



**EUROPEAN TECHNICAL ASSISTANCE PROGRAMME FOR VIETNAM  
(ETV2)**

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**Ministry of Planning and Investment, Ministry of Finance and  
Ministry of Science and Technology in partnership with the  
European Commission**

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# **STUDY TOUR REPORT**

**Component C1**

**Activity Code POL2**

**EUROPEAN TECHNICAL ASSISTANCE PROGRAMME FOR VIETNAM  
(ETV2)**

Hanoi, Vietnam

Study Tour Report by

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**ISTE1 b @ to ETV2**

**Date 16 July 2008**

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## Acronyms

# 1. Introduction

Vietnam does not have an environment protection tax system conformant with common international practice, but does have some land-use taxes and charges, such as the natural resource tax, petroleum and oil's taxes and fees, etc. Vietnam intends to build a system of legislation on environmental protection in parallel with laws on natural resources and the issuance of law on environment protection tax had been put on the National Assembly agenda by 2010. Therefore, the National Assembly had adopted a resolution explicitly mandating the Ministry of Finance with the elaboration of a comprehensive, uniform environment protection tax law.

The National Assembly voted to approve the revised Environmental Protection Law, on 19 November 2005, replacing the 1993 law. The 2005 Environmental Protection Law provides for the protection of the environment, measures and resources for environmental protection, rights and obligations of organisations and individuals for environmental protection and State management of environmental protection. It came into force on 1 July 2006. The Government also issued Decree No. 80/2006/ND-CP on 9 August 2006 to guide the implementation of the law. The Law provides for the following financial obligations in relation to environmental protection:

- Environmental tax: Organisations, individuals and households producing and trading in certain kinds of products that have long-term adverse impacts on the environment and human health shall be liable to pay environment tax. The Government shall submit to the National Assembly for approval a list of products and production and business activities subject to the environmental tax and applicable tax rates.
- Environmental protection charges: Organisations and individuals discharging waste into the environment or engaging in activities causing adverse impacts on the environment shall have to pay environmental protection charges. The Ministry of Finance shall assume the prime responsibility for and must coordinate with the MONRE in, formulating and submitting to the Government regulations on environmental protection charges.
- Natural resource exploitation and restoration funds: Organisations and individuals exploiting natural resources must place deposits for environmental improvement and rehabilitation at a credit institution operating in Vietnam or at the environmental protection funds of the place where natural resources are exploited. The Law authorises the Prime Minister to promulgate regulations on this matter.
- Environmental protection funds: Environmental protection funds are financial institutions established at central and local levels and in all branches and domains to support environmental protection activities. Environmental protection funds' financial resources come from the State budget, environment protection fees, compensation for environmental damage, administrative monetary penalties, and contributions from domestic and foreign organisations and individuals.

By decision of the Minister (1 September 2006) and as a follow-up to the preliminary assessment of the technical expertise provided by ETV2 in the initial phase, the MoF decided to shift the development of the Law on Environment Protection Tax to the support of the collection of environment protection taxes and levies according to international best practices.

Until now the component C1-POL2 has elaborated a first draft of a Vietnamese Environmental Tax Law. This draft was presented and discussed at an international conference in Hanoi (22<sup>nd</sup>/23<sup>rd</sup> of May). A

consensus emerged on the next steps: a political decision is needed (by the Minister of Finance and/or the National Assembly) regarding priority areas for the implementation of environmental taxes. A Study Tour should serve the purpose of ascertaining criteria for this decision. The information gained will be considered in the policy paper on environmental taxation to be delivered in October 2008.

### **1.1 Rationale for the Study Tour**

The purpose of the study tour is to learn from the experience of neighbouring countries. There are good reasons for the choice of Singapore and the Philippines: (1.) Both countries have undergone a similar development to Vietnam and faced similar challenges in the past, such as population growth, rapid urbanisation, industrialisation and motorisation, and environmental pressures; Singapore has successfully tackled environmental challenges in a densely populated urban context, whereas the Philippines are experiencing similar challenges in land use and natural resource exploitation; both are ahead of Vietnam in their efforts to implement reforms to better meet these challenges. (2.) Both countries already have experience regarding the application of fiscal instruments for environmental purposes, including innovative approaches to road pricing (Electronic Road Pricing, ERP) and pollution charges in Singapore, and natural resource taxation as well as model projects for fiscal water resource management (Laguna Lake Development Authority, LLDA) and urban waste management (Marikina City) in the Philippines. Vietnam shares many of these objectives, but the pertinent discussion has only just begun. Given these circumstances, Vietnamese decisions makers stand to learn much from the experiences made in Singapore and the Philippines.

### **1.2 Study Tour Objectives**

In accordance with the rationale of the Study Tour, its aim will be to foster an understanding of the experiences made with environmental fiscal instruments in Singapore and the Philippines, including the implementation, effectiveness and impact assessment of environmental taxes and charges and the corresponding legal policy discussion.

## 2. Study Tour Working Schedule

**Table 1.** Working Schedule

From	To	Working sessions
9 <sup>00</sup> AM	11 <sup>00</sup> AM	Session on the General Fiscal Framework and Use of Fiscal Instruments for Environmental Protection, Ministry of Finance (MOF), Singapore (Wednesday, 2 July 2008)
9 <sup>00</sup> AM	11 <sup>00</sup> AM	Session on the General Environmental Policy Framework and Use of Economic Instruments for Environmental Protection, Ministry of Environment and Water Resources (MEWR) and National Environment Agency, Singapore (Thursday, 3 July 2008)
2 <sup>00</sup> PM	4 <sup>30</sup> PM	Session on Urban Planning and Housing Development, Housing Development Board (HDP), Singapore (Thursday, 3 July 2008)
9 <sup>00</sup> AM	11 <sup>00</sup> AM	Workshop on Instruments of Environmental Policy, Asia-Pacific Center for Environmental Law (APCEL), National University of Singapore (NUS), Singapore (Friday, 4 July 2008)
2 <sup>00</sup> PM	5 <sup>00</sup> PM	Session on Road and Vehicle Pricing and Traffic Control, Land Transport Authority (LTA), Singapore (Friday, 4 July 2008)
9 <sup>00</sup> AM	12 <sup>30</sup> AM	Session on the General Fiscal Framework and Use of Fiscal Instruments for Environmental Protection, Department of Finance (DOF), Manila (Monday, 7 July 2008)
1 <sup>30</sup> PM	4 <sup>00</sup> PM	Session on the Use of Fiscal Instruments to Control Water Pollution in the Laguna Bay Area, Laguna Lake Development Authority (LLDA), Manila (Monday, 7 July 2008)
9 <sup>00</sup> AM	12 <sup>00</sup> PM	Workshop on Environmental Management, Ateneo School of Government, Manila (Tuesday, 8 July 2008)
2 <sup>30</sup> PM	4 <sup>30</sup> PM	Session on the Use of Fiscal Instruments for Environmental Protection, Department of Environment and Natural Resources (DENR), Manila (Tuesday, 8 July 2008)
9 <sup>30</sup> AM	12 <sup>30</sup> PM	Session on the Urban Policy Model of Marikina City, Demonstration of the Waste Management Program (Wednesday, 9 July 2008)

**Table 2. List of Participants**

	<b>Name</b>	<b>Organizations</b>	<b>Positions</b>
1	Vu Van Truong	Tax Policy Department (TPD), MOF	General Director
2	Bui Cong Minh	TPD, MOF	Deputy Head of Division
3	Nguyen Quoc Hung	Deputy Head of Division on import and export tax, TPD, MOF	Deputy Head of Division
4	Trinh Quang Hung	Division on other taxes, fees and charges, TPD, MOF	Expert
5	Cao Anh Tuan	Policy Department, General Department of Taxation, MOF	Director
6	Le Dai Hai	Ministry of Justice	Expert
7	Mai Quoc Hung	Government Office	Expert
8	Nguyen Thi Yen	Budget Commission of National Assembly	Expert
9	Nguyen Thi Thuy Duong	Component 1, ETV2 project	Staff
10	Vu Minh Nguyet	Component 1, ETV2 project	Interpreter
11	Michael Arthur Mehling	Component 1, ETV2 project international expert	International Expert

### 3. Approach/Methodology

In keeping with the Terms of Reference and past study tour practice, the methodology of this Study Tour consisted of:

- arranged meetings with senior officials at relevant departments of the Ministries of Finance and Environment and Water Resources in Singapore, and the Department of Finance and Department of the Environment and Natural Resources in Manila (attended by officials up to Minister/Secretary or Deputy Minister/Undersecretary level);
- arranged workshops at academic institutions with presentations by senior staff at the National University of Singapore (NUS) and the Ateneo School of Government, Manila (organised by Deputy Director and Dean, respectively);
- arranged visit and working sessions with local government agencies and administrative bodies, including Housing Development Board and Land Transport Authority, Singapore, and Laguna Lake Development Authority (LLDA), Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) Headquarters, and Marikina City, Philippines (joined by senior staff up to Executive Director, General Manager, and Mayor, respectively)

### 4. Key Findings

#### Singapore

While Singapore has not implemented a single environmental taxation scheme, it still has applied price-based instruments to achieve a number of priority environmental objectives. These include measures in the area of water conservation and management, waste collection, environmental licensing and road transport management and control, reflecting the central environmental challenges faced by a densely populated city-state with a low natural resource base, high traffic and increasing water and energy consumption.

#### *Water Conservation and Management*

In the area of water resources management, Singapore introduced a progressive Water Conservation Tax (WCT) in 1991, imposed on domestic and industrial consumption of water. Accordingly, water, which is priced at S\$1.17 for each m<sup>3</sup>, is taxed at 30% of the value for volumes between 0 and 40m<sup>3</sup> (amounting to a total price of S\$ 1.52 per m<sup>3</sup>). Water consumed in excess of 40 m<sup>3</sup> is subject to a tariff of S\$ 1.40 per m<sup>3</sup>, with an additional WCT of 45% of that value (for a total price of S\$ 2.02 per m<sup>3</sup>).

