United States – Asia Environmental Partnership Program

Sri Lanka Workplan for FY 2003

January 6, 2003

"Promote sustainable economic growth and an improved quality of life in Sri Lanka by working to make Sri Lankan cities cleaner and more efficient, its industries less polluting and more competitive, and its laws and regulations better able to protect the environment. In doing so we will help transfer to Sri Lanka environmental beneficial technologies, services and knowledge, especially from the United States."

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GLOSSARY

ADB	- Asian Development Bank
AQMC	- Air Quality Management Center
AWMA	- Air and Waste Management Association
BOI	- Board of Investment in Sri Lanka
CCC	- Ceylon Chamber of Commerce
CEA	- Central Environmental Authority in Sri Lanka
CEB	- Ceylon Electricity Board
CFL	- Compact Florescent Lamps
CLIND	- Clean Industry Development program by ADB
CP	- Cleaner Production
CSG	- Council of State Governments
DOC	- US Department of Commerce
DOE	- US Department of Energy
EAIP	- World Bank Environmental Action 1 Plan
EEP	- Environmental Exchange Program
EML	- Environment and Management Lanka (Pvt.) Ltd.
EMS	- Environmental Management Systems
FCCISL	- Federation of Chambers of Commerce and Industries in Sri Lanka
FCS	- Foreign Commercial Service
FY	- Fiscal Year
GEF	- Global Environmental Facility
GDP	- Gross Domestic Product
GLOBE	- Global Learning and Observations to Benefit the Environment
GOSL	- Government of Sri Lanka
GPS	- Global Positioning System
GRI	- Global Reporting Initiative
GTN	- Global Technology Network
HW	- Hazardous Waste
IESC	- International Executive Services Corps
IIE	- Institute of International Education
IR	- Intermediate Result
ISO	- International Standards Organization
LGU	- Local Government Units
LOI	- Letter of Intent
LTTE	- Liberation Tigers of Tamil Eelam
MOU	- Memorandum of Understanding
MPP	- Mission Performance Plan
MW	- Medical Waste
MSW	- Municipal Solid Waste
NAREP	- Natural Resources & Environmental Policy Project
NASDA	- National Association for State Development Agencies
NGO	- Non Governmental Organizations
NPPD	- National Physical Planning Department
NREL	- National Renewable Energy Laboratory at Colorado
PMP	- Performance Monitoring Plan
P2	- Pollution Prevention
SARI/Energy	- South Asia Regional Initiative on Energy by USAID
SEI	- State Environmental Initiative
SO	- Strategic Objective
SW	- Solid Waste
TA	- Technical Assistance
TCI	- The Competitiveness Initiative by USAID/Sri Lanka
UDA	- Urban Development Authority
UNDP	- United Nations Development Program
UNIDO	- United Nations Industrial Development Organization
USAEP	- US-Asia Environmental Partnership
USAID	- US Agency for International Development
USAID/W	- USAID Washington Headquarters
USEA	- US Energy Association
USEPA	- US Environmental Protection Agency
WB	- World Bank
WEF	- Water Environment Federation
WEFTEC	- Water Environment Federation Annual Exposition

US-AEP/Sri Lanka

Introduction

The US-AEP Program in Sri Lanka is a relatively small program located in the USAID mission. The absence of DOC direct presence and a bilateral environmental program in USAID/Colombo provides US-AEP an opportunity to conduct a complementary environmental program, bridging development & trade to support the US Mission to Sri Lanka. The Colombo MPP defines the US-AEP role as *promotion of cleaner technologies and improving energy use efficiency*. Most US-AEP activities fit in well with USAID/SL primary SO *Increased Sri Lanka Competitiveness in the Global Marketplace*. In addition to US-AEP work, we help the implementation of the USAID / South Asia Regional Initiative on Energy Program in Sri Lanka and the activities of the Economic and Commercial Counselor at the Embassy. Services of US-AEP are well recognized by the private sector, ADB, World Bank, UN, GOSL, and NGOs. Our experience in implementing successful programs in Asia, availability of strategic tools to promote partnerships between US and Asian entities, and the rapid access to environmental & commercial information resources and U.S. institutions, have been our strength.

Context

The USAID/Natural Resources and Environmental Policy Project (NAREP) between 1992 and 1998 provided the initial momentum and foundation for environmental management in Sri Lanka. Following NAREP, the WB took the lead in environmental activities via its Environmental Action Plan 1 project (EAIP). Last year ADB also entered the environmental field with the Clean Air Initiative and Clean Industry Development project.

Less than satisfactory enforcement of environmental regulations due to economic and political reasons, inadequate awareness of the health impacts due to poor environmental management and uncertainties associated with the lengthy war between the Government and the Liberation Tigers of Tamil Eelam (LTTE), have negative effects on environmental performance. However with the new United National Front Government, which came to power in December 2001 and the agreement between the Government and the LTTE on non-aggression have changed the Sri Lanka outlook, locally and internationally. Government of Sri Lanka advocates economic development as a mechanism to reduce poverty, reduce the geographic unevenness in resource distribution and to create an enabling environment for trade to take place between regions and communities.

GOSL signed a free trade agreement between India and Sri Lanka two years ago and amended it recently to include more items. Sri Lanka is in the process of upgrading its ports, road and telecom networks, airports and creating new harbors, roads and other infrastructure needed for economic growth. There are proposals to build a bridge between Sri Lanka and India. New changes and the geographical location of Sri Lanka and its friendliness with other South Asian countries could make Sri Lanka a regional hub for trade if the country utilizes its educated and healthy, labor and strategically improves its competitiveness and governance. Long-term sustainability and the competitiveness of industries, services and exports depend much on strong environmental performance and improved energy efficiency. Environmental management is a cross cutting theme, therefore, it is necessary to integrate development programs between sectors and evaluate methods to maximize environmental performance.

Sri Lanka can be considered to consist of three regional economies. The Greater Colombo region with per capita GDP about US $ 1,400 (70% higher than national average) includes the majority of commercial and industrial establishments. The Southern and Central regions, primarily depending on agriculture, have a GDP between US $ 600 – 900. The disturbed North and East areas, where the economic growth is virtually zero, have a GDP of about US $ 400. Therefore the development challenges, environmental issues and the demand for US

technologies, services & experience also vary geographically. The short and medium term outlook in Sri Lanka will be driven by demand for development in the North and East, GOSL programs to achieve accelerated economic growth, peace dividends such as increased foreign direct investment, and improved tourism and availability of resources for infrastructure development as opposed to buying arms. Accelerated growth, resettlement of internationally displaced persons and selecting industry types for given area need careful consideration and highlight the importance of proper environmental management, cleaner production and efficient resource utilization.

