

EEAA



**Arab Republic of
Egypt**

*National project for old
Taxi replacement*

*Present By
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Introduction

- *The increasing pace of the development in Egypt has meant increased industrialization and increased demand for transportation. It is well documented how such industrialization and motorization, if not controlled, results in an increase in emissions and pollutant loading, which threaten people's health and overburdens the environment.*
- *Egypt is committed to invariables that are an inherent right of the Egyptian citizen including environment preservation. Health and living standards of citizens come at the top of government priorities for creating a better work and production environment and increasing investments.*

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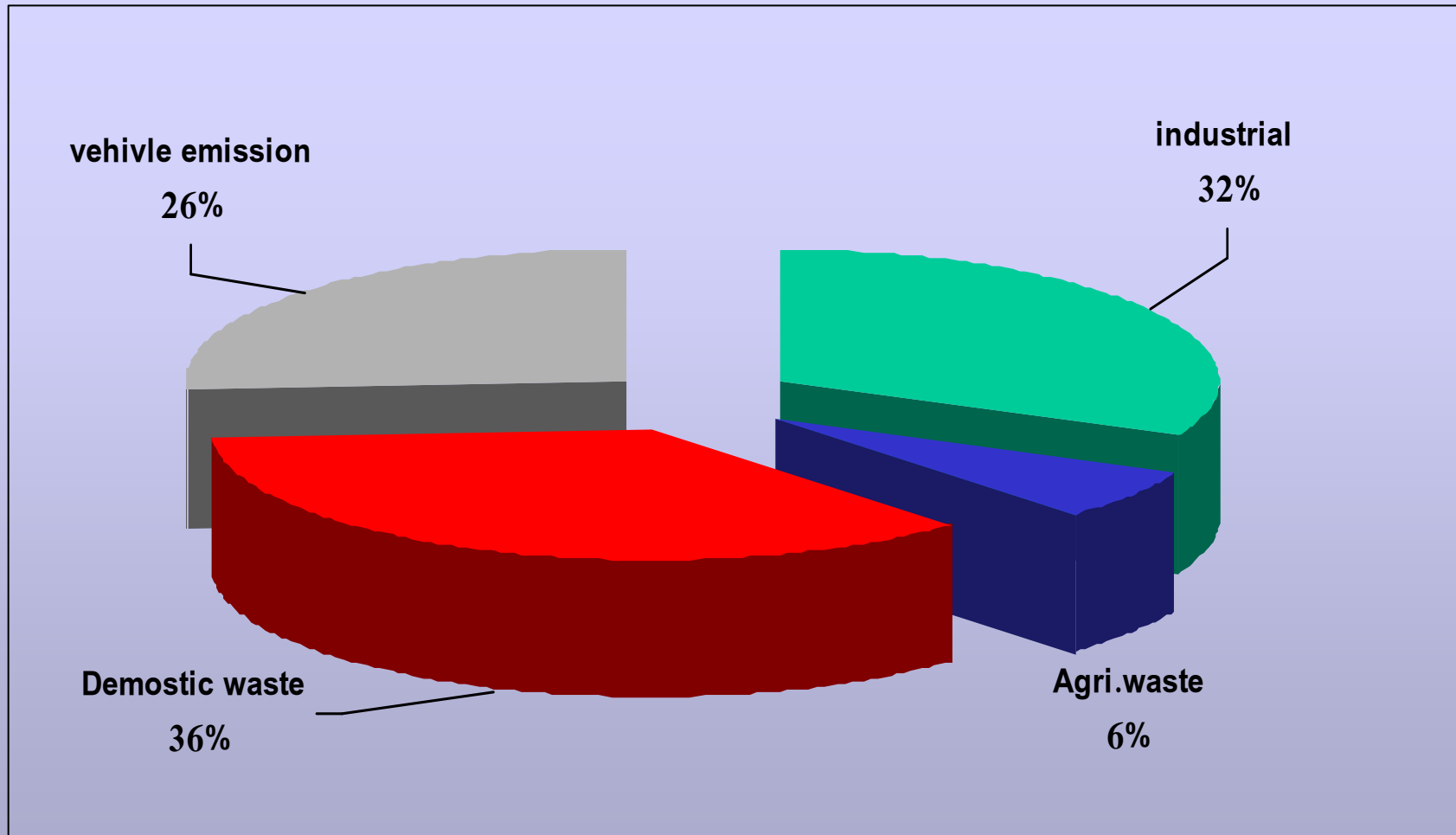
- *It is expected to have a more progress in the coming period as a result of the outstanding initiative from the H.E. president Hosny Moubark to include a new article (59) in the new amendment of the Egyptian constitution stating that the protection of the environment as a national duty which will encourage the civil society and the NGOs to be active members in the implementation of the environment policies and programs.*