A flat Sanitary Appliances Fee (SAF) of S\$3 per month is assessed against each sanitary appliance/chargeable fitting in a customer's household (e.g. each toilet cistern). Moreover, a Waterborne Fee (WBF) is levied as a volumetric charge on the amount of water consumed at the premise (S\$ 0.30 per m<sup>3</sup> domestic, 0.60S\$ per m<sup>3</sup> non-domestic). A rebate applies to non-domestic users who treat their own water to watercourse standards.

Finally, a Trade Effluent Tariff Scheme has been implemented in addition to the WBF and SAF, which allows applicants to discharge biodegradable water with higher concentrations into the public sewer subject to a fee. Industries can also dispose their organic sludge at designated water reclamation plants for a fee. This offers a choice to industries which produce biodegradable wastes of higher concentration, but find it undesirable or impossible to install, operate and maintain a trade effluent treatment plant on their premises.

For low income households, rather than subsidizing the water usage *per se*, which leads to misuse and excess consumption, they obtain a “U-Save” (Utilities-Save) rebate in their account and must decide how to use the rebate, incentivizing them to use electricity, water and gas efficiently to avoid any utility costs in excess of the rebate.

### *Solid Waste*

Solid waste fees are imposed on waste collection for 9 sectors, with domestic waste originating from apartments resulting in a flat charge of S\$ 4.23-7.21 per month, and domestic waste originating from landed buildings incurring a charge of S\$ 16.80-23.63 per month. For trade establishments, the fees are staggered based on daily quantity levels: generation of less than 120 l/day results in a fee of S\$ 23-44\$, whereas, on the upper end, a volume of 660 to 1100 l/day is charged at S\$ 420-628. The price range reflects the fact that collection costs depends on bid contracts, based on system of bids with vendors. Collection is effected through the utilities bill. Contractors pay a disposal Fee per tonne of roughly 77-87\$ for different incineration plants sites.

### *General Environmental Management*

Violations of environmental obligations can be penalized with fines of up to S\$ 50,000 under the main Environmental Protection and Management Act and S\$ 20,000 under subsidiary regulations. Compounded offences for industry range at S\$ 2000. For cars and motorcycles, violation of emission standards incurs successive fines of S\$70/100/150 for the first, second and subsequent violations, respectively. For taxis, trucks and buses, these fines are S\$150/300/500, respectively. Sale or importing of hazardous chemicals requires a license, with license fees ranging from S\$70 for 3 months, S\$280 for 1 year to S\$560 for 2 years.

Moreover, Singapore has instituted a sophisticated tax incentive scheme, with accelerated depreciation (100% in first year) for efficient pollution control equipment, certified energy-efficient equipment, and certified low-decibel and noise control equipment, for certified equipment to reduce chemical risks and replacement of commercially used diesel vehicles registered before 30 September 2006 (Sections 19A(5) to (9A), (15) Income Tax Act, 1996 & 1998, 2007).

### *Road Transport and Traffic*

Responding to very limited road surface availability, Singapore has introduced a strict system of price mechanisms to limit and manage road traffic. Since 1990, it has applied a Vehicle Quota System (VQS), requiring all potential vehicle owners to first purchase a Certificate of Entitlement (COE) in a competitive bidding system prior to registering a vehicle. The amount of COEs released each year is determined on the basis of the vehicle population at the end of the previous year and a 3% growth rate, estimated de-registrations for the current year and an adjustment for under-/overestimation of de-registration in previous year.

Moreover, vehicle owners are subject to a number of taxes and fees, including an excise duty payable to customs (for cars: 20% of the open market value (OMV), for motorcycles: 12%), a registration fee (flat rate of S\$ 140) and an additional registration fee for new vehicles (cars: 100% of the OMV, motorcycles: 15% of the OMV). Open market value is the price assessed by the Singapore Customs the vehicle importer pays taking into account purchase price, freight, insurance, handling and all other charges incidental to the sale and delivers of the car from the country of manufacture to Singapore. Second-hand vehicle purchases are subject to a transfer fee (for cars: 10% of the OMV, for Motorcycles 3%), and an additional transfer fee of 2% of the assessed value. Additionally, vehicle users are required to pay an annual Road Tax, renewable on a 6 or 12-month basis, and calculated on the basis of engine capacity for private vehicles and maximum laden weight for goods vehicles as well as maximum laden weight and seating capacity for buses. A Road Tax Surcharge is further imposed to encourage a young fleet, based on the age of the vehicle (more than 10 years: +10%, more than 11 years: +20%, more than 12 years: +30%, and so on).

Regarding variable road usage pricing, Singapore has introduced a unique system of motorway and congestion pricing, the Electronic Road Pricing (ERP) scheme, which replaced the earlier Area Licensing and Road Pricing Scheme in 1998. Based on dedicated short-range communications devices, electronic In-vehicle Units and a transparent CashCard payment system. This system allows variable pricing and facilitates the use of stored-value smart cards, with more than 99% of local vehicles equipped. Road usage charges vary by vehicle type, location of gantry and time of day. Rates are reviewed every three months to ensure optimal use of road space, with a view to limiting the number of vehicles in congested areas by basing rates on average speeds and aiming them at an optimal speed corridor. Using the technology introduced for the ERP scheme, Singapore is also deploying an Electronic Parking System (EPS). Additionally, petrol is subject to a flat fuel tax of S\$ 0.41 per litre for 92/95-octane petrol, and S\$ 0.44 per litre for 97-octane petrol and above. At current fuel prices, this roughly translates into a 20% tax (petrol is currently sold at approximately S\$ 2 per litre). No levy is imposed on diesel fuel, but diesel vehicles are subject to a Special Tax, charged annually (S\$ 5,100 for diesel taxis, and S\$ 1.25 per cc of engine capacity for Euro-IV private diesel cars). Clean natural gas and low pollution engines are exempted.

## Philippines

Faced with altogether different socioeconomic and environmental challenges, the Philippines have used fiscal instruments differently from Singapore to address environmental pressures. Fiscal measures with environmental relevance have been implemented in the area of excise taxation, incentives for biofuels, motor vehicle usage, liquid and solid waste, and forestry, mining and biodiversity protection. A number of environmental funds are sourced from fees and charges. Of particular noteworthiness is a pilot project implementing an Environmental User Fee Scheme (EUFS) in the Laguna Bay area.

### *Excise Taxes*

Excise taxes are applied to petroleum products (rates range from P0.05 to P5.35 per liter, depending on the petroleum product; exemptions apply to diesel, LPG, kerosene and fuel oil to protect low income consumers and because these fuels are mainly used for public transportation and goods vehicles), on automobiles (based on manufacturer's or importer's selling price, net of excise and VAT, ranging from 2% to 60%, depending on the value and accessories of the car, with different brackets and progressive increase), mineral products (ad valorem, with rates ranging from 2%-3%, depending on the mineral product, except coal, which is subject to a specific rate of P10.00 per metric ton) and tobacco (for cigarettes, specific rates ranging from P2.23-P26.06 per pack, depending on the net retail price). Generally, no rate differentiation exists based on environmental impact or performance.

### *Biofuels*

Minimum blend percentages of biodiesel and bioethanol are already mandated for commercial petrol. Moreover, tax incentives further encourage the deployment of renewable fuels, with biofuel generation equipment and raw materials, such as coconut husks, sugarcane, corn, cassava, exempt from excise taxation.

### *Motor Vehicle User Charges*

In lieu of the motor vehicle registration fee under RA 4136 and EO 43, a Motor Vehicle Users' Charge (MVUC) is currently collected from and paid by owners of motor vehicles. It is collected annually for old cars, whereas new car owners pay every 3 years. Rates are based on earlier registration fees (structured by weight of car) plus an additional 25% for the 1<sup>st</sup> year, 50% for the 2<sup>nd</sup> year, 75% for the 3<sup>rd</sup> year, and 100% for 4<sup>th</sup> year. For new cars, the MVUC is assessed for 3 years at 100%. Following the 4<sup>th</sup> year after its entrance into force, the President may adjust rates so these are reflective of, but do not exceed, the annual rate of increase in the Consumer Price Index (CPI). The President may adjust rates no more than once every five years.

Payments of the MVUC accrue to the Land Transportation Office, which in turn deposits the revenues to four special trust accounts in the National Treasury: a Special Road Support Fund (80%) for the maintenance of, and the improvement of drainage of national primary and secondary roads, a Special Local Road Fund (5%) for maintenance of local roads, traffic management and road safety devices, a Special Road Safety Fund (7.5%) for the installation of adequate and efficient traffic lights and road safety devices, and a Special Vehicle Pollution Control Fund (7.5%) for air pollution control. The Special Vehicle Pollution Control Fund, which is administered by the Department of Transportation and Communication (DOTC), had collected P 3.3 billion as of December 2007, with allotment releases of P 0.9 billion and a fund balance as of December 2007 of P 2.4 billion. Projects funded include the improvement of the Motor Vehicle Inspection System, aimed at improved development and enforcement of road vehicle standards, capacity building of implementing institutions and personnel and education, and training of drivers.