Our Mission

"Promote sustainable economic growth and an improved quality of life in Sri Lanka by working to make Sri Lankan cities cleaner and more efficient, its industries less polluting and more competitive, and its laws and regulations better able to protect the environment. In doing so we will help transfer to Sri Lanka environmental beneficial technologies, services and knowledge, especially from United States."

Objectives

Our long-term objectives are to:

- Improve the capacity of the Government of Sri Lanka, private sector and civil society to manage air pollution, water pollution and municipal, medical and hazardous waste management.
- Increase awareness and improve dialogue among the government, private sector and general public on pollution prevention, energy efficiency and standards.
- Transfer U.S. developed technology, experience and best practices to facilitate sustainable development in Sri Lanka with special emphasis on energy and environment.

Our Strategy

In order to help Sri Lanka to achieve a high level of competitiveness in the global market place and sustainable economic growth in order to reap the benefits of the new found peace, we will use the limited resources and staff in US-AEP and SARI/Energy regional programs to;

- Identify critical areas of engagement based on host country and US mission priorities. Our US-AEP and SARI/Energy programs will complement the activities the Economic Growth team work at USAID/Colombo and we will interact frequently with the Economic and Commercial Section of the US Embassy.
- Continue and expand our programs to find solutions to key environmental issues in the areas of air quality management, waste (medical, municipal and hazardous) management, pollution prevention, surface water pollution and increased use of clean energy sources.
- Leverage resources of other development partners primarily the World Bank and ADB and bring in innovative service delivery systems that include increased private sector participation in urban air quality and waste management.
- Capitalize on environmental management experience of USEPA, US-AEP sister programs in Asia and the services and products offered by other U.S. Government institutions and private sector. We will continue to provide exposure tours and trade show participating opportunities to Sri Lanka to improve the understanding of potential technology interventions to address environment and energy issues.
- Create new partnerships between American and Sri Lankan institutions including private sector partnerships, while focusing on the potential results through existing partnerships such as Bonneville Power Authority, OR -Ceylon Electricity Board, Alliance to Save Energy-Sri Lanka Energy Managers Association, private sector business partnerships and the State Environmental Initiative between State of Arizona and Sri Lanka.

- ❖ Find ways to assist the implementation of the new "National Physical Planning Policy" that covers potential improvements for the next twenty years. The proposed work during this year by the International City Mangers Association (ICMA) will provide a forum to increased interaction between the Local Government Units around the country including those in the North and East.

Collaborations & Tools

USAID Mission and Embassy Collaboration

US-AEP will continue to collaborate and coordinate with USAID mission and U.S. Embassy to ensure maximum synergy.

Government and Local Authorities Collaboration

We will continue our partnership with the Ministries of Forestry and Environment; Transportation; Enterprise Development; Finance and Planning, Health, Urban Development and Power and Energy in their development and policy work. We will work with the Central Environmental Authority (CEA) and local authorities on environmental management including air quality, mobile air emissions, and energy efficiency, medical and hazardous waste and surface water. This year we will start working with the Wayamba (North-Western) Environmental Authority to develop and implement industry and environmental education programs. To take the advantage of the newly achieved peace and the potential development work in Sri Lanka, we will assist the National Physical Planning Department's effort to develop and introduce a National Physical Planning Policy which will provide a framework for Sri Lanka's future land use and infrastructure development. We recognize the critical need for sophisticated plans and tools (Geographic Information Systems, Global Positioning Systems, data and training) to effectively absorb the anticipated high level of development assistance, primarily in the disturbed areas.

Private Sector Collaboration

We will collaborate with the Federation of Chambers of Commerce and Industries in Sri Lanka (FCCISL) the apex body for Chambers of Commerce. We will work with development and commercial banks and individual companies to promote pollution prevention concepts and to promote transfer information on US technologies, services and experience. We will recruit private sector champions to participate in trade shows and spin off visits in the US and in the region in order to promote best management practices in environmental management. We will collaborate with the American Chamber of Commerce in Sri Lanka (AmCham) to facilitate and welcome US business visitors to Sri Lanka. We will collaborate with private sector efforts to increase the north-south dialogue and to use environment and energy programs as a vehicle to increase the level of interactions between different ethnic groups and to create partnerships. It is expected that US-AEP Exchange Program for Sustainable Growth (EPSG) will play a major role in this area.

Multilateral Development Banks and UN agency Collaborations

We will complement the WB and ADB programs on industrial environmental management, mobile emissions, and surface water quality. We will continue to use ADB and US-AEP regional training programs to build capacity, specifically the Clean Air Initiative programs. The World Bank program in Sri Lanka works in close co-ordination with US-AEP on environmental management and with SARI/Energy. We welcome the ADB new initiatives on CP and efforts to integrate different sectors to improve environmental management.

Universities, Research Institutions and NGO Collaborations

As in the past we will provide technology related information, primarily the WEF, AWMA and USEPA literature to the University of Moratuwa Chemical Engineering Department, Research Institutions for Tea & Rubber and to the Industrial Research Institute (ITI). Key NGOs in Sri Lanka such as Sri Lanka Environmental Journalist Forum (SLEJF), Sevanatha, Margamiturao, Situwama Foundation, and Environment Foundation Limited maintain good working relationships with us. We already have NGO grants with Margamituro, SLEFJ and Situwama Foundation (IIE grant).

US-AEP Partner Tools

US-AEP mobilizes a variety of tools offered in conjunction with US-AEP partners to develop and implement US-AEP country programs. The Institute of International Education (IIE) manages the Environmental Exchange Program for Sustainable Growth (EPSG) for the purpose of supporting travel for individuals in Asian governments, businesses and NGOs to interact directly with counterparts and experts from the U.S., in order to improve environmental performance and efficiency. The Council of State Government (CSG) partners with US-AEP on the State Environmental Initiative (SEI), which partners U.S. states with counterparts in Asia to address environmental and efficiency issues. Sri Lanka presently has a SEI project with the State of Arizona. CSG and USAEP are in the process of designing a small grant scheme to facilitate technology transfer to Asia. The International Executive Services Corps (IESC) manages the US Global Technology (GTN) Trade Lead System, which electronically directs Asian requests for environmentally beneficial technologies to a database of about 4500 U.S. firms.

