, and Component Managers, as appropriate, specific policy issue teams will be structured to see the process through to completion. Leadership of these teams may come from Component Managers, Senior Technical Advisors, or the COP, depending on the issue.

4. Project-wide Issues

Institutional Capacity

After the first year of CAIP implementation, it is clear that one factor is capable of affecting the success of the project and the sustainability of resulting initiatives. Stakeholders, especially EEAA, need more trained, committed, capable managers and technical staff to oversee VET programs, implement the Lead Smelter Action Plan (LSAP), conduct air quality monitoring, test emissions, collect data, model, assure quality, manage data, and implement compliance assurance and enforcement.

Institutional capacity building is not a formal component of the CAIP Scope of Work, but the project is actively integrating and focusing project activities to support the strengthening of all factors that contribute to sustainability of these programs.

Nevertheless, **a concerted effort is required to explore what can be done to strengthen the pool of human resources within EEAA.** This includes enhancing the ability to enter into extended personal service contracts with qualified professionals, justifying and obtaining adequate budget increases, developing internship programs for local university students, and finding other means to position EEAA as an attractive employer.

Private Sector (Non-governmental) Capacity

Sustainability of initiatives started by CAIP will depend on local private sector capacity to provide the goods and services required. Environmental consulting (including pollution prevention expertise), monitoring, analysis, pollution abatement system design, manufacture of alternative fuel vehicles, and manufacture of pollution control systems are but a few examples of the local capacity that needs to be in place at the conclusion of this project. **CAIP should identify areas where the project can act as a catalyst for the development and growth of such capacity.** This can include working with local businesses, selected non-governmental organizations, universities, and business and industry groups, as well as other institutions to help focus on specific opportunities related to CAIP initiatives.

Industrial Solid and Hazardous Waste

Most industrial air (and water) pollution abatement efforts result in the increased generation of solid waste. While sometimes this can be recycled into the process feeds, often some residuals add to solid waste already generated during industrial processes. This is particularly true of the local cement industry. In addition, improperly disposed of municipal and industrial solid waste is a source of significant air pollution resulting from activities such as open burning of trash, and re-suspension of dust from disposed cement kiln wastes. Proper disposal of this solid waste is currently limited in Egypt, as there appears to be no officially sanctioned solid waste disposal sites in any of the governorates.

On the other hand, any industry planning to establish or relocate facilities outside of Cairo must submit an Environmental Impact Assessment (EIA) covering the new operation. In order to grant approval, the EIA reviewers will require an acceptable plan to deal with industrial solid waste. As lead smelters and other industries plan to relocate outside of Cairo and upgrade their facilities, they too will be faced with the dilemma of disposing of solid waste when the government has not designated any approved sites. Current practices include indiscriminate dumping inside and around Cairo in the desert, or at best, temporary on-site storage until such time as approved disposal facilities become available.

While a nationwide policy for dealing with both municipal and industrial solid waste needs to be defined, CAIP does not believe this should involve a major or time-consuming policy study. Garbage collection, industrial waste storage, collection, and disposal, are practiced effectively the world over.

A decision was reached in the Governors' Council that each governorate must establish industrial landfills. **Work should commence immediately to assign a team of experts to visit each governorate to assist in designating appropriate sites for industrial solid waste disposal. Development and release of international tenders for the collection and disposal of solid waste and management of disposal sites by private-sector contractors should follow.**

The site selection and disposal site design specifications should be based on criteria appropriate to an extremely arid environment. Multiple layer linings and leachate collection and treatment systems appropriate to temperate environments with 100 times the precipitation in the Cairo area are not likely to be cost effective. Simple systems should be implemented to start, with more complex, waste manifest-based systems to handle toxic materials, developed later. What is needed is action now, even if the ultimate, perfect solution is unavailable or unaffordable. The alternative is continued indiscriminate dumping in the city or desert and open burning of garbage causing severe air pollution problems as recently witnessed in Greater Cairo.