### *Fees and Charges for Waste, Effluents and Air Emissions*

No environmental or pollution taxes have been implemented in the Philippines as such. Still, a number of different permit application and processing fees exist, as do fiscal incentives for the creation of treatment facilities and pollution abatement efforts. Solid waste fees are collected by local governments. Operators of disposal sites – which may again be local governments or come from the private sector – assess fees from waste disposers for sanitary landfill. The central government does not collect fees related to waste management. At the central level, moreover, a number of fiscal measures have been implemented under the Clean Air Act, the Solid Waste Management Act and the Clean Water Act:

#### Clean Air Act

RA 8749, the Philippine Clean Air Act of 1999, contains several fiscal provisions aimed at the imposition of emission fees on industrial dischargers and motor vehicle dischargers, as part of the emission permitting system or vehicle registration renewal system, and providing for tax incentives in the form of tax credits and/or accelerated depreciation deductions for industries which install pollution control devices or retrofit their existing facilities with mechanisms that reduce pollution. It also establishes an Air Quality Management Fund, administered by the Department of Environment and Natural Resources, to finance the containment, removal, and clean-up operations of the government in air pollution cases, guarantee of restoration of ecosystems and rehabilitate affected areas, and support research, enforcement and monitoring activities and capabilities of concerned agencies. It is sourced from the imposition of fines, proceeds from licensing and permitting fees, and emission charges. Fines and penalties for non-compliance with air emissions standards and other provisions of the Act and its implementing regulations are, for instance, staggered fines for vehicles (P 1000 for 1<sup>st</sup> offense, 3000 for 2<sup>nd</sup> offense, 5000 for 3<sup>rd</sup> offense and henceforth). The Act allows for the collection of emission charges from stationary and mobile sources, but no rates have been specified to date, with a charging scheme still under implementation and necessary assessments currently underway. The Fund is also financed through donations, endowments and grants in the form of contributions. Donations to the Fund are exempt from donor tax and all other taxes, charges, or fees imposed by the government. Donations are also allowed as deductible expense from gross income for the purpose of computing the contributors' income tax.

The fund:

#### Solid Waste Management Act

RA 9003, the Ecological Solid Waste Management Act, affords tax incentives to local government units (LGUs), enterprises or private entities which install equipment, vehicles, facilities, and other devices for the collection, transportation, segregation, recycling, re-use and composting of solid wastes. Moreover, it provides for tax and duty exemptions on imported capital equipment, vehicles and spare parts used for the collection, transportation, segregation, recycling, re-use and composting of solid wastes, within 10 years of the entrance into effect of the law. It also sets out a tax credit on domestic machinery, equipment, vehicles and spare parts equivalent to 50% of the value of the tax and duty that would have been waived

on these items had those items been imported, within 10 years from the entrance into effect of the law. Finally, the Act establishes a Solid Waste Management Fund, which serves to finance products, facilities, technologies and processes to enhance solid waste management; awards and incentives; research programs, information, education communication and monitoring activities, technical assistance and capacity building activities. This fund is sourced from fines and penalties imposed under the Act, as well as proceeds of permits and licenses issued by the Department of Environment and Natural Resources under the Act. It is further sourced from donations, endowments, grants and contributions from domestic and foreign sources, and budgetary appropriations. As in the case of the Air Quality Management fund, donors do not pay taxes on their donations.

#### Clean Water Act

RA 9275, the Philippine Clean Water Act of 2004, contains a *fiscal incentive scheme*: industrial waste water treatment and water pollution control technologies, cleaner production and waste minimization technologies are all classified as preferred areas of investment in the annual Investment Priorities Plan (IPP). They enjoy the applicable fiscal and non-fiscal incentives provided under the Omnibus Investments Code. Moreover, tax and duty exemptions apply to imported capital equipment used for industrial water treatment/collection and treatment facilities by local government units (LGUs), water districts, enterprises or private entities, within 10 years from the entrance into effect of the law. Likewise, tax credits apply to domestic capital equipment equivalent to 100% of the value of the taxes and duties that would have been waived had these items been imported, within 10 years from the entrance into effect of the law. A National Water Quality Management Fund is established to finance containment and clean-up operations by the government in water pollution cases, financing pollution control equipment purchases, information, education, communication measures and research, enforcement and monitoring activities. It is sourced from penalties and fines, fees and charges, and donations. Donations, legacies and gifts are again exempted from all internal revenue taxes and customs duties. Under the Act, moreover, discharge fees and charges are implemented for industry and commercial sources nationwide based on load concentration and volume, but currently, only 40-50% of industries are adequately monitored, and only once a year (not twice). In select areas, e.g. some markets, each market stall owner contributes a small daily amount to cover the wastewater treatment costs. Households are not yet covered.

#### Forestry

In the area of forestry, levies are imposed on cut/harvested naturally growing timber and other forest products as provided for in RA 7161. These levies apply to naturally growing timber and other forest products gathered from public forest land and alienable and disposable lands. A Government Share is paid by forestland users for the use of forest land as specified in Section XII of the 1987 Constitution and further concretised in EO 278 of 1987. Performance Bonds – which are financial instruments requiring the resource user to transfer cash or buy a surety bond e.g. from an insurer and transfer it to the government for exercise in case environmental damage – are moreover required from forest resource users to ensure compliance with environmental standards, and may be deposited in cash or through a contract of suretyship, usually for a period of five years and renewable every five years. The actual timber use license is valid for a maximum of 25 years.

#### Mining

A Mine Wastes and Tailings Fee is imposed semi-annually on all operating mining companies. It accrues to a reserve fund for payment of damages to lives and property caused by mining pollution. Moreover, a Mine Rehabilitation Fund is established by the operating mine to serve as a deposit ensuring availability of funds for compliance with the operating mine's Environmental Protection and Enhancement Program. Finally, a Final Mine Rehabilitation/Decommissioning Fund is established by the operating contractor accruing before the end of the operating life of the mine and covering the full cost of the Final Mine Rehabilitation/Decommissioning Plan.

### *Protected Areas and Wildlife*

Fees and charges are imposed on the use of facilities inside protected areas in the Philippines. Revenues are subsequently deposited in the Integrated Protected Area Fund (IPAF) and used in the protection and management of protected areas in the country. Moreover, fines, fees and charges and donations, contributions, endowments and grants are also deposited in the Wildlife Management Fund (WMF) used to finance wildlife conservation activities, such as habitat rehabilitation, enforcement and protection, and monitoring activities.

### *Laguna Lake Development Authority*

The Laguna de Bay nearby Manila is the largest and most vital inland water body in the Philippines, with approximately 900 km<sup>2</sup> water surface and an average volume of 2,250,000,000 m<sup>3</sup>. The watershed population has grown to around 10 million inhabitants, and it serves as a life support system for about 12 million people, approximately 3 million of which live along the lakeshore. In 1966, the Laguna Lake Development Authority (LLDA) was created under RA 4850 “to promote and accelerate the development and balanced growth ... with due regard for environmental management”.

Among a series of measures to achieve this mandate, the LLDA has also implemented an Environmental User Fees System (EUFS), establishing an industrial wastewater effluent fee program designed to provide economic incentives for industry to reduce wastewater discharges. The EUFS has been implemented in three phases:

- Year I: 1997 – only covering the top 5 polluting industries (food processing, piggeries/slaughterhouses, beverages, dyes and textiles, paper and pulp).
- Year II – 1998 expanding coverage to include 100% of all industries with wastewater discharges
- Year III – 1999 expanding coverage to include foodchains and restaurants

The Fee consists of a fixed fee and a variable fee. The fixed fee covers the necessary costs of compliance, monitoring, analysis etc., and is based on the volume of discharge ( $Q < 30$  m<sup>3</sup>/d, amount to be paid is 177 US\$, from 30 to 150 m<sup>3</sup>/d, it is twice that, from 150m<sup>3</sup>/d upward it is triple that). For discharge containing heavy metals, the minimum is 354 US\$. The variable fee levied is levied on the amount of pollution, depending on the strength or concentration of the dischargee, in accordance with a detailed formula (Biological Oxygen Demand - BOD<sub>5</sub> < 50 mg/l USD 0.11/kg, >50 mg/l USD 0.66/kg).

The number of discharge permits issued has still been increasing year over year. In 1997, 323 polluters applied, 154 permits were issued. In 2007, in turn, 1130 applied, and 815 permits were issued as well as 33 revalidated. The total pollutant load has dropped between 1997 and 2006 from over 5000 units to around a 1000 units in 2002, growing again to 2500 units in 2006. But altogether, the pollution per source has dropped significantly, given that the number of firms covered has multiplied in that period. This development has been due to conversion from wet to dry processes, waste minimization and closures.

Currently, a reform of the EUFS is under consideration. It would change the charging parameters from BOD<sub>5</sub> to COD (Chemical Oxygen Demand), introduce an additional charge for heavy metal contents in the waste water, and extend the environmental user fee system to households.

## 5. Learning Analysis

Altogether, the study tour provided participants with an intense, but balanced overview of fiscal instruments for environmental protection in Singapore and the Philippines. By combining meetings at the government agencies in charge of taxation with meetings at environmental agencies, the role of such instruments in the overall framework of environmental policy and legislation was underscored, notably the fact that fiscal instruments cannot replace, and need to complement, existing regulatory approaches (“command & control” regulation) to environmental protection. The environmental dimension was still fairly new to most participants in the study tour, rendering instant assimilation of detailed aspects of the various working sessions difficult. Repetition of certain aspects of environmental pricing in both countries was thus beneficial and not counterproductive or redundant.

Clearly, many lessons provided by the experience with pricing mechanisms in Singapore can, at best, serve as a mid- to long-term orientation for Vietnam – the existing capacities and level of infrastructure development in Singapore will not be reached in Vietnam for several years or perhaps decades. Still, the specific challenges and environmental pressures faced by Singapore as a small island city-state have resulted in a number of policies that yield interesting insights for the management of environmental pollution and high traffic volumes in urban areas. Accordingly, these could become interesting models for urban concentration areas in Vietnam, such as Ho Chi Minh City and Hanoi.