In addition, US-AEP collaborates with US-EPA, WB, ADB and other donors to offer training for the citizens of the region. US-AEP Sri Lanka also has limited access to resources of the SARI/Energy and USAID/W programs. Being a regional program, US-AEP can provide observational tours to successfully implement programs in the region and opportunities for Asians to network with other Asians who have successfully addressed similar environmental issues previously.

Program Areas

Public Policy and Environmental Regulation

Policy interventions which we may be involved this year include emission standards for mobile sources, improved private sector involvement in environmental monitoring, medical and hazardous waste disposal, relocation of industrial sites, credit schemes to improve technologies in industry, pollution prevention and power sector improvements.

Urban Environmental Management

Priority areas for urban environmental management relate to air quality improvement, municipal solid waste management and cleaning up of urban surface water bodies. We will capitalize on the air quality related work we did during the last two years. Tours to other countries and training that we provided are providing results. We will leverage the ADB clean air initiative and USAID/EGAT resources to improve urban air quality and municipal energy efficiency. We will also leverage Japanese International Cooperation Agency funds by working with the NGO “Friends on the Road.” Our primary intervention will be through the implementation of mobile emission standards in January 2003. The US-AEP Director regularly assists the GOSL committee to implement the crash program on mobile emission standards and vehicle inspection and maintenance. US-AEP will continue to build the capacity of urban planners and LGUs to improve solid waste management and to find better solutions to open dumping of waste and to improve water quality in urban water bodies. This year we will

introduce the “Watergy” concept by the Alliance to Save Energy to the City of Colombo. In addition we will support the design and implementations of the National Physical Planning Policy for Sri Lanka.

Industrial Environmental Performance

The newly established National Cleaner Production Center (NCPC) will be the focal point for our interventions. Director USAEP is a steering committee member of the management of NCPC. The SEI project with the state of Arizona will also help US-AEP promote environmental management in Sri Lanka and develop an environmental industry association. In FY 2003 we intend to launch a project to establish a Responsible Care (RC) program for Sri Lanka’s chemical industry.

Technology Cooperation and Trade & Investment

The priority sectors of focus for technology transfer will be air quality, water and wastewater, medical waste, hazardous waste, municipal solid waste and energy.

Air quality improvement will likely be the first priority due to high interest, funding availability and the strength of U.S. technologies in air quality management. Enforcement of vehicle emission standards in 2002 and the equipment, technologies and partners identified during AWMA 2002 and the CSG visit to Arizona in July 2002 will be used extensively.

Water treatment and wastewater is the biggest market in Sri Lanka. The introduction of the “Polluter Pays” principle by the CEA and the critical need to improve the water quality in lakes, lagoons and estuaries increase the demand for proven technologies. Several common water treatment facilities are being proposed for municipalities and industrial parks. In 2002 US-AEP helped to identify technologies to improve water quality in shrimp ponds and this year we will help in the implementation of technology and best practices.

The need for better medical, hazardous and municipal solid waste management methods is well recognized and identified as a priority by both private and public sectors. We will intensively promote U.S. technology to solve solid waste management problems.

Energy related technology cooperation is important in Sri Lanka to maintain the competitiveness of Sri Lankan products & services. We will promote the efforts to introduce better generation systems (improved hydropower, microturbines and hybrids), optimized distribution systems to reduce losses, and better management of energy utilization with the help of improved technology and equipment. The SEI project with Arizona is expected to provide a significant contribution in this area.

FY 2003 Proposed Program

Project 1: Sri Lanka Clean Air Initiative

Primary Program Area	**:**	**Urban**
Secondary Program Areas	**:**	**Policy, Trade and Investment**
US Partners	**:**	**California Air Resource Board, USEPA, C-Trade, Teledyne-API, ESP, Air Resources Inc., AZ, USAID/GDA, DCA**
Asian Partners:	**:**	**Ministry of Environment** **Ministry of Transport** **Department of Motor Traffic** **Traffic Police** **Air Resource Management Center** **Private Motor Traders Association** **Motor Spares Parts & Traders Association** **National Development Bank** **Private Bus Owners Association** **Industrial Service Bureau** **NGO Margamituro**
Other Partners	**:**	**Asian Development Bank (ADB)** **World Bank (WB)** **GTZ**

Description

Degradation of urban air quality is a major concern. Air quality in the City of Colombo and other major cities is deteriorating rapidly primarily due to mobile emissions. USAEP Sri Lanka identified air quality improvement as one of the key areas to focus in year 2000. Since then we have provided training assistance, exposure tours, information and most importantly helped and provided forums for the large number of stakeholders to work together and to form a number of public-private partnerships. We were able to revive the CleanAir 2000 action plan made by the GOSL in 1992 and to move forward to design and implement programs to improve air quality in collaboration with other development partners listed above. The primary driver for this project is increased respiratory disease in urban areas and the availability of a good team of stakeholders who can work together in synergy. Ministry of Environment and Natural Resources (include Air Resource Management Center) and Ministry of Transport, Highways and Civil Aviation (include Dept. of Motor Traffic) were the key Ministries. Private sector entities such as motor traders, bus owners, three wheeler importers and banks work hand in hand with us in design and implementing the clean air programs. These stakeholders and the police meet on evenings of every Thursday on the implementation of an accelerated air quality improvement program.

In FY 2003 we propose to continue our assistance in this area to help the stakeholders implement key programs on public awareness, policy changes and enforcement of regulations. In FY 2002 we were able to phase out lead in gasoline and to announce emission standards to be implemented in January 2003. US-AEP is actively participating in the steering committee to implement vehicle testing and certification, vehicle maintenance and introduction of fuel quality standards in FY 2003. We leverage resources with the WB technical assistance provided to Air Resource Management Center on mobile emission reductions, ADB Clean Air Initiative, and GTZ help to the Motor Traffic Department on vehicle testing. USAEP resources in this area were enhanced by the USADI/GDA award which we successfully competed last year.

This year we will combine both US-AEP and GDA resources in the Sri Lanka Clean Air Initiative.