Economic Incentives: Customs Duties and Tax Treatment

An issue that has arisen during discussions with our stakeholders involves the high price of environmental control and environmentally friendly equipment. Many have argued that import duties and taxes should be lowered or eliminated on such products. Specifically, recent discussions with the bus company chairmen pointed to very high costs for CNG engine and fuel system replacement parts that could, in part, be ameliorated by more favorable tax treatment and customs duties.

More favorable customs and tax treatment of environmental or pollution control equipment such as CNG engines, fueling system equipment, bag houses, electrostatic precipitators, and energy efficient motors, lighting, and other systems would help reduce the costs of these items and make them more attractive to industries, service providers, and other investors.

CAIP should facilitate a rapid assessment of the current legal and regulatory framework governing customs charges and taxation as it may impact the price of environmentally friendly equipment. The assessment would recommend appropriate adjustments to provide greater economic incentives for purchase of such equipment and supplies.

5. VET

USAID Restrictions on Working with Traffic Authorities

The US Government has placed restrictions on the use of foreign aid funds that prohibit the provision of advice and financial assistance to police and law enforcement officials. **CAIP believes that USAID should seek ways to ease the strict interpretation of the law in light of the differences between the original intent of such legislation (not to directly or indirectly enhance the ability of foreign police institutions to abuse human rights, etc.), and the need to cooperate with police on such programs as VET.**

The nature of VET programs is such that they cannot be successfully implemented in countries where the traffic authorities (police) have legal responsibilities for enforcing any law involving motor vehicles. Cooperation with such authorities is essential to a viable emissions reduction program. Technical training, and emissions testing and safety equipment can in no way be related to the human rights issues that motivated the imposition of this restriction by Congress.

Testing Frequency

Current regulations under the traffic law that regulate the frequency of inspection or testing of privately owned personal motor vehicles require testing every three years. To be effective, vehicle emissions testing should be required once a year for all vehicles, and possibly more frequently for high use vehicles such as taxis and microbus taxis. **Efforts should begin immediately to enact regulatory change by decree to increase the testing frequency to once a year.**

Government Fleet Compliance

A credible VET program should apply to the broadest possible population of vehicles. As with any environmental legislation or regulation, the fewer unnecessary exemptions and the more consistent the enforcement, the more effective implementation and achievement of desired results will be. **The highest level commitments to have government fleets, including the military, comply with vehicle emissions testing requirements should be obtained.** For practical, security, and logistical reasons, it may make sense to allow military organizations to establish and operate their own vehicle testing facilities. Technical assistance might be provided through US military assistance programs in coordination with CAIP.

At a minimum, fleets belonging to government ministries and national agencies, to local governments, and corporate fleets must be included in the requirements for compliance. Broad public support and participation in the VET program will not be realized if individual motorists can point to government fleets that are not required to comply.

New Vehicle Emission Regulations

This work has already been initiated by CAIP. A draft regulation has been developed and submitted that requires certification of compliance to either current US or European standards for all new vehicles, both imported and assembled locally. This would take effect for model year 2000 vehicles. Implementation will involve the Ministries of Trade and Industry. In addition to adopting the new regulation, compliance assurance procedures need to be accepted and implemented by these Ministries. **The project will continue to provide policy and technical support to EEA and to coordinate with the Ministries of Trade and Industry in establishing and implementing these important new regulations.**

Old and Grossly Polluting Vehicle Retirement or Relocation

Experience in industrialized countries has shown that old vehicles produce as much as 100 times more harmful emissions per mile traveled than new vehicles equipped with modern emissions control technologies. While the adoption of new vehicle emissions regulations may limit or cap the overall increase in vehicular emissions, because of the large number of vehicles with no emissions controls, it would be useful to explore alternative measures to more rapidly eliminate grossly polluting vehicles from use in Cairo. This could have a major beneficial impact on the quality of Cairo's air. The economic impacts of such program are of obvious concern in light of the relatively low average per capita income and the high percentage of old vehicles on the road today.