Sources of air pollution

Sources (priority sequence):

- *Natural*
- *Industries.*
- *Traffic.*
- *Waste burning (agriculture and domestic).*

sources contribution In Egypt



Air Quality network in Egypt

Air Quality is mentioned in Egypt for compliance with air quality St. at local level and with Environmental law No 4 of 1994.

Objectives of monitoring network:

- Institute a reliable system to measure ambient level of pollutants.*
- Monitor and evaluate impact of air pollution mitigation measures.*
- Establish national network to monitor air quality.*
- Develop capabilities to process, analyze and present Data.*

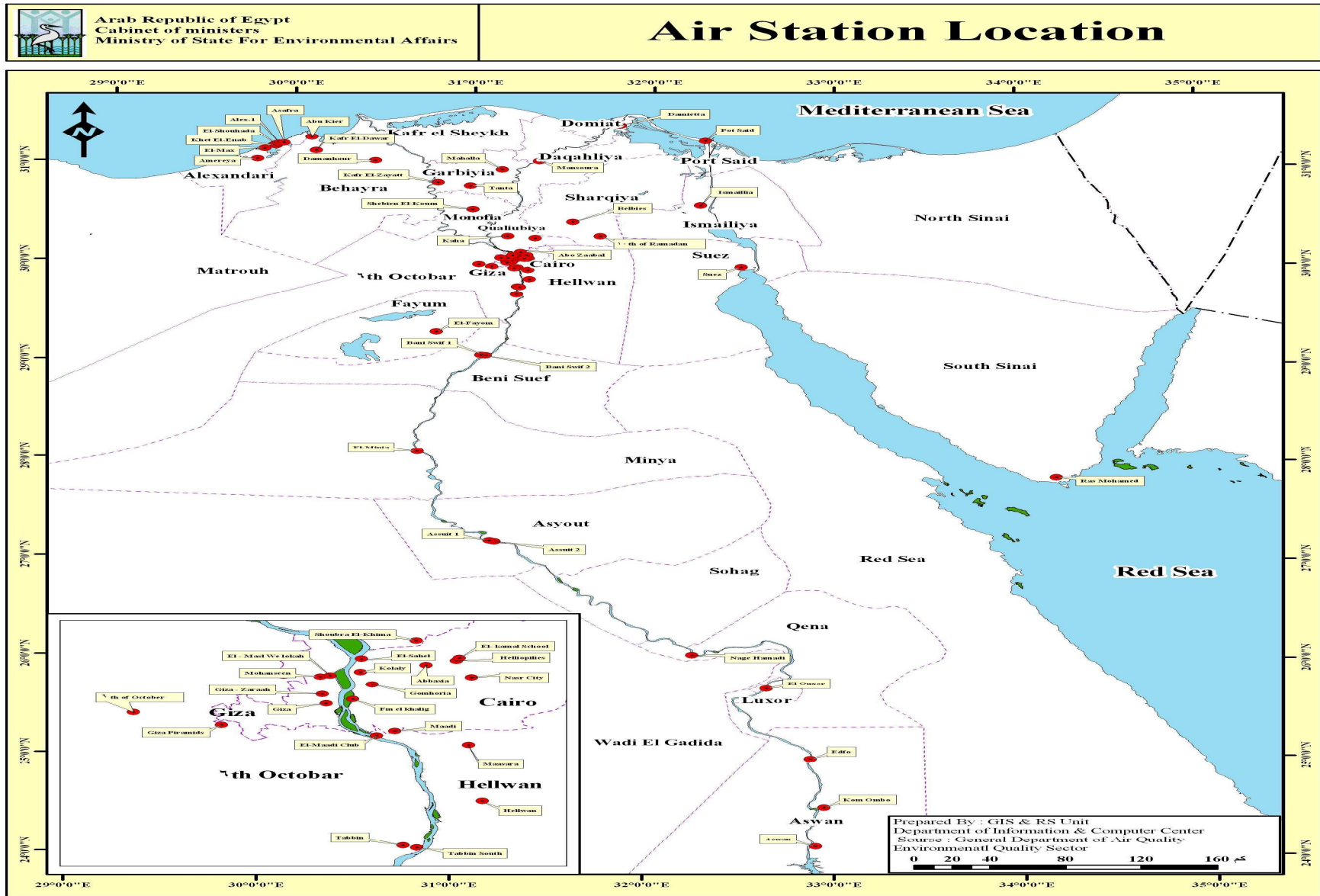
Pollutants under monitoring:

- Sulphur dioxide (SO_2).
- Total suspended particulate matter (TSP), PM_{10}
- (suspended particles with diameter less than 10 micrometer),
- Nitrogen dioxide (NO_2) and/or NO_x (nitrogen oxides),
- Ozone (O_3)
- Carbon monoxide (CO).
- Lead (Pb).

A geographical distribution of the national network stations for monitoring air pollutants of EEAA

Site Type	Greater Cairo		Alexandria		Delta		Upper Egypt		Sinai and Canal Cities		Total	
	Established Sites	New Sites	Established Sites	New Sites	Established Sites	New Sites	Established Sites	New Sites	Established Sites	New Sites	Established Sites	New Sites
Industrial areas	7	1	3		3	1*	3			1*	16	3*
Urban areas	9		1		4		7				21	
Residential areas	4	1*	2		2		2				10	1*
Traffic dense areas	7	3*					1				8	3*
Remote areas	4		1		1		1		2		9	
mixed areas	10	2*	1		2		1				14	2*
total	41	7*	8		12	1*	15		2	1*	78	9*
	48		8		13		15		3		87	

Air Station Locations



Vehicles' emissions

- *Vehicles emissions represent a major source of air pollution in mega cities with high traffic density, particularly Greater Cairo governorate which suffers from problems of traffic jams as a result of increasing vehicles' number. The study which carried out by National Institute for Transportation indicated that vehicle's average speed within Greater Cairo is about 11 km / hour.*

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- *Studies carried out by Ministry of State for Environmental Affairs indicated that vehicles' emission contribute with 26% from total pollution loads with suspended particulate matter in Greater Cairo, more than 90% of total pollution loads with carbon monoxide, 90% of total pollution loads with hydrocarbons and 50% of total pollution loads with nitrogen oxides. These gases had harmful impacts on both environment and public health.*

Vehicles in Egypt



Countermeasures and control the emission for mobile sources:

- *Improvement of vehicles emissions*
 - *Replacing old taxis' project.*
 - *Reduction program of motorcycles emission.*
 - *Remove of two stroke engine.*
- *Use of natural Gas as fuel*
 - *Program of converting governmental vehicles to natural gas.*
 - *Replace the public transportation buses with new natural gas buses.*



➤ *Vehicle Inspection*

- *Inspection Program of vehicles emissions as apart of vehicle licensing.*
- *Inspection program of vehicles' exhaust on- the road.*
- *Inspection Program of Cairo Transport Authority (CTA) Buses.*