Specific plans for FY 2003 are as follows:

- Build the capacity of the Motor Traffic Commissioners Department to implement vehicle testing and maintenance programs. We will collaborate with a US Institution to provide training using GDA-CAI and EPSG will improve the exposure.
- Educate public, police and relevant authorities on the health impact of air pollution, contributions by mobile sources of air pollution and the importance of adopting an accelerated program to arrest mobile emission problems.
- Amend, announce and work towards implementing emission standards and fuel standards. We will review, comment on the draft standards and help train the emission inspectors, in country and abroad we will search and negotiate with an State Environmental Agency to collaborate with Sri Lanka environmental authorities.
- Work with USAID's Development Credit Authority or other mechanism such as National Development Bank's e-friends scheme to develop a credit scheme for garages to buy equipment to identify problems associated with vehicle emissions.
- Increase private sector participation in ambient air monitoring, vehicle emission testing and certification and vehicle maintenance. We will emphasize the GOSL the advantages of private sector participation and introduce and facilitate the participation of US companies. Industrial Services Bureau is already making collaborations with US entities on air quality monitoring.
- Help cities to identify and implement programs to minimize traffic congestion to reduce emissions (e.g., improved traffic flow designs in Colombo and other major cities). We will provide training opportunities for the planners. We will help the efforts by traffic police to conduct educational campaigns to drivers and school children by providing training and information.
- Improve understanding of carbon trading and build the capacity of the GOSL and private sector to develop projects qualifying for carbon trading. We will help C-Trade, AZ to identify projects and obtain TDA assistance to implement projects.
- Start work towards developing an emission inventory for Sri Lanka. We will provide training and grant assistance (if needed), in collaboration with other donors to establish an emission inventory.
- Work with the NGO "Margamituro" (Friend on the Road) to improve public participation in changing road ethics and importance of regular vehicle care. A TAF grant was already given to Margamituro.
- Work with SARI/Energy initiative to develop a model to relate emissions to health impacts in collaboration with NREL

Expected Results

- Formation of a strong stakeholder group to support government efforts to improve air quality by educating the public on the importance of mobile emissions reductions and the value of maintaining vehicles. An action plan "CleaAir2005."
- Introduction of a scheme managed by the private sector to conduct vehicle testing in the island.
- Introduction of a privately own and Govt. supervised ambient air quality monitoring system, preferably with proven American technology.
- Implementation of vehicle certification program with minimal impacts on economic and social aspects of the lives of the vehicle owners with improved credit facilities.

- Improved understanding on carbon trading in the country and improved capacity by the private sector to formulate projects.
- Groundwork for developing an emission inventory which will provide baseline and information helpful in planning and development.
- Increased public awareness on health and emission issues, importance of road ethics and best practices in vehicle maintenance

Project 2: Pollution Prevention, Waste Management and Corporate Responsibility

Primary Program Area	**:**	**Industry**
Secondary Program Areas	**:**	**Policy, Tech Transfer and Urban**
US and International Partners	**:**	**Environmental Complience Ltd., AZ** **Biohumanatics/Probiotics, AZ** **Global Reporting Initiative**
Asian Partners:		**Ministries of Environment, Enterprise Development, Education, Health and Fisheries (of Sri Lanka)** **Federation of Chambers of Commerce and Industry of Sri Lanka (FCCISL) (National CP Center)** **Central Environmental Authority** **Industrial Services Bureau**
Secondary Asian Partners	**:**	**Federation of Indian Chambers of Commerce and Industry (FICCI)** **Indian Chemical Manufactures Association** **Chemical Industries Club of Thailand** **Development Alternatives (Indian NGO re GRI)**
Other Partners	**:**	**ADB, World Bank, UNIDO**

Description

The onset of peace, the government's desire to reduce poverty by increasing economic development, and the opportunities for partnerships with the multilateral development banks put Sri Lanka in a position to make great strides forward. Lack of regulatory enforcement, inadequate awareness of health impacts related to environment, and the traditional pressure to "grow now, pay later" put Sri Lanka in a position to fall victim to the same environmental woes that have plagued most nations as they develop. The public and private sectors together will need to become better informed about the benefits and methodologies of environmental protection tools and the prioritization of their use in order to improve their industrial competitiveness. Those tools could include cleaner production, environmental management systems, environmental cost accounting, clean technologies, stakeholder dialogues, and others. The US-AEP can play a pivotal role in linking partners, prioritizing and organizing activities and providing industrial expertise and technology as the work proceeds.

US-AEP Sri Lanka recognizes and has begun to work on a wide variety of industrial development obstacles, such as solid waste and wastewater, and has made progress in starting a cleaner production program. The program has also recognized the value of information dissemination, regulatory fees based on pollutants generated, the reporting of company performance, the use of associations to leverage change and other techniques. Its relationships with government and the Federation of Chambers of Commerce and Industry of Sri Lanka (FCCISL) are vital to the establishment of public-private partnerships and cooperation. Though US-AEP Sri Lanka has limited resources, it continues to successfully leverage resources from its stakeholder network to help it prioritize the industrial challenges it faces and the methods it uses in response. There are about 2,300 industries in category of "high polluting." More than 2,000 service stations in the country are discharging untreated or improperly treated wastewater. It is well known that the present system is not sustainable, but economic, political and social pressures, as well as poor information flow and poor stakeholder participation have hindered the use of safe and environmentally sound practices.

US-AEP has identified the following as industry-related challenges: 1) municipal, medical and hazardous (65% motor oil) waste, 2) wastewater generated by aquaculture, metal finishing, residences, rubber and coconut production, urban runoff, leather and the hotel industries, 3) lack of understanding of waste processing, minimization and segregation, 4) lack of understanding by government of pollutant load based fees and licenses, 5) need for case study/success story information, 6) impact on the environment of preventable chemical spills and accidents, 7) potential use of constructed wetlands to treat water and 8) importance of transparency of industry information to improve environmental, social, and economic performance.

To meet many of those challenges, US-AEP has helped Sri Lankan stakeholders narrow down the technological options for medical waste management and form a US-Sri Lanka joint venture to submit a proposal to GOSL; initiate a dialogue to form a US-Sri Lanka joint venture to facilitate the technology transfer to process used motor oil; establish partnerships between U.S. entities and Sri Lankan groups to test and adapt a number of potential U.S. wastewater technologies, ideas and services; establish the National Cleaner Production Center (NCPC) and train 19 Cleaner Production Auditors; and many other projects.

In FY03, US-AEP Sri Lanka proposes to build on those foundations by working with the Department of Health and the City of Colombo to adopt a cleaner medical waste system, trying to find a technological solution to process waste other than motor oil, improving municipal solid waste (MSW) management by introducing the manual of best management practices developed by US-AEP India, facilitating the process of incorporating identified methods of wastewater treatment and taking the message to other potential users, helping the process of CP information sharing through the adoption of the model developed by FICCI and USAID/India, and helping the WB and GOSL to introduce load based licensing for the high polluting type industries. Collaboration will additionally continue with the NCPC and FCCISL, and will most likely include the promotion of GRI (Global Reporting Initiative) to FCCISL's corporate members. In addition we will help the process of implementing the GLOBE program in Sri Lanka to educate school children on environment, pollution issues and waste minimization.