In the Philippines, by contrast, capacities and infrastructure levels are much closer to those found in Vietnam, while certain environmental pressures – such as growing traffic volumes and surface water pollution – have been addressed through environmental policies some years before similar initiatives became commonplace in Vietnam. For that reason, the lessons garnered from the meetings in Manila can be much more directly applied to similar challenges in Vietnam.

Most delegates actively followed and participated in the working sessions and discussions. As a result, they should now possess a much greater degree of familiarity with environmental policy in general and the application of fiscal instruments to achieve environmental objectives. In that sense, given that representatives of the Ministry of Finance have previously had only very limited exposure and thus knowledge of the various aspects of environmental taxation, the study tour can be considered a successful learning experience.

## 6. Conclusion/Lessons Learnt

An important result of the study tour consisted in familiarizing delegates with the use of price-based instruments for achievement of environmental objectives. In that sense, isolating specific conclusions from an intense, 2-week study tour is not an easy task, whereas compiling all lessons learnt during that period would extend beyond the scope of this report. Still, the experience with environmental fiscal approaches in Singapore and the Philippines has yielded some insights that will help design new environmental taxes and improve existing environmental fees and charges in Vietnam.

Among the lessons learnt are:

- New fiscal instruments should ideally be introduced in a well-defined area to facilitate implementation; often, a large percentage of undesired externalities will originate from a disproportionately small group of subjects (e.g. polluters); as a result, initially limiting coverage to these will still allow for overall effectiveness of the scheme;
- It is preferable to start at a simple level – with only 1 to 2 controllable parameters – and expand the scope of an instrument as experience and capacities grow;
- when designing market-based instruments, it is important to counteract perverse incentives, e.g. to dilute wastewater in order to reduce pollutant concentrations and thus rates;
- incentive effects of environmental fiscal instruments can be eroded by inflation if rates remain constant in nominal terms, but decline in real terms; it is thus advisable to index rates to inflation in order to improve effectiveness over time and ensure continuity of the incentives;
- to improve legitimacy and acceptance, rates should be staggered wherever feasible, with progressive pricing as specified standards are exceeded; low income groups can be protected with a well-designed rebate scheme, such as the “U-Save” rebate applied in Singapore;
- hypothecation of revenues by recycling these back to the paying sectors, e.g. by reducing other contributions (such as social security contributions) further increases the acceptance of new environmental fiscal instruments;
- stakeholders consultations are an important means of securing increased legitimacy and acceptance levels;
- a strong and credible regulatory body implementing the fiscal instrument improves the prospects for effective application;
- experience in the Philippines, finally, has shown that decentralized implementation and collection of environmental levies is more effective and generates higher

## **7. Recommendation for Follow-up and Application**

Recommendations for the application of the lessons garnered from this study tour will be incorporated in a report on best international practices in environmental fiscal reform, to be submitted to the beneficiary separately with the mission report.

## Annex 1: Terms of Reference



### EUROPEAN TECHNICAL ASSISTANCE PROGRAMME FOR VIETNAM (ETV2)



Ministry of Planning and Investment, Ministry of Finance and  
Ministry of Science and Technology in partnership with the  
European Commission

VNM/AIDCO/2002/0589

#### COMPONENT 1 Fiscal Policy / Legal Advisory

#### TERMS OF REFERENCE

1-10 July 2008

#### Study Tour for Singapore and the Philippines

**Activity code:** C1-POL2 - Environmental protection taxes

**National Agency Involved:** Tax Policy Department – Ministry of Finance

**Topic of the Study Tour:** Experiences regarding environmental protection taxes in neighbouring Asian countries (the case of Singapore and the Philippines) - implementation, effectiveness, impact, revue and legal policy discussions

#### 1. Background of the Project

The European Technical Assistance Programme for Vietnam (ETV 2) is a technical assistance umbrella project funded by the European Commission which aims at supporting the two main financial and economic institutions (Ministry of Finance and Ministry of Planning and Investment) of the Government of Vietnam in their present reform drive within the framework of 2001-2010 socio-economic strategy plan and in line with the Comprehensive Growth and Poverty Reduction Strategy (CGPRS). It started at the end of 2005 and will continue until March 2009.

The project overall objective is to improve the economic and social development in Vietnam during its period of transition to a market economy. It aims at enhancing better decision making in the public and private sector and the development of clear, rational, transparent policies, strategies, plans and legislation through a strengthening of policy/legislation making capacity and of means of implementation.

The specific objectives of ETV 2 is to provide technical assistance, expertise and services in an effective and efficient manner with a view of enhancing, strengthening and improving:

1. To enhance capacity for raising domestic revenue at the Ministry of Finance for all major revenue sources at all levels (implemented through components 1 to 3);
2. To strengthen policy making and to develop and apply related tools for implementation (implemented through components 1 to 3);

3. To improve auditing/accounting and insurance legislation and develop related standards in line with international ones (implemented through component 4);
4. To improve information management, monitoring systems and statistical analysis at the Ministry of Planning (implemented through component 5);
5. To create confidence in the process of Measuring, Standardisation, Testing and Quality (implemented through component 6).

The results proposed under the Technical Assistance ToRs are as follows:

- Increased revenue raising capacities as a consequence of an improved policy making process;
- Effective taxation / custom laws and procedures and a fair and equitable tax collecting system;
- The completion of legal frameworks for accounting, auditing and insurance in accordance with international standards;
- Accurate statistical analysis, forecasting and monitoring to support policy decision making process;
- A legal framework for standards and quality assurance in line with international standards; establishment of national normative corpus completed.

In order that its objectives can be fully achieved, the project is divided into six project components:

- Component 1: Fiscal Policy and Legal Advisory Services
- Component 2: Taxation
- Component 3: Customs
- Component 4: Accounting, Auditing, Insurance
- Component 5: Statistical Analysis, Policy Tools
- Component 6: Standards and Quality Control

In order to achieve the agreed and expected results, activities will comprise, in general:

1. Collecting, analysing and processing of data/info from various sources.
2. Reviewing existing laws and regulations, checking for inconsistencies, problem areas and assessing public reaction (especially regarding legal, administrative changes).
3. Discussing problem areas with the private sector, business organisations, industry, importers, etc; improving dialogue and information exchange.
4. Conducting workshops/seminars, on topics related both to policy analysis, and to the dissemination of new policies and legal provisions.
5. Assuring effective functioning of the Steering Committees and secretariats.
6. Conducting on-the-job training for counterparts, secretariat staff and more formal training for larger groups of officials at the concerned Ministries and other administrations.
7. Preparing notes, memos, discussion papers and studies on critical and urgent issues.
8. Assisting open and effective dialogue between the various ministries and regional/local governments.

9. Recruiting qualified International and National Short Term Experts (STE), assuring good preparation, and providing optimum and relevant inputs and sound follow-up.
10. Publishing and distributing results of studies, new legislation, procedures etc. in co-operation with organisations working directly with the private sector (e.g. Vietnam Chamber of Commerce and Industry)
11. Developing and effectively applying a sound monitoring and evaluation system.

## **2. Background of the Component**

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The overall objective of Component 1, within the frame of fiscal intergovernmental relations, is to provide support for strengthening policy making and for developing and applying related tools for implementation in the selected departments of the MoF.

This component is implemented in close and continual collaboration with the counterparts of 3 Departments of MoF – Tax Policy Department, Legal Department and State Budget Department, and with other stakeholders in relevant fields.

Component 1 undertakes activities and provides technical assistance on the following areas:

- Assessment of feasibility, impact, incidence and equity of 3 laws (corporate income tax incentives, property tax, environment protection taxes and levies)
- Support the Project Task Force and the three MoF departments
- Ad hoc advice on tax policy on request
- Collection of data and assessment of other donors activities in PFM area
- Standardization of legal advice in the finance system
- Setting up a Centre for Financial Legal Information
- Assessment and review of regulations on transparency and publicity in the PFM mechanisms
- Revision of budget classification following international common practices

## **3. C1-POL2 Assess, design and draft environmental protection tax law**

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Vietnam does not have an environment protection tax system conformant with common international practice, but does have some land-use taxes and charges, such as the natural resource tax, petroleum and oil's taxes and fees, etc. Vietnam intends to build a system of legislation on environmental protection in parallel with laws on natural resources and the issuance of law on environment protection tax had been put on the National Assembly agenda by 2010. Therefore, the National Assembly had adopted a resolution explicitly mandating the Ministry of Finance with the elaboration of a **comprehensive**, uniform environment protection tax law.

The National Assembly voted to approve the revised Environmental Protection Law, on 19 November 2005, replacing the 1993 law. The 2005 Environmental Protection Law provides for the protection of the environment, measures and resources for environmental protection, rights and obligations of organisations and individuals for environmental protection and State management of environmental protection. It came into force on 1 July 2006. The Government also issued Decree No. 80/2006/ND-CP on 9 August 2006 to guide the implementation of the law. The Law provides for the following financial obligations in relation to environmental protection:

- Environmental tax: Organisations, individuals and households producing and trading in certain kinds of products that have long-term adverse impacts on the environment and human health shall be liable to pay environment tax. The Government shall

submit to the National Assembly for approval a list of products and production and business activities subject to the environmental tax and applicable tax rates.

- Environmental protection charges: Organisations and individuals discharging waste into the environment or engaging in activities causing adverse impacts on the environment shall have to pay environmental protection charges. The Ministry of Finance shall assume the prime responsibility for and must coordinate with the MONRE in, formulating and submitting to the Government regulations on environmental protection charges.
- Natural resource exploitation and restoration funds: Organisations and individuals exploiting natural resources must place deposits for environmental improvement and rehabilitation at a credit institution operating in Vietnam or at the environmental protection funds of the place where natural resources are exploited. The Law authorises the Prime Minister to promulgate regulations on this matter.
- Environmental protection funds: Environmental protection funds are financial institutions established at central and local levels and in all branches and domains to support environmental protection activities. Environmental protection funds' financial resources come from the State budget, environment protection fees, compensation for environmental damage, administrative monetary penalties, and contributions from domestic and foreign organisations and individuals.