Case study

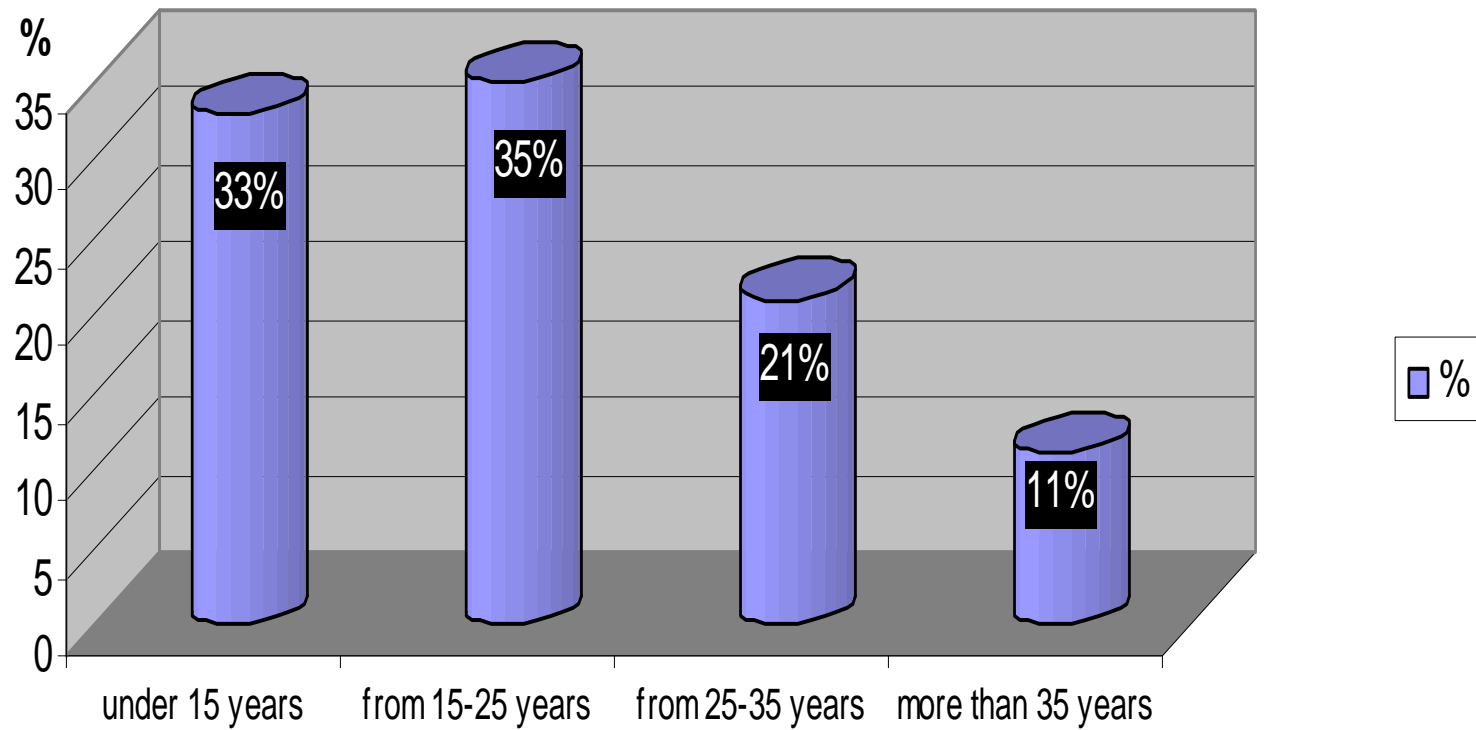
Replacing old taxis' project

- *The project aims to improve status of old taxis in Greater Cairo under an environmental framework to guarantee the safety limit of emissions exhausted from these vehicles in addition to costs' reduction .*

1. The following table shows the distribution of vehicles according to the type of license and age of the car in Greater Cairo.

Type of license	Less than 15 y	From 15 to 25 y	From 25 to 35 y	More than 35 y	total
private	406726	265407	185054	114082	971269
Taxi	22752	21587	17097	23474	84910
Micro bus	10153	6042	5456	7658	29309
trucks	23326	106896	31085	13004	174311
Busses	8839	112426	76207	28044	225516
total	471796	512358	314899	186262	1485315
%	%32	%34	%21	%13	%100

Distribution of vehicles on the country level according to age



Study of international experience to deal with the problem of old cars, there are in some developed countries as American States, Canada, the European Union that carried out programs to encourage owners of old cars to get rid of these cars and replace it with new cars through economic incentives as follow:

- *Exemption the new car of tax.*
- *The owner of old taxi endow cash money when he delivers the old car to one of the cars scrapping centers.*
- *the owner of the old taxi endow Free Subscription in public transportation for a year or two years.*
- *the owner of the old taxi endow exemption from annual fees for licensing the new car for several years.*

2.the following two tables show economic and environmental benefit expected from the implementation of the project to taxi and microbus in Greater Cairo:

License type	Fuel type	Fuel consumption/ million litter		Difference/ million litter	Benefits in subsidy(million bound)		
		Before project	After project		Reduction of fuel	Use natural gas	total
taxi	diesel	10.1	8.3	1.7	4.0	18.3	22.3
	gasoline	194.9	160.7	34.2	63.2	273.2	336.4
Micro bus	diesel	108.5	77.9	30.7	70.5	171.3	241.8
	gasoline	21.7	15.8	5.9	10.8	26.9	37.7
total	diesel	118.6	86.2	32.4	74.5	189.6	264.2
	gasoline	216.6	176.5	40.0	74.1	300.1	374.1
Total reduction in subsidy annual					149	490	638

License type	Fuel type	Fuel consumption reduction / million litter	Emission reduction (ton)						Total emission reduction(ton)		
			Consumption reduction			Conversion to natural gas			No2	CO	PM
			No2	CO	PM	No2	CO	PM			
taxi	diesel	1.7	19	18	5		0	0	19	18	5
	gasoline	34.2	857	4613	16	1573	21045	62	2430	25658	78
Micro bus	diesel	30.7	2175	1821	153	0	0	0	2175	1821	153
	gasoline	5.9	147	791	3	155	2071	6	302	2862	9
total	diesel	32	2195	1839	158	0	0	0	2195	1839	158
	gasoline	40	1004	5404	18	1727	23116	68	2732	28520	86
Total reduction in in emissions / ton									4926	30359	244

□

In case apply program to replace (40571 taxi microbus +13,114) in Greater Cairo with new ones:

- *it is expected to achieve an economic return from the implementation of this program of 638 million pounds annually, it represent savings in support as a result of the reduction of gasoline and diesel consumption, and conversion to natural gas.*
- *it is expected to achieve a reduction in the annual volume of emissions from the exhausts of these vehicles, it is estimated at 4926 tons of nitrogen oxidates and 30359 tons of carbon monoxide and 244 tons of dusts, these cars out of service completely obsolete.*

- *the national project will carry out in 3 years that will replace 13500 taxi and 4500 microbus annually, the state withstand budget 10 thousand pounds as subsidies for the price of the interest accrued on the loan each taxi owner and, and 15 thousand pounds as subsidies for each bus driver with a total annual budget for the support of \$ 200 million pounds for 3 years.*
- *it is expected to boom in the automotive market and increasing in production and distribution of cars,*
- *it is expected to create new job in the field of assembly and dismantling and scrapping of old cars and the formation of specialized companies in this area.*

- *EEAA were coordinated with each of the Nasser Social Bank and National Bank of Egypt to provide the necessary funding to lend the car owners, where the two banks agreed to the following conditions:*
 - *The owner of the car the old pay 25% of the price new car down payment.*
 - *the rest of the amount is a loan over 6 years at an interest rate of 7.5% per year.*
 - *monthly installment by the driver after the deduction of support from the Government of between 700-960 pounds according to the new car.*

Present situation

- *Now the number of new Taxies which reached 20.000 in Greater Cairo, and its planned to reach to 34.000 in the next year.*
- *The total number of vehicles which used CNG reached 124.000 and in near future planned to reach 150.000.*

Thank you