Project elements related to waste management issues inclue:

- Work with technology providers, GOSL and the city of Colombo to facilitate technology transfer to solve medical and hazardous waste problems. We will help identify technologies and consult on potential financial mechanisms (WB, ExIM etc.)
- Build the capacity of GOSL staff and City staff to adopt new technologies to ensure the safe and proper operation of waste processing facilities. We will help the City of Colombo MW disposal contractor to produce quality compost, and to develop a testing and certification mechanism. We wil use a TSSC grant to facilitate this activity.
- Establish and operate a demonstration on ten aquaculture ponds on water treatment in collaboration with Biohumanatics, AZ and Industrial Services Bureau, Sri Lanka.
- Help to test technologies to minimize waste and treat wastewater in the rubber, coconut, metal finishing and hotel industries. Several technologies were already identified and we will promote the transfer using EPSG and CSG resources.
- Transfer of technology to strengthen the use of constructed wetlands to treat runoff and wastewater with Environmental Compliance Ltd., AZ. We will work to establish a demo in association with the USAID/Tourism Cluster.

Project elements related to cleaner production/pollution prevention include:

- Initiate activities to develop a Sri Lanka Environmental Service Providers Association (ESPA) to improve the dialogue between environmental technology providers and to form

a formal network. TSSC assistance is requested to identify appropriate entities to serve as counterparts and this will be multi-year undertaking.

- Build Sri Lankan CP capacity through participation in international workshops and seminars
- Develop information dissemination system to share technical aspects of industry processes, potential waste minimization areas and case studies and to launch the revised US-AEP Sri Lanka report on "Environmental Technologies used by Sri Lanka Industries" A TSSC grant recommended to establish an internet facility to model FCCI work and to link up with the findings of the survey. Host institution need to be identified (National Cleaner Production Center?).
- Tech. Rep. will continue to participate in ADB Clean Industry Development project deliberations (implemented by IRG) and be a steering committee member to the National Cleaner Production Center (NCPC) by UNIDO.
- Assist implementation of the GLOBE program in schools and conduct a set of model programs related to surface water pollution.
- Expose GOSL and other key stakeholders on how the load based fee structures operate in other countries
- Support TAF identified NGO's work in surface water pollution prevention (institutions TBD)
- Tech. Rep. will work towards identifying and transfer technology and to establish a plastic recycle model program. It will include working with a urban authority and a group of private sector and NGO's to sort, collect, process and market used plastics.

Project elements for the Global Reporting Initiative include:

- Advise FCCISL in recruiting companies and providing opportunities to participate in regional workshops on GRI (The regional workshops will focus on actual implementation of GRI and the use of the reports by financial, government and NGO communities.)

- Provide potential companies via regular electronic correspondence and advice from GRI expert in TSSC after FCCISL recruited pilot companies have attended the regional GRI implementation workshop, Questions about process steps, stakeholder involvement, report writing, etc. can be shared at each step, along with suggestions from other companies going through the process in other countries.

Expected Results for the Waste Management Activities:

- Implementation of a scientific medical waste management system in Sri Lanka.
- Reduction of hazardous waste volume by processing waste motor oil to a usable product
- Quality assured compost from MSW suitable for crop production and erosion control
- Improved waste management in the industrial sector
- Improved waste minimization in aquaculture industry
- Potential uses of constructed wetlands highlighted and information made available.
- Model plastic recycling program in an urban location

Expected Results for CP/P2 Activities

- An internet interface to model FCCI approach to promote CP in the industry
- Reduction of waste generation by industry
- Publication and distribution of US-AEP survey on status of environmental technologies used by Sri Lanka industry final version and National policy on Cleaner Production
- Promote implementation of the GLOBE program in a selected set of schools.

- Improved dialogue between industry and Govt. on environmental standards and methods of minimizing waste.

Expected Results for GRI Activities:

- Two Sri Lankan companies committed to working with stakeholders to build a GRI report.
- Increased FCCISL knowledge of GRI that can continue to expand to other member industries.

Project 3: Development of Municipal Associations and Improved Urban Services

Primary Program Area	**:**	**Urban**
Secondary Program Areas	**:**	**Policy, Trade and Investment**
US Partners	**:**	**ICMA, US Technology Providers**
Asian Partners:	**:**	**Urban Development Authority**
		City of Colombo
		National Physical Planning Department
		Cities and Association of Mayors

Description

As Sri Lankans move beyond the era of conflict that has challenged the country for the last two decades and strategies to revive the county's economy, local government units will become legitimate partners in the overall governing of the country. LGUs can be vehicles for distribution of central government money, developing good environmental management practices and key players in constructive north-south dialogue, a critical point if the peace treaty is to hold.

Communication between LGUs however, is largely non-existent as institutions needed to facilitate communication and support to LGUs no longer exists. According to municipal commissioners and newly elected mayors, there is a need to build a league of cities or municipalities that can function on behalf of LGUs. In the 1970's, prior to a shift to a more socialistic economic and centralized governing system, Sri Lanka had a League of Sri Lankan Cities, however, it has existed in name only.

Today, there is discussion of either reviving the League or creating a new one. In May of 2002, two local government officials attended the US-AEP Asian Association Dialogue in order to become current with practices of associations in Asia. This effort was support by the USAID Mission in Sri Lanka; suggesting that they can be a partner in the development of a new League or Association.

To move forward, US-AEP Sri Lanka suggests that a feasibility mission be conducted by ICMA that would results in laying the foundation for the development of a league. This would include sending a short term advisor (either from Washington, DC or the India ICMA representative) to convene a meeting with key elected and appointed officials. Working in partnership with US-AEP and USAID, a meeting would be patterned after the founder meetings convened in India that resulted in the start up of new state city manager associations.

In addition, urban service delivery could be improved greatly by adopting modern ways of collecting, analyzing and presenting/decision support systems using Geographic Information Systems (GIS) and Global Positioning Systems (GPS), creation of innovative public–private partnerships and enhanced knowledge of financial mechanisms. During FY 2003 we propose to improve the capacity of the Sri Lanka urban sector in these areas.

Project elements in capacity building of local authorities include improved capacity of urban planners and private sector to adopt GIS and GPS technologies including the GSL effort in planning of new growth centers and regional hubs. We will assist Urban Development Authrity and NPPD to improve its system to deliver planning information to regional and urban institutions though training and exposure.