By the decision of the Minister (1 September 2006) and as a follow-up to the preliminary assessment of the technical expertise provided by ETV2 in the initial phase, the MoF decided to shift the development of the Law on Environment Protection Tax to the support of the collection of environment protection taxes and levies according to international best practices.

To provide technical assistance to the Tax Policy Department (TPD) in the view of improving the current system in designing a modern and comprehensive tax system turned to the environment protection, under the Fiscal Policy and Legal Advisory Services component.

#### **4. Specific Context of the Study Tour**

Until now the component C1-POL2 has elaborated a first draft of a Vietnamese Environmental Tax Law. This has been presented and discussed at an international conference in Hanoi (22<sup>nd</sup>/23<sup>rd</sup> of May). There has been consensus on the next steps: A political decision is needed (by the Minister of Finance and/or the National Assembly) regarding prioritarian policy fields to implement environmental taxes. The Study Tour will serve the purpose to find criteria for this decision. The information gained will be considered in the policy paper on environmental taxation to be delivered in October 2008.

The purpose of the study tour is to learn from the experience of neighbouring countries. There are good reasons for the choice of Singapore and the Philippines: (1.) These countries are in a comparable social and economic condition; in their development they are a little ahead as the basic reforms of the political and economic system took place earlier. (2.) These countries already have experience regarding fiscal instruments in environmental policies.

Vietnam has similar objectives, but the corresponding discussion is lacking behind. Under these circumstances much could be learned from the discussion in neighbouring Asian countries and much energy saved (“the wheel need not be invented a second time”).

**5. Targeted participants**

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- Director-General of Tax Policy Department, Ministry of Finance
- Head and members of the Working Group on environmental taxation, Ministry of Finance
- Senior officials of other departments, agencies and ministries

**6. Objectives**

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Get acquaintance with experiences regarding the implementation, effectiveness and impact assessment of environmental taxation and the corresponding legal policy discussions.

**7. Main Topics to be addressed**

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- Strategies to implement ecological objectives into tax law
- Practice of environmental taxation in the country/state
- Experiences in implementation
- Measurement of impact, effectiveness and cost-benefit of environmental taxes

**8. Results expected**

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- to learn about the country's/state's experiences in implementing environmental taxes;
- to gain information and knowledge on the discussion of further "greening" the tax law;
- to learn about methods and experience on measuring impact, effectiveness and cost-benefits of environmental tax instruments.

**9. Hosting Institutions**

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Singapore:

- Ministry of Finance
- Ministry of Environment and Water Resources
- National University of Singapore

The Philippines:

- Department of Finance
- Department of Budget and Management
- Department of Environment and Natural Resources
- Public Finance Institute of the Philippines
- Laguna Lake Development Authority (LLDA)
- Marikina city

**10. Methodology for the Study Tour**

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- Visits to central/local administration offices
- Meetings with experts of relevant agencies
- Workshops with experts from academia and practice

## 11. Estimated timing, duration and tentative working agenda

Tentative working schedule:

Day 1, 1 July 2008	Travel Hanoi/Singapore
Day 2, 2 July 2008	Meeting in the Ministry of Finance
Day 3, 3 July 2008	Meeting with Ministry of the Environment and Water Resources
Day 4, 4 July 2008	Workshop at the National University of Singapore
Day 5, 5 July 2008	Travel to Manila
Day 6, 6 July 2008	Free time in Manila
Day 7, 7 July 2008	Meeting in the Department of Finance of the Philippines Meeting with the Budget and Management
Day 8, 8 July 2008	Meeting with the Department of the Environment and Natural Resources, the Philippines Luguan Lake Deveelopoment Authority (LLDA)
Day 9, 9 July 2008	Workshop at the Public Finance Institute of the Philippines Visit to Marikina City and a possible demo of its waste management
Day 10, 10 July 2008	Travel back to Hanoi

## 12. Foreign language qualification

The Study Tour will be conducted in Vietnamese and English. An Interpreter English / Vietnamese from the Project will take part to the tour.

## 13. Pre-departure activities

1. Send the planned program to each participant and ask for comments and requests.
2. When possible a briefing session will be organized by for all study tour members within a week prior to the departure to inform the participants on the content and on the logistical issues. During such a session, the participants will discuss how they will work together during the study tour to achieve the set results. A pre-formatted individual evaluation grid shall be given to complete at the end of the study tour and the responsible for the final mission report will be designated. If this is not possible this information has to be sent by e-mail.

## 14. Post study tour follow-up activities

A session will be organized for the participants to discuss and sum-up the results of the study tour, raise recommendations on policies and measures of implementation in Vietnam.

1. Within four weeks since the return from the study tour, a back-to-office report should be prepared. The report should consist of a hard and soft copy, written in Vietnamese and English.
2. Representatives of the team will make a presentation of the results of the tour.

## Annex 2: Minutes of Discussions and Meetings

### Singapore, Day 1: July 2, 2008

#### AM: Ministry of Finance, Singapore

##### *Briefing: Fiscal Instruments for Environmental Sustainability*

Singapore has introduced no tax per se to achieve environmental protection objectives.

The top 3 environmental issues in Singapore are all urban (virtually no agriculture, deforestation not an issue): Transport, Energy, Water.

##### **Pollution Control**

MOF has one issue it is responsible for: Fuel Tax – flat fuel tax on petrol only; 41 Singapore cents/l for 92/95-octane petrol, 0.44 S\$ per liter for 97-octane petrol and above. At today's fuel price, roughly 20% tax (fuel price currently ca. 2 S\$ per liter). No levy on diesel fuel as such, but Special (diesel) Tax on diesel taxis per annum (5,100 S\$ p.a.) and Euro-IV private diesel cars (1.25 S\$ per cc of engine capacity). Special tax is exempted on CNG and low pollution vehicles.

Also behavioural economics to regulate congestion: quota on car numbers (certificate of entitlement), regulating vehicle speed (electronic road pricing); both have been very effective.

Certificate of entitlement auctioned to car dealers, creating a cap on the total amount of cars on the road. Regulating amount of vehicles on the streets at any one time occurs through electronic traffic monitoring (at gateways) and Electronic Road Pricing rates imposed electronically depending on time of day and vehicle speed, geared to keep speed at optimal ranges (45-65 km/h expressways, 20-30 km/h arterial roads). Implemented since 1975, originally manually with persons writing down numbers in windscreen; now with costly and not optimal gentry (gateway) system in fixed intervals for streets in congested areas (most ERP gantries in business district) since late 1990s; expectation to replace with GPS in the next ten years to charge based on exact distance travelled. Quarterly review of traffic conditions to adjust rates for individual roads. Compliance enforced with cameras and administrative fees. Land Transport Authority has more information on this on Wednesday.

Providing alternatives is therefore very important. Public bus fleet and rail system are being expanded by approximately 100% in next decade, ramping up density at high speed.

No earmarking of revenue from the transport sector whatsoever.

##### **Questions:**

What is the overall fiscal burden on car users: Most important tax when using car are up-front taxes is the most important in absolute terms. Three major up-front taxes: 20% on import; 100% on registration (based on open market price/value); COE premium, based on market price for COEs. Also transfer tax (like VAT) of 2%. Up-front taxes paid as lump sum. For variable operation road tax and special diesel tax collected on annual basis by LTA (sticker displayed on windscreen as evidence), fuel and ERP. Distribution around 50/50 if calculated on average lifetime of car and car size/price (small car of course relatively more expensive). Profit margins of dealers not higher than elsewhere due to very competitive markets.

How does diesel tax affect use relative to petrol cars, where you do not pay if you do not use. There are almost no diesel cars on the road at this point. But tax may be reassessed now that pollution standards for

diesel vehicles are dramatically improved (EURO standards). In Vietnam, diesel users pay no tax currently. Diesel largely used for operating power plants and shipping, therefore no tax to encourage these activities. Also in Singapore, diesel is fuel of choice for commercial vehicles and public transportation. Thus, concerns similar as in Vietnam, thus no tax on diesel fuel to maintain competitiveness of these vehicles.

Are any taxes imposed on public transportation? No, in effect, Singapore subsidizes public transportation. Biofuels and compressed natural gas (CNG) are not taxed.

Soaring fuel prices have necessitated the strategy relating to energy. Main source for electricity generation is natural gas in pipelines from Malaysia and neighboring countries. In future, liquid natural gas (LNG) will be expanded to improve independence from one single source. Incentives for green vehicles (hybrid, CNG) by discount on upfront taxes. Conversion from petrol to CNG cost can be recovered without problems due to reduced tax. CNG facilities are being deployed around Singapore to make it more accessible.

First inspection three years after inspection (with inspection fee/service fee of 60 S\$) and then annually. Also COE only valid for ten years. Car fleet fairly young as a result.

### **Energy and Water**

Singapore imports all fuel, thus energy market authority regulates electricity market. No taxes on electricity, but Energy Efficiency Programme Office (at National Environment Agency) providing incentives for deployment of efficient products/processes.

Singapore has limited water supply, moreover, and imports much of its water. Public Utilities Board oversees water provision. Local sources include recycling sea water, using all rain water in catchment area, and using all water from rivers (every river is dammed up and fresh water used). Water Conservancy Tax and Sanitary Device Tax (e.g. toilet flushing device) are used to manage efficient use of water. Water R&D has allowed obtaining water at competitive price. Planning and adoption centrally, but implementation decentralized. Ministry of Environment and Water Resources illustrates importance of water for Singapore.