Nevertheless, **CAIP should undertake a policy and economic analysis of alternative approaches to reduce the number of old and grossly polluting vehicles permitted to use the public roads of Cairo.** Programs to replace, retrofit, and relocate (outside of urban areas) such vehicles have been successfully implemented in the US and several other countries. Such an approach is particularly beneficial in the case of high use vehicles such as taxis, minibuses, buses, and trucks.

6. CNG

Fuel Subsidies

The original scope of work for CAIP included a requirement to establish a dialogue regarding the reduction and ultimate elimination of fuel subsidies on diesel as a motor fuel. Currently, the pump price of diesel fuel is less than half that of gasoline and is marginally less expensive than CNG per fuel equivalent. While the newest technologies in diesel engines offer greatly reduced emissions, most of the diesel fleets in Cairo are old and produce significant particulate and hydrocarbon emissions.

Since the GOE has adopted a national policy promoting the conversion to CNG, CAIP believes that the phased reduction of diesel subsidies is entirely consistent with this policy

and will, eventually, have a major favorable impact on the reduction of harmful emissions from diesel vehicles. Since most diesel fuel used in Egypt is imported, reduction or elimination of diesel fuel subsidies will also have a beneficial impact on the balance of trade. As the price of diesel rises, motorists and fleet operators will realize the economic benefits of using a cleaner and cheaper fuel, namely CNG. Recent discussions with the Chairmen of CTA and GCBC confirmed this. They cited a marginal difference of 6–7 percent fuel cost disadvantage of CNG over diesel for their current bus fleets.

The subject of diesel subsidies has been perceived as delicate and politically sensitive because of concerns that any increase in the price of this fuel would engender strong negative reactions from industry and other heavy users of diesel vehicles. **CAIP believes that action should be taken now to design and announce a phased program for reducing diesel fuel subsidies.** Initial price increases could be relatively small, 5 percent per year or so. This is nominally one point over the current inflation index of 4 percent. If accompanied by an effective public awareness campaign promoting the economic and health benefits of switching to CNG, we believe the negative reactions would be modest and manageable. Fleet owners, knowing the schedule of price increases for diesel, would be in a position to procure replacement vehicles that operate on CNG.

7. Lead Pollution Abatement

National Policy

CAIP is required to implement the Lead Smelter Action Plan (LSAP) adopted by EEAA in February 1997. Objective 3 of the LSAP looks to “Establish and enforce a comprehensive, country-wide, long-term solution to the Lead Pollution Problem.” In effect, this calls for a National Policy on dealing with lead pollution. This policy needs to include and address at least the following four components:

- ◆ Supply and demand of raw materials and lead products, including the effect of import restrictions.
- ◆ Economically viable and environmentally acceptable technologies.
- ◆ Legal and regulatory framework and compliance assurance, including siting of relocated smelters, and requirements for remediation of contaminated sites.
- ◆ Economic assistance.

Considerable effort has already been expended by CAIP to define technology options. A detailed design for large smelters is complete. Simplified designs for small and medium smelters have also been developed. The issue of economic viability, particularly for small and medium-sized smelters, remains to be determined. The analysis of supply and demand (which impacts future economics for small and medium smelters) as well as the review of the legal and regulatory framework will begin before the start of the second

project year (1 January 1999). Options for financial assistance to smelter owners will be included in the above analysis.

A draft National Policy on Lead will be completed during the first quarter of 1999. While its development will require extensive input from various stakeholders outside the project, policy acceptance and implementation will require the full cooperation of EEAA, the local governorates, other ministries, and institutions. **CAIP will continue to work on the national policy development initiative on lead pollution from smelters.**

General Metals

Due to the current GOE ban on imports of used batteries, General Metals must compete with private sector smelters for raw materials. Until the supply and demand study is completed, we cannot speculate on the extent this may or may not limit the current or planned production capacity at this smelter.

Talk of privatization has further obscured the path to a solution. It is not realistic to think that a public sector smelter using medieval technology could attract private investors willing to assume undefinable and potentially significant liabilities. World Bank financing discussions have stalled after General Metals proposed unsupportable increases in production capacity.