Expected Results

- The goal of the ICMA activity would be to determine country wide interest in forming a new League of Cities (or reforming the existing one), selection of board of directors and

provision of a start up grant to the League or Association that would fund a full time coordinator for up to 6 months, a purchase of a computer, one years access to the internet and limited ongoing technical support from the Manvita Baradi, ICMA/ India Association Advisor.

- Improved awareness of the benefits of public private partnerships in delivering urban services
- GIS based physical plans for urban development and improved information sharing among planners.

Project 4: Enhancing Clean Energy Generation and Energy Efficiency

Primary Program Area	**:**	**Energy**
Secondary Program Areas	**:**	**Policy, Trade and Investment**
US Partners	**:**	**Southwest Windpower, AZ** **Unisolar, IL** **Alliance to Save Energy** **Bonneville Power Administration** **US Energy Association** **Invictus Energy Group** **National Renewable Energy Laboratory** **USAID/SARI Energy**
Asian Partners:	**:**	**Ministry of Power and Energy** **Ceylon Electricity Board** **Lanka Electricity Company** **Central Environmental Authority** **Sri Lanka Energy Managers Association** **Lanka Transformers Ltd** **Water Supply and Drainage Board** **City of Colombo**
Other Partners	**:**	**WB/GEF**

Description

The driver for this project is the need for greater availability and quality of power in Sri Lanka, a necessary step for Sri Lanka to increase it's competitiveness in the global marketplace. Therefore the goal of this project is to improve energy efficiency and optimize existing hydropower facilities. USAID Sri Lanka does not have a bilateral energy program although there are talks about forming one, in which case US-AEP will directly involved. Present U.S. Government assistance in the energy sector is through the USAID EGAT Bureau, USAID South Asia Regional Initiative Energy program and US-AEP. Significant amount of US-AEP Staff time is used in the SARI/Energy operational aspects in Sri Lanka. The CEB–Bonneville Power Administration (BPA) Utility Partnership, funded by USAID/EGAT, is progressing, with a focus on transmission planning and improvements to existing old hydropower generation facilities. BPA teamed up with Invictus Energy Group to implement the hydropower improvements. We have started looking at the potential transfer of technologies to improve existing thermal/diesel generators such as temperature controls and recycling of exhaust (turbo), small wind turbines and solar systems.

This year we will introduce the programs of the Alliance to Save Energy (ASE) on improving energy efficiency in urban water supply and lighting. The partners for the projects are CEB, City of Colombo, Water Board, Lanka Transformers Ltd and Sri Lanka Energy Managers Association. Also the GOSL in June 2002 signed with WB and GEF a 70 million US$ program to facilitate rural electrification. Some of the American products on wind and solar power generation would be appropriate to consider in the scheme. Also USAID SARI/Energy is working with National Renewable Energy Laboratory (NREL) to develop a wind and solar resource atlas for Sri Lanka which will allow investors to select the geographic areas to invest and introduce appropriate generation methods.

During the AZ-Sri Lanka Initiative we identified a wind and solar combination by Southwest Windpower and Solar Systems by Unisolar is being introduced. We will take the advantage of the WB/GEF rural electrification project assistance to reduce the cost of renewable energy technologies.

Project elements include:

- Help the city of Colombo to reduce the reported 50% unaccounted revenue loss from water supply through the proposed ASE program. Water losses occur due to non-payments of bills, illegal connections and leaks.
- Help BPA, Invictus Energy Group and CEB to work with USTDA to develop the project to improve existing hydro facilities.
- Sri Lanka to design an improved transmission plan with the help of BPA and to build the capacity to conduct what if scenarios related to cross border trade with India and the need to move quality power to new areas in North and East. The BPA model “Powerflow” will be used extensively by the CEB.
- Project development to improve existing thermal generation systems using American technology we will work with several technology providers and co-ordinate the activity with CEB.
- Introduction of renewable systems for rural electrification, water pumping, water purification and distributed generation.
- Improving the practices and technologies used in street lighting, water pumping and municipal service delivery through ASE programs and development of the capacity of energy service companies and to create a model Energy Service Company (ESCO) to work as a public-private partnership. Disseminate the experience among other municipalities. We will do the co-ordination.

Expected Results

- Improved energy efficiency in street lighting, water pumping, traffic management etc.
- Building the capacity of a selected energy service companies and create a model public-private partnership between an energy service company (ESCO) and the City of Colombo.
- Improved transmission plans by CEB and developed human resources
- Progress towards upgrading the existing hydro and thermal generation to increase the capacity. Feasibility studies through USTDA to evaluate potential generation improvements to hydro and thermal generators (multi-year)
- Model solar and wind system in a remote location to provide power

Project 5: Promotion of Trade and Investment

Primary Program Area	**:**	**Technology Transfer**
Secondary Program Areas	**:**	**Industry**
US Partners	**:**	**U.S. Technology Providers** **CSG, AWMA, WEF** **US-AEP/ETNA and US-AEP/IIE**
Asian Partners:	**:**	**American Chamber of Commerce** **Sri Lanka Private Sector**

Description

Transfer of American products, services and know-how is essential to solve environmental problems in Sri Lanka and to improve the sustainability of the U.S.-Sri Lanka trade. The trade balance between the U.S. and Sri Lanka currently favors Sri Lanka, which exports about 10 times more to the U.S. than it imports from the U.S. US-AEP tools for the transfer of technology include EPSG, small grants to demonstrate/promote products, assistance to Sri Lankans to participate in U.S. tradeshows, catalogue shows, and consultations and help to US institutions/companies to travel to Sri Lanka to introduce their products. In FY2003 we will continue to participate in several key trade shows. In the past WEFTEC and AWMA were the most popular. We will help the American medium and small companies to introduce their technologies.

Potential project elements include:

- Identification of potential needs in Sri Lanka where American technology can be beneficial and competitive.
- Develop or participate in the development of programs that will lead to trade opportunities with the GOSL or multilateral banks
- Small grants to U.S. companies to travel to Sri Lanka and demonstrate products
- Travel grants for U.S. companies and Sri Lankans to facilitate trade and investment
- Assistance to Sri Lankans to find the products suitable to address their environmental needs.
- EPSG will help US-AEP Sri Lanka to develop a workshop on innovative financial mechanisms to include prototype carbon funds and potential ways to develop Global Alliances to generate funds to developmental/tech transfer projects. We will collaborate with USAID and FCCISL.

Expected Results

- Introduction of American products into the Sri Lanka market
- Assisting the development of Sri Lanka through technology transfer
- Narrowing the trade gap between Sri Lanka and U.S.
- Improved understanding among Sri Lankans of the technological options available to address environmental problems

Project 6: Participation in Regional Programs

US-AEP Sri Lanka recognizes the following regional programs as relevant and useful for the country strategy. Whenever possible we have indicated the number of participants and the mechanism for funding. Finalization of the plans depends on the contribution by the regional programs and the timeline of the programs.