### **Questions:**

Why no general environmental taxes? Singapore's energy use contributes too much pollution in Singapore. 50% of energy used by industry, 25% offices and households, 25% by transportation. Electricity generation is very efficient, using natural gas, which is also cleanest source at the moment. Key pollutant sources are diesel exhaust fumes and congestion. Industry regulations address traditional pollutants. Main concern thus particulate matter currently. Urban environmental issues strongly addressed by Urban Renewal Authorities and urban planning (siting, strategic management, moving people to commercial centres and industries optimizing approach holistically).

Pollutant tax for effluent discharge only for certain industries that cannot afford to clean waste water themselves.

Public transportation: infrastructure cost borne by state, operation privatized.

Tax incentives for cleaner pollution or e.g. cogeneration.

Presentation: Tax Policy Structure in Singapore Statutory board: Inland Revenue Authority of Singapore assesses, collects and enforces payment of taxes, advises government and represents Singapore internationally on fiscal matters. CIT 18% flat, PIT in 7 tax brackets up to 20%. Direct taxes PIT & CIT and property tax (levied on all land and buildings based on annual value, i.e. market price for letting property for that year, general rate 10%, owner occupied residential properties only 4%; indirect taxes, Goods & Services Tax (GST, introduced in 1994 at single low rate, broad based to diversify tax base, currently 7% since 1 July 2007; financial services, real estate exempted), stamp duties (document tax levied on property transactions – 1-3% – and share transactions – 0.25%), customs (certain types of alcohol: beer, stout and samsou) and excise (petrol, motor vehicles – 20%, tobacco and liquors) duties, and betting (private lotteries, sweepstakes, other forms of betting) duties.

Estate duties (death tax) abolished altogether on 15 February 2008. Rationale was to promote competitiveness and attractiveness of Singapore to investors and financial services/asset management providers; drawback is that it is not entirely in line with progressive tax approach in Singapore, which tries to signalize that dynastic wealth is not a sufficient basis for success of each new generation.

Tax revenue components: direct and indirect almost equal, 2007 17,126 mio. Direct, 17,850 mio Indirect (has shot up due to GST hike).

## Singapore, Day 2: July 3, 2008

### AM: Ministry of the Environment & Water Resources, Singapore

Introductions and expression of gratitude for welcoming delegation. Explanation of agenda for the day. Explanation of structure in accordance with environmental administration in Singapore: National Environmental Agency and Public Utilities Board.

#### ***Briefing: An Overview of the Ministry of the Environment and Natural Resources (MEWR)***

*Ms. Karen Chong, Senior Assistant Director, Strategic Policy Division*

Ministry was formed in 1972, with a primary focus on preventing and controlling pollution, establishing an infrastructure for waste and wastewater management and ensuring a high standard of public health. Under the ministry, there are two statutory boards: the Public Utilities Board, reconstituted as a comprehensive water authority on 1 April 2001, and National Environmental Agency, also formed after 1 July 2002. Mission: deliver and sustain a clean and healthy environment and water resources for all Singapore through four strategic thrusts: involvement and collaboration of local and international communities and industry, developing forward-looking environmental and water policies/ standards, provide efficient and reliable environmental and water infrastructure and services and build an excellent corporate organization that values people and customers.

#### **Issue Areas:**

##### *Clean Water*

Aiming at

- Water supply
- Water demand management and conservation
- Water quality management
- Active Beautiful Clean (ABC) Waters

##### *Clean Environment*

Four key areas

- Public Health (vector control – prevent dengue and other pest-borne diseases), public cleanliness (maintain clean and green image, 9.200 km of streets cleaned at least once weekly) and food hygiene (license and control of eating establishments)

- Waste Management (reduce waste – integrated waste management system, with 92% of waste incinerated and remainder as well as ash landfilled; further upstream recycling programmes for industries, households and schools, with recycling rate increasing from 40% in 2000 to 54% in 2007)
- Clean Air (key source industrial emissions, thus ambient and vehicle emission ambient air quality standards, promotion of cleaner fuels and 94,8% of days in 2007 in “good” range of PSI)
- Climate Change Adaptation and Mitigation (National Climate Change Strategy, online)  
Key strategy: enhance energy efficiency to cut GHG emissions and conserve energy resources, in:
  - industry and building sector (promote efficient industrial designs etc.);
  - transport sector (Fuel Economy Labelling mandatory from 2009);
  - household sector. 10% energy efficiency challenge and Mandatory Energy Efficiency Labelling Scheme (MELS)
 An Energy Efficiency institution administers these measures.

Growing Singapore into a Global Hydro Hub: EWT identified as new growth area, with \$330 mio. Set aside over 5 years. Environment and Water Industry Council established to promote this. Strategic Planning through “Green Plans”, updated and implemented regularly through Action Programmes. It sets key targets to be achieved in key areas.

#### **Challenges and Opportunities:**

- Increasing population and climate change as challenges
- Business opportunities and contribution to global efforts to champion sustainable cities as opportunities.

Inter-Ministerial Committee on Sustainable Development charged with holistic, strategic planning.

#### ***Briefing: Integrated Solid Waste Management in Singapore***

*Mr Paul Tan Hang Meng, Senior Engineer, Waste Management Department*

Currently, around 15350 tonnes of waste are generated in Singapore per day, of which only 6.520 tonnes per day (43%) are incinerated (generating 1520 tonnes of ash) and 510 tonnes of non/incinerable waste (3%) are landfilled as ash per day. Waste explosion between 1970 and 2007: from less than 1200 t/d to 15.350 t/d. Incineration and recycling serve to dramatically reduce the volume of waste that has to be landfilled.

Waste collection is privatized, Recycling is privately managed. Waste disposal is government owned and operated, with a restructuring in progress.

Semakau Landfill is estimated to last only 35-40 years – this lifespan should be extended as much as possible. Also, interval between construction of new incineration plants should be increased (currently 10-15 years).

Incineration reduces volume of waste by 90%, yields energy for power generation and scrap metal can also be recovered for recycling. High recycling rates generally, and high participation by public institutions (schools e.g.) and private actors. National Recycling Programme (NRP) involves regular door-to-door collection, provision of recycling crates and public recycling depositories in high-traffic public areas. Singapore Packaging Agreement signed in 2007 by government, industry and NGO. Signatories set voluntary targets and formulate action plans. Use of incineration ash in road construction in experimental phase.

Green Plan 2012: Target to increase waste recycling rate to 60% to 2102; zero landfill and zero waste as long-term objective.

Waste collection (direct/indirect) privatized since 2001. Waste generators are free to sue licensed waste collecting service providers.

### **Collection fees for 9 Sectors:**

Domestic – apartments 4.23-7,21 S\$ per month, landed buildings 16.80-23.63 S\$ per month.

Trade premises – staggered by 5 quantity levels per day: <120 l/day 23-44\$, 120-240, until 660 to 1100 l./day 420-628 \$. Depends on bid contract, effected through utilities bill. Based on system of bids with vendors.

Revenue from this fee: since collection is privatized, these fees cover their costs (including disposal fee below), which the tenderers have to assess competitively with a view to lasting 7 years.

### **Disposal facilities in Singapore**

Disposal Fee per tone roughly 77-87\$ for different incineration plants sites. This is operated by the government, calculated based on cost recovery, charged on basis of net cost, i.e. operating costs less sale of electricity and sale of scrap metal. Here, not entirely efficient, so involvement of private sector with PPP, with 25-30 yr. lease and guaranteed waste input in the system. Plant can use waste to generate enough energy for its own operation and sell surplus into the grid.

Fees comparatively low, among the lowest in developing countries.

Incineration plant capacity: 8200 t/d, of which ca. 80% are utilized. Cost for building latest of 4 plants was 890 mio. S\$ in 2000.

Landfill created entirely out of the sea space.

Strict pollution control of offshore landfill site for ecosystem and biodiversity protection in adjoining area. Garbage of Eden: opened for recreational activities in 2005.

### ***Briefing: Environmental Management and the Polluters Pay Principle***

*Mr Poon Chiew Tuck, Senior Engineer, Pollution Control Department*

Characteristics of Singapore: low surface area (700 km<sup>2</sup>), high population density (4.5 mio.). Challenges include:

- Many large-scale industries (refineries, petrochemical, pharmaceutical;
- 800,000 motor vehicles.

Still, environmental quality compares very well with best international cities; major air pollutants within international standards, inland and coastal waters support coastal life. This has resulted in repeated top rankings in international surveys. Good air quality days measured pursuant to the Pollutant Standard Index (PSI) have increased to roughly 95%. Bad days usually due to forest fires in neighboring Indonesia. Regulatory measures force polluters to deal with much of the pollution on their own premises, e.g. treat effluent, filter dust and air pollutants etc., with telemetric and third-party compliance monitoring. Control on quality of fuel is 0.005% sulphur content for diesel, 1% sulphur content for fuel oil, encouraging use of natural gas.

### **Financial instruments**

Main legislation is Environmental Protection and Management Act, complemented by subsidiary regulations on air impurities, trade effluent, vehicular emissions, hazardous substances, factories noise and construction noise.

Violations can be penalized by up to S\$ 50,000 under the main Act and S\$ 20,000 under subsidiary regulations. Compounded offence – industry S\$2000, for smoky vehicles motorcycles \$70/\$100/\$150, taxis/trucks/buses: \$150/\$300/\$500.

License required for selling or importing hazardous chemicals, with license fees ranging from \$70 for 3 mos., \$280 for 1 yr. to \$560 for 2 yrs. Not meant for revenue, rather to ensure control and supervision.