The General Metals smelter problem has been intractable for over a decade. This is not likely to change. **CAIP proposes that a group consisting of the highest-level decision-makers be convened as soon as possible. That group needs to begin an urgent and serious dialogue to select and commit to a solution that eliminates or reduces smelter emissions at the General Metals site to GOE standards. Specifically, this group needs to finally resolve the question of realistic production requirements for the smelter, and they must reach a clear decision either to shut down or to relocate and replace the smelter with modern, environmentally sound facilities.** We believe it is entirely appropriate to set a firm deadline for these decisions, beyond which USAID commitments to fund any remediation design or other technical assistance would be withdrawn.

8. Air Quality Monitoring

Environmental Information Dissemination

One of the main reasons for the relative success of environmental protection programs in the US and other western countries, is the availability of environmental data to the general public. Free and open dissemination of air quality and water quality data, along with interpretive information on health and ecological impacts, have helped mobilize funding and wide-scale public support for strong environmental legislation and

subsequent enforcement. All this has led to dramatic improvements in the quality of life resulting from reduced pollution and environmental contamination.

The air monitoring data collected under CAIP should be made available to the public and the Air Quality Database should be accessible through the Internet.

The project will continue to ensure proper monitoring and analytical techniques along with rigorous quality assurance. With a system in place to accomplish this, public awareness of specific threats to health can generate greater leverage in obtaining compliance from industries and other sources of air and water pollution.

9. Public Awareness and Communications

Media Cost

Successful environmental public awareness programs result from effective mass media campaigns, particularly on radio and television. A key measure that would enable CAIP and other environmental projects to achieve success in communicating environmental messages to the general public is the **establishment of a national policy allowing a certain amount of free time for radio and television public service announcements to enhance environmental public awareness.** The project is now in a position to enlist the support of other strong ministries, including the Ministries of Interior and Petroleum, in approaching the Ministry of Information for such policy change.

10. New Initiatives

A number of new initiatives have been identified for implementation and are awaiting final approval. These initiatives focus on the importance of recognizing as early as possible that the solution to Cairo's air quality problems cannot be achieved by media-specific measures alone. Experience in the industrialized countries has conclusively demonstrated that the most effective and longest lasting measures are those that recognize the multimedia nature of environmental solutions. Reduction of water, air, and solid waste pollution needs to be tackled through comprehensive pollution prevention policies and techniques.

Integration of Environmental Design Standards for New Facilities

With heightened environmental awareness and a growing government commitment to action, Egypt now has a major opportunity to stem the alarming increase in various kinds of pollution, which are exacting a staggering cost to society in economic, financial, and health terms. The GOE has already taken a significant first step by adopting the requirement that each new project must submit an EIA for approval. Much greater environmental benefits would result if the government also adopted design standards for

new projects in various sectors that integrate pollution prevention and pollution control equipment and systems (clean technologies) to stabilize the rate of environmental degradation. **The project should support the formulation and drafting of a policy requiring all new facilities to integrate pollution prevention design standards.** This will have tremendous impacts and benefits in Egypt's fight against environmental degradation.

Follow-up on Past Industrial Pollution Control and Pollution Prevention Activities

Significant investments in air pollution control equipment by various industries in Cairo have yielded marginal results in terms of reduced emissions. This suggests that financial limitations are not the only impediments to progress. In addition, work initiated by the Energy Conservation and Environment and Environmental Pollution Prevention projects identified 590 pollution prevention opportunities. Only 10 percent of these options were implemented because of various financial, technical, and economic impediments. **The project should facilitate an assessment of the policy-related impediments to the implementation of successful pollution control and pollution prevention measures and recommend appropriate policy reforms that will result in greater use of pollution prevention by industry.**

Solid Waste Management

A study should be conducted to explore the feasibility of designing a solid waste exchange center that will allow for some of the wastes (including toxic wastes) to be burned in cement kilns and organic wastes to be disposed of in waste-to-energy landfills. This will highlight the need for the GOE to adopt and implement a nationwide policy for dealing with municipal and industrial solid waste, including toxic wastes.