Title	Program Area	Country Action
1. Asia-Pacific Roundtable for Cleaner Production (APRCP)	Industry	EPSG 3 Participants
2. Leadership Capacity Building for Environmental Management through the Mayors' Asia Pacific Environmental Summit (MAPES) and the Urban Leadership Alliance	Urban	3 Participants
3. Certification and Training Support for Professional Ass. in Water	Urban	2 Participants
4. Local Government Association and League Network	Urban	3 Participants
5. Institutionalization of a Regional Air Quality Management Training Consortium: Clean Air Training Network-Asia (CATNet-Asia)	Urban, Public Policy	Participation
6. Promotion of the Global Reporting Initiative (GRI) in Asia	Industry	Participation
7. US-AEP Environmental Regulatory Dialogue	Civil Society	Participation
8. The FY2003 ETNA Program	Tech. Transfer	Participation
9. US-AEP Participation in WEF Annual Technical Exhibition	Tech. Transfer	10 Delegates EPSG partially sponsored and 15 self funded
10. US-AEP Participation in AWMA Conference	Tech. Transfer	3 delegates EPSG sponsored partially funded
11. APEC 2003 International Clean Energy Business Development Conference	Tech, Transfer	Participation? SARI/Energy invitation travel?

SUCCESS STORIES

Sri Lanka phased lead out of gasoline

Lead in gasoline is harmful for human health and the medium and long-term health affects of lead is well known. The Clean Air 2000 Action Plan developed in 1992 by Sri Lanka identified the phasing out of lead as one of the activities, among other things. However the Ceylon Petroleum Corporation, a Government of Sri Lanka monopoly indicated that they will not produce unleaded gasoline until 2020. By 1999 Sri Lanka was the only country in South Asia using leaded gasoline in automobiles.

US-AEP Sri Lanka was able to reenergize the air quality management stakeholders by organizing a one day workshop in November 2000 where the present status of the air quality management in the country was discussed at length. Dr. Ajith Kaduwela, a senior scientist from the California Air Resources Board facilitated the discussion. At the end of the day the World Bank came forward with more assistance, including $400,000 to establish a co-ordination center (Air Resource Management Center–AirMac) and conduct four technical assistance projects. US-AEP responded by providing an study tour to visit senior managers in Thailand and Philippines through its Environment Exchange Program and a number of individual training opportunities on fuel quality, vehicle inspection and maintenance, transport planning and health impacts of mobile emissions. US-AEP also provided material developed and used in other countries (mainly Philippines) for public awareness activities on the health impacts of lead and the importance of phasing out lead in gasoline. Documents addressing with typical misconceptions about leaded versus unleaded gasoline were particularly useful to win the support of the public, key Government officials and policy makers. As a result of these concerted efforts, the Ceylon Petroleum Corporation decided to advance the date by which it would offer unleaded gasoline, making it available island-wide in May 2002.

Catalyzing the process of adopting proper medical waste management

Currently Sri Lanka medical waste is being disposed, untreated, along with municipal solid waste. Due to financial constraints as a result of the ethnic conflict, medical waste management became a low priority issue with the Government. In 2000 US-AEP Sri Lanka started addressing this problem by training City of Colombo staff through EPSG, and in 2001 we started promoting a private-public partnership to address the problem.

We facilitated a visit by a leading company in Sri Lanka, Chemical Industries Colombo (CIC) Ltd., to the Mayo Clinic in Rochester, MN to see their medical waste management process. The trip convinced CIC that medical waste processing is complementary to their other business areas such as paint manufacturing, chemicals, adhesives and pharmaceuticals. US-AEP Sri Lanka helped CIC communicate with several U.S. suppliers of different medical waste management technologies, namely incineration, microwaving and autoclaving, comparing technological options as well as the cost of processing.

In order to formulate a bankable project, USAEP and CIC made presentations to the Government on the potential options and asked that it provide land for the facility and an assurance that medical waste will be available for a specified period. Meanwhile the World Bank funded a study, published in December 2001, to characterize and quantify medical waste. Based on the recommendations in the report and the information CIC provided, the Government decided to use “autoclaving” technology to decontaminate medical waste in Sri Lanka. US-AEP helped one of the key international autoclave technology providers (Sani-Pak) visit Sri Lanka in April 2002 to work with CIC and make a presentation to the Government committee on medical waste management. Presently the Government is in the process of formulating documents to request proposals from the private sector.

Our facilitation and intervention is paving the way to anther public – private partnership on municipal service delivery. Without the assistance of the NASDA OPF to visit Minnesota, CIC would not have realized the potential of the medical waste processing. The tour of Sani-Pak helped the process to move forward yet one more step. During the year 2003 we expect to see more positive results in this partnership.

AZ development experience to develop arid areas in Sri Lanka

US-AEP and CSG funded the Arizona–Sri Lanka State Environmental Initiative (SEI) in year 2002. In July 2002 a group of 12 Sri Lankans visited Phoenix, AZ to find solutions to their environmental problems. One of the delegates was the Director General of the National Physical Planning Department (NPPD) Mr. Laxman Jayasekera. NPPD this year produced the Sri Lanka Physical Planning Policy using geographic, production, demographic, climatic and economic data from different parts of Sri Lanka to form a land use plan for future development covering the next twenty years. Mr. Jayasekera was also the Director General of the Urban Development Authority, the agency responsible for urban development in the country. One of the recommendations of the NPPD policy document was to relocate some of the increasing population out of the central hills where steep slopes and high rainfall, combined with disturbances due to increased population, are causing high rates of erosion. The available areas for urban growth are located primarily in arid areas in Sri Lanka. Mr. Jayasekare wanted to use the AZ-Sri Lanka SEI to get ideas to improve his strategy.

One of the SEI partners, the Morrision Institute for Public Policy, developed an agenda for Mr. Jayasekare's visit to Phoenix. He had meetings with the City of Phoenix Planning Department, AZ Department of Water Resources, Salt River Project of AZ and the Morission Institute. Dr. Mary Jo Waits, Associate Director of the Morrision Institute, coordinated the meetings. One of the questions Mr. Jayasekera kept asking was how AZ used water and energy resources to sustain growth in an arid environment. He came back to Sri Lanka with many ideas to improve his plans and he shared his thoughts with members of Parliament from the arid south and northwest on August 08, 2002.