Tax incentive scheme, with accelerated depreciation (100% in first year) for

- Highly efficient pollution control equipment;
- Energy-efficient equipment;
- Certified low-decibel equipment.

### **Briefing: Clean Water**

*Mr Stanley Fong, Deputy Director, Water Studies Division*

Four sources: desalinated water, NEWater (recycled water), water from local catchment and imported water (from Johor). This ensures diversification of water sources.

Expansion of Local catchment areas: target to increase from ½ to 1/3 of overall surface area; maximization of utility: water supply, flood control and lifestyle attraction.

With catchment areas collecting runoff from highly urbanized areas, a number of measures have to be taken to tackle pollution at source and ensure active responsibility from all parties responsible for pollution (3P – private, public etc.). This includes industrial pollution control, sewers rehabilitation programmes, earth control measures and careful monitoring of water quality changes and sediment transport in reservoirs and tributaries.

NEWater – filtered by sophisticated membrane technologies. Use of NEWater is encouraged for non-potable purposes. 10% of water demand can be covered by the 4 treatment plants currently in operation. The target is to cover 30% of overall demand by 2011.

Water demand management: target is to lower domestic lcpd to 155 litres per day by 2012; progress has allowed this goal to almost be reached already (157 l/d). 10-Litre Challenge was formulated in 2006, with mandatory Water Efficiency Labeling Scheme from July 2009 and mandatory installation of dual-flush/low-capacity flushing cisterns (Jul 2009). For the non-domestic sector, a 10% Challenge was adopted in 2008.

### **Water Pricing and Taxation**

Potable water pricing has changed over time, with 1965 flat rate of S\$ 0.13/m<sup>3</sup> in 1965 for domestic water and S\$ 0.29/m<sup>3</sup> for non-domestic. With rising water demand and to encourage water conservation, the domestic rate was tiered in 4 tiers. In 1981, it was simplified again to 3 tiers.

In 1991, the water conservation tax (WCT) was introduced, imposed on domestic consumption in excess of 20m<sup>3</sup> per month and non-domestic consumption (tariffs: 0-25m<sup>3</sup> at S\$ ..., see presentations). Revenues go to general budget.

In 1997, a comprehensive review of water prices was conducted: water tariff to recover full cost of production and supply, with WCT priced to reflect the higher cost of alternative water supply sources. Domestic and non-domestic rates were brought to the same level, and the domestic rate was further simplified into two tiers. Thus, domestic water is priced at S\$ 1.17 for each m<sup>3</sup> for 0-40m<sup>3</sup>, with 30% WCT, amounting to a total of S\$ of 1.52 per m<sup>3</sup>. For more than 40 m<sup>3</sup>, tariff is S\$ 1.40/m<sup>3</sup>, and the WCT of 45%, for total S\$ 2.02 per m<sup>3</sup>.

Non domestic customers – all volumes as first rate for domestic water (1.52/m<sup>3</sup>).

Pricing principles are: tariff is collected by PUB to *recover the cost* of producing water. Tariff is levied based on the volume of water metered at the customers' premises. This ensures sustainability in the long run, with revenue partly reinvested in water infrastructure and R&D to identify new and more efficient ways of treating and distributing water. Taxation (WCT) is levied by the government (consolidated fund) to reflect the value of the water, and pegged to the marginal cost to next alternative (desalination) and tiered to penalize excessive usage.

For low income households, rather than subsidizing the water *per se*, which leads to misuse and excess consumption, such households obtain “U-Save” (Utilities-Save) rebate in their account and must decide how to use the rebate, incentivizing them to use electricity, water and gas efficiently to avoid any utility costs in excess of rebate.

### **Waterborne Fee (WBF) and Sanitary Appliances Fees (SAF)**

Flat SAF rate of S\$ 3on each sanitary appliance/chargeable fitting in customer’s household each month (e.g. each toilet cistern), and WBF as a volumetric charge levied on the amount of water consumed at the premise (S\$ 0.30 per m3 domestic, 0.60S\$ per m3 non-domestic). Rebate for non-domestic users who treat their own water to watercourse standards.

Trade Effluent Tariff Scheme in addition to WBF and SAF allows applicants to discharge biodegradable water with higher concentrations into the public sewer, subject to a fee. Industries can also dispose their organic sludge at designated water reclamation plants for a fee. This offers a choice to industries which produce biodegradable wastes of higher concentration, but find it undesirable or impossible to install, operate and maintain a trade effluent treatment plant on their premises.

## **Singapore, Day 3, July 4, 2008**

### **AM: National University of Singapore**

#### ***Seminar: “Environmental Law, Governance, and Management – Innovative Approaches from Singapore”***

*Lye Lin Heng, Asia-Pacific Centre for Environmental Law, Law Faculty, National University of Singapore*

#### **Background**

Multiethnic and dense population on very small surface of 699 sq. km have fostered development of very particular type of (strongly interventionist) regulation, e.g. restrictions on freedom of speech. Historical development allowed constitutional protection of property to be lifted temporarily for redevelopment and provision of housing for the poor (Democratic Socialism).

Unemployment and housing problems were serious. Singapore had no natural resources, but it had people, a good strategic location and a good natural harbor. It needed to industrialize quickly, requiring education and attracting investment. Students going abroad on scholarships had to sign a contract about returning.

This is where constitutional protection of property was lifted to enable to government to confiscate public property cheaply and build public housing at affordable rates. Even today, there is no constitutional protection of property. If the government decides to take e.g. land for public purposes, there is no legal standing to challenge this in court. Compensation is offered, but not at market price, since this would compromise the redevelopment or even render it impossible. Compensation is fixed in Land Acquisition Act at a price drawn from the last property depression (equivalent to selling house at the worst time).

Declaration to achieve position as “cleanest and greenest city in Southeast Asia” already stated by Lee Kuan Yew, 1<sup>st</sup> Prime Minister of Singapore, at first month-long campaign to Keep Singapore Clean in 1968 (a campaign continuing today).

Principles of transformation from poor Crown Colony to a centre for international trade & technology:

- Economic and military policy modeled after Switzerland (compulsory military service, 6% of budget for military expenses);

- Cleaning up of the environment while industrializing (focus on turning Singapore into a garden city, as a sign of discipline and stewardship of the people);
- Cleaning up the Government via anti-corruption laws (corruption trials were common, even at ministerial level);
- Public housing for all;
- Emphasis on education for all, especially women;
- Early years – strict family planning policies;
- Equal rights for women, respect for all religions and racial groups;
- Meritocracy (promotion not based on contacts, but on achievement);
- Tight control over civil protests – sensitivities of race and religion;
- Government control over labour unions, strikes prohibited;
- Clean air and water, waste collected daily, strict littering laws, Environmental Management Systems in place;
- Greenery – from a “Garden City” to a “City in a Garden”.

Environmental management strategy in Singapore focused on stringent land use planning and industrial ecology policies as well as ample investments in the environmental infrastructure. The big challenge was to obtain the required funds. In Singapore, part of the funding came from the World Bank; but Singapore also invited infrastructure providers/contractors and investors. For investors to feel comfortable in investing, prevalence of the rule of law had to be established.

Tax incentives for cleaner and safer production and transportation: see handout/leaflet.

Laws : google “Singapore statutes”, check “E”, also: [www.nea.gov.sg](http://www.nea.gov.sg) for code of practice/pollution.

## **PM: Land Transport Authority (LTA), Singapore**

### ***Presentation: Managing Road Usage***

*Ms. Mabel Wong, Deputy Manager, Road Tax & e-Services, VRL Service Operations*

Total vehicles in Singapore (car to inhabitant ration 1:10):

870,442

Cars – ca. 61%

Demand Management through:

### **Vehicle Ownership control measures**

Vehicle Quota System (VQS)

- introduced in May 1990
- because fiscal measures not sufficient to manage vehicle growth

- Annual growth rate of car population exceeded sustainable limit (12% per year between 1975-1990)
- Average growth rate of 6.8% per year in the 3 years before the implementation of VQS
- Regulates vehicle population growth at a rate that can be sustained by Singapore's road network without increasing road congestion

All potential vehicle owners must have a valid COE to register a vehicle. The COE is determined annually based on:

- 3% growth based on vehicle population as at the end of the previous year
- Estimated de-registrations for the current year
- Adjustment for under-/overestimation of de-registration in previous year

COEs released to public through regular competitive bidding

All successful bidders pay the same COE price for their category at the end of the bidding exercise.

COE vehicle categories: categories A-E (A: cars with CC up to 1600 and taxis; B: luxury cars 1601 cc or above; C: buses and goods vehicles; D: motorcycles; E: open, can register any of the above)

COEs are valid for ten years (taxis: 8 yrs.) Can be renewed for 5 to 10 yrs, by paying a prevailing quota premium (PQP), which is the moving average of the QPs (COE price) of the respective vehicle category over the last 3 months. If COE is not renewed, the vehicle will be de-registered upon COE expiry, forcing the owner to either scrap or export the vehicle.

### **Vehicle Ownership Taxes**

Registration of Vehicles – all vehicles must be registered with LTA (except military vehicles)

Vehicle must be either brand new or not more than 3 years old (otherwise surcharge: S\$: 10,000) to keep vehicle fleet young.

Moreover, vehicle must meet technical, safety and emission standards, assessed through mandatory inspection.

Taxes and fees to be paid on registration of vehicles

- COE (annual revenue varies strongly, with record at S\$ 3.5 bio., currently S\$ 1.5 bio.)
- Excise duty to customs (Car: 20% of OMV, Motorcycle: 12% of OMV)
- Registration fee (flat rate of S\$ 140)
- Additional registration fee (Car: 100% of OMV, Motorcycle: 15% of OMV)

*Open market value is the price assessed by the Singapore Customs the vehicle importer pays taking into account purchase price, freight, insurance, handling and all other charges incidental to the sale and delivers of the car from the country of manufacture to Singapore.*

- Second-hand vehicle purchase: transfer fee (Car: \$10, Motorcycle % 3) and additional transfer fee of 2% of the assessed value

- Annual road tax (renewable on 6 or 13 month basis; prerequisites for renewal: insurance coverage (at least 3<sup>rd</sup> party risk), inspection at periodic intervals, vehicle number plate inspection, valid vehicle parking certificate (for heavy goods vehicles or buses with seating capacity of more than 15 persons excluding driver)  
Calculation formulae: car & motorcycles based on engine capacity, goods vehicle based on maximum laden weight, buses: maximum laden weight and seating capacity.  
Road Tax surcharge to encourage young fleet: Age of vehicle – more than 10 years +10%, more than 11 years 20%, more than 12 years 30%, 13 yrs. 40%, 14 yrs. 50% etc.)

### **Vehicle Usage Control Measures**

Balancing demand and supply – increasing supply through new road construction and technology deployment, and managing demand, i.e. car usage and car ownership.

Road pricing started in 1975 with the Area License Scheme: manual road pricing introduced in the Central Business District (CBD) in 1975. Drawbacks: high manpower needs, inconvenient, limited in ability to apply varying road pricing charges.

Therefore move to usage restraint through Electronic Road Pricing scheme since 1998 to replace the Area Licensing and Road Pricing Schemes. A dedicated short-range communications scheme, based on In-vehicle Unit and CashCard for payments of road usage charges. These allow variable pricing and facilitate use of stored-value smart cards. More than 99% of local vehicles are equipped. Fire & forget – no records are stored if everything goes according to plan.

Road pricing charges vary by vehicle type, location of gantry and time of day. Rates are reviewed every three months. Optimal use of road space is achieved by limiting number and basing rates on congestion, i.e. average speeds (if speeds are rising again, than rates can fall etc. – optimal speed corridor aimed at).

### **Electronic Parking System (EPS)**

Using the ERP technology already installed for car park applications: barrier at parking lot and EPS antenna automatically deduct car park rates.

Costs: initial installation cost 200 mio. Initial cost, with around 80 mio. Going to free distribution of IUs in the initial phase. Annual revenue of 80-100 mio. – it's not mostly about revenue. Altogether less revenue than the old manual system.

## **Philippines, Day 1: 7 July 2008**

### **AM: Department of Finance, Manila**

#### ***Presentation: National Government Fiscal Policy Outlook***

*Undersecretary of Finance Gil Bertran*

Explaining budget and fiscal performance as well as revenue forecast, other macroeconomic statistics.

Discussion of excise taxation – simplification, adjustment to inflation etc.; comparison of excise taxes in both countries.

## **Presentation: Environmental Taxes**

No single tax on environment, but a range of measures to penalize environmentally polluting activities or incentives for environmental tax reform; proceeds are also often earmarked for environmental activities.

### **1. Excise Taxes**

Generally, *no differentiation* according to environmental impact, performance etc.

Petroleum products – specific rates ranging from P0.05 to P5.35 per liter, depending on petroleum product, no excises/V.A.T. on diesel, LPG, kerosene and fuel oil. No tax on diesel is due to its use by lower income classes and in rural areas (and public transportation and goods vehicles).

Excise tax on automobiles (ad valorem) based on manufacturer's or importer's selling price, net of excise and VAT, ranging from 2% to 60%. The rate graduation depends on the value and accessories of the car, with different brackets and progressive increase.

Mineral products (ad valorem) with rates ranging from 2%-3%, depending on the mineral product, except coal, which is subject to a specific rate of P10.00 per metric ton.

Tobacco – for cigarette, specific rates ranging from P2.23-P26.06 per pack, depending on the net retail price. Rates will be raised by 3.6%+P0.16 in 2009 and in 2011. This is in lieu of indexation.

### **2. Biofuel Act**

Enacted in 2007, this act mandates the use of biodiesel and bioethanol. It aims to reduce dependence on imported fuel oil. It has been debated in Congress, but the decision has been made to use degraded land – which is available in abundance – to cater to the increased biofuel needs. So a large fraction of biofuels is coming from existing plantations. Concern that rice lands will be transformed into biofuel land is prevented by the law, which forbids transforming prime agricultural land for any other use. Overall impact is that it is very crop-specific and very area-specific; e.g. certain surveys have suggested that more carbon is released by planting biofuels than using fossil fuels; but in Philippines, where deforestation is not the main issue because degraded land and existing waste products are being used (e.g. cocomethylester from coconut husks) is, on balance, very positive.

#### **Biodiesel**

- mandated minimum blend of 1% took effect last March 2007
- Increase mandated minimum blend to 2%
- Could be further increased, depending on the availability of locally-sources biodiesel components.

#### **Bioethanol**

- Implement mandated minimum blend of 5% within 2 years from 2007
- Increase mandated minimum blend to 10% within 4 years from 2007 (2 companies are already selling Ethanol E10 , e.g. Shell).

#### **Tax incentives**

- No excise tax on the biofuel components. Gasoline and diesel components remain subject to prevailing excise tax rates

- No VAT on the sale of raw materials used in the production of biofuels, such as coconut, sugarcane, corn, cassava and the like.

Altogether, this results in the price being P2.00 cheaper than conventional fossil fuel (because of no excise tax/VAT).j

### **3 . Motor Vehicle User's Charge**

In lieu of the motor vehicle registration fee under RA 4136 and EO 43, a Motor Vehicle Users' Charge (MVUC) is now being collected from and paid by owners of motor vehicles. Collected annually for old cars; new car owners pay every 3 years for all 3 years.

#### **MVUC Rates**

Existing Registration Fees (structured on weight of car and implemented for many years already) prior to MVUC plus 25% - 1<sup>st</sup> year, 50% - 2<sup>nd</sup> year, 75% - 3<sup>rd</sup> year, 100% - 4<sup>th</sup> year. For new cars, this MVUC is assessed for 3 years at 100%.

After the 4<sup>th</sup> year of its effectiveness, the President may adjust three rates will shall be reflective of, but shall not exceed, the annual rate of increase in the Consumer Price Index (CPI). The President may adjust such rates not more than once every 5 years.

#### **Collection Process Flow**

Payment of annual MVUC to Land Transportation Office, which in turn deposits the revenues to four different accounts in the BTr national treasury and reports to the Road Board; the BTr issues Certification of deposits for the Road Board, which was created specifically for this purpose.

#### **MVUC collections accrue to 4 special trust accounts in the National Treasury:**

1. Special Road Support Fund (80%) for the maintenance of, and the improvement of drainage of national primary and secondary roads
2. Special Local Road Fund (5%) for maintenance of local roads, traffic management and road safety devices
3. Special Road Safety Fund (7.5%) for the installation of adequate and efficient traffic ligstes and road safety devices
4. 4. Special Vehicle Pollution Control Fund (7.5%) for air pollution control

#### **Special Vehicle Pollution Control Fund**

Collection as of December 2007: P 3.3 bio

Allotment releases as of December 2007: P 0.9 Bio

Fund balance as of December 2007: P 2.4 bio

Administrator of the Fund: Department of Transportation and Communication (DOTC)

#### **Special Vehicle Pollution Control Fund – Projects under the Fund:**

Development of Motor Vehicle Inspection System

Goal of the project: sustainable improvement in air Quality through abatement and mitigation of air pollution from mobile sources

Expected outcome: Prevention, control and management of pollution from motor vehicle emissions

Final Outputs: development and enforcement of road vehicle standards, capacity building of implementing institutions and personnel and education and training of drivers.

**Presentation: Fiscal Provisions in Philippine Laws on the Environment**

*By Director Pau Vicente*

Three laws:

**RA 8749 - Philippine Clean Air Act of 1999**

Objective of the law: to formulate and implement a national framework for air quality improvement, involving the participation of the national government, local government units, non-governmental organizations, private sector and academia.

**Fiscal provisions in the Law:**

The act contains several fiscal provisions:

- Imposition of emission fees on industrial dischargers and motor vehicle dischargers, as part of the emission permitting system or vehicle registration renewal system. The imposition of emission fees is intended to encourage industries and motor vehicle owners to abate, reduce and prevent pollution;
- entitlement to tax incentive in the form of tax credits and/or accelerated depreciation deductions, for industries which shall install pollution control devices or retrofit their existing facilities with mechanisms that reduce pollution;
- establishment of an Air Quality Management Fund, administered by the DENR, to finance the containment, removal, clean-up operations of the government in air pollution cases, guarantee of restoration of ecosystems and rehabilitate affected areas, and support research, enforcement and monitoring activities and capabilities of concerned agencies. The AQMF is sourced from the imposition of fines, proceeds from licenses, permits and emission fees, and from donations, endowments and grants in the form of contributions. Donations to the Fund are exempt from donor tax and all other taxes, charges, and fees imposed by the government. Donations are also allowed as deductible expense from gross income for the purpose of computing the contributors income tax

**RA 9003 Ecological Solid Waste Management Act**

Tax incentives are granted to local government units (LGUs), enterprises or private entities which install machineries, equipment, vehicles, facilities, and other devices for the collection, transportation, segregation, recycling, re-use and composting of solid wastes.

- Tax and duty exemption on imported , capital equipment, vehicles and spare parts used for the collection, transportation, segregation, recycling, re-use and composting of solid wastes, within 10 years from effectiveness of the law.
- Tax credit on domestic machinery, equipment, vehicles and spare parts equivalent to 50% of the value of the tax and duty that would have been waived on these items had those items been imported, within 10 years from effectiveness of law