BPA – CEB partnership helps to reduce electricity losses

In 2000, US-AEP Sri Lanka worked with the US Energy Association (USEA) to established an "energy partnership" between the Ceylon Electricity Board (CEB) and the Bonneville Power Administration (BPA), Portland, OR. CEB is the main electric utility in Sri Lanka and BPA provides electricity to the states of WA, OR and ID. The purpose of the partnership was to share experience and best practices between the two utilities for mutual benefit. The Partnership decided to focus on two key technical issues, namely, to review and improve transmission and distribution and to improve capacity and efficiency of hydropower facilities.

Better transmission planning is critical to provide reliable, efficient and cost effective electricity to industrial and domestic users; to improve the global competitiveness of Sri Lanka and to attract investors. In their first visit BPA identified the potential to improve the analytical and management capability of the three CEB divisions involved with transmission and distribution planning namely, transmission planning, system controls and the protection development.

It was observed that only the transmission division had access to computer software, with a single user cost of approximately $80,000. High cost effectively prevented the CEB system control unit from purchasing a license to improve day to day and long-term operational planning and for evaluating options for efficient power plant operations. As a result of the comraderie built from this partnership, BPA granted permission to use four copies of software that BPA developed and tested for its transmission planning. The compatibility of the BPA "Power Flow" software with CEB's existing system was a blessing and the software will be an

advanced, updated, planning tool in all divisions related to transmission planning. CEB is excited to get the best out of the BPA contribution and to improve the reliability of distribution in the short-term and to develop long-term strategies to strengthen the Sri Lanka power grid including the disturbed Northern and Eastern regions of Sri Lanka. In the long-term, BPA software could be used to design a transmission system that will enable energy trading between Sri Lanka and India.

In return BPA delegates in Sri Lanka observed the monitoring and modeling techniques at CEB's demand side management unit, and acknowledged the importance for BPA to conduct similar activities in the western United States. BPA-CEB partnership is mutually benefiting the two utilities to better understand each other's strengths and ways of helping each other.

BPA – CEB partnership promotes thinking outside the box

In 2000, US-AEP Sri Lanka worked with US Energy Association (USEA) to established an "energy partnership" between the Ceylon Electricity Board (CEB), Sri Lanka and the Bonneville Power Administration (BPA), Portland, OR. CEB is the main electric utility in Sri Lanka and BPA provides electricity to states of WA, OR and ID. The purpose of the partnership was to share experience and best practices between two utilities for mutual benefit. The Partnership decided to focus on two key technical issues, namely, to review and improve transmission and distribution and to improve capacity and efficiency of hydro facilities.

The BPA identification of the potential to improve existing hydro facilities were not considered in the long-term generation plan for Sri Lanka. In May 2002 the idea of improving old facilities became very real when BPA brought the Invictus Energy Group (IEG), a financing group, along with the BPA delegation to CEB. At the end of the tour IEG demonstrated to CEB how the improved runners and other equipment can be used as the replacement parts for the hydro facilities without replacing the same with the old designs. CEB was told that the potential improvement could be as high as 15% of the existing capacity.

One of the projects IEG studied was the Victoria Hydropower Station which has three turbines of 70 MW each, for a total capacity of 210 MW. A 15% improvement translates to more than 30 MW of additional capacity. Moreover this can be accomplished without disturbing the environment, which is not true for most new power developments. To make it more attractive the Invictus Group offered an innovative mechanism of financing where CEB do not have to raise capital but can arrange to pay using the money generated through the improvement over a specified period of time, usually seven years. The innovative technology and financing from this private-public partnership could help Sri Lanka improve its generation capacity while minimizing environmental damage.

Reduction of Hazardous Waste Volume

Sri Lanka generates an estimated 45,000 metric tons (MT) of hazardous waste every year, and no facility exists to dispose of it. The Government of Sri Lanka has instructed the generators to store the waste until it finds a safe solution, although some waste is being dumped illegally. Used motor oil accounts for two-thirds of all hazardous waste generated. US-AEP approached the primary manufacturer of motor oil in Sri Lanka, Caltex Lubricants, to help them find ways to recover and reuse the oil. The main problems have been the lack of technology and the lack of an institution to process the waste oil for reuse. Caltex, however, has the capacity to collect oil from users and process it for reuse.

Caltex enthusiastically accepted the US-AEP offer of assistance, and they were connected to the State of Arizona through the CSG State Environmental Initiative. The Arizona company "Thermofluids" came to Sri Lanka to demonstrate the technology to process used motor oil. Chemical Industries Colombo, another Sri Lanka company participating in the program,

offered to form a partnership with Caltex and Thermofluids to buy the technology and run it on a fee basis, or to operate a Build Own and Operate system. This collaborative partnership will significantly reduce the volume of hazardous waste Sri Lanka need to process and improve the potential to bring in a sustainable solution to the rest of the waste.

Sri Lanka decides to privatize vehicle emission certification and ambient air quality monitoring

The Central Environmental Authority (CEA) in Sri Lanka is trying hard to monitor ambient air quality using minimum resources, but they lack proper equipment and trained staff. The Ministry of Environment plans to start testing vehicles starting January 2003 and it needs a set of vehicle emission testing centers located throughout the island. The CEA cannot provide the testing services and certification, and its program on ambient air quality measurement is being questioned by many users.

To help address this issue, US-AEP Sri Lanka facilitated the visit of Dr. Don Jayaweera, Deputy Director of the Ministry of Transport, Highways and Civil Aviation to attend the Air and Waste Management Association (AWMA) annual exposition held in Baltimore in June 2002, and then on to the State of Arizona. Dr. Jayaweera is a key Government official on policy matters relating to air quality. The trip enabled him to better understand the mechanisms used for systems in which governments purchase ambient air quality data from private sector firms that do the monitoring. US-AEP organized a program for him in Arizona to inspect the City of Phoenix vehicle testing and certification system and to participate in a demonstration and a hands on vehicle emission testing program In Tucson organized by Environmental Systems Products.

This comprehensive exposure to various successful approaches helped Dr. Jayaweera recommend to the Government of Sri Lanka that it use private sector assistance to do vehicle inspections and ambient air quality measurements. In August 2002, Teledyne-API one of the companies identified by Dr. Jayaweera and the Sri Lanka delegation to AWMA2002 visited Sri Lanka and held a workshop on “issues on air quality monitoring” to a group of 45 stakeholders (public, private, NGO and Media) invited by USAEP Sri Lanka. Response of the audience was very positive to the public – private partnership approach put forward by Teledyne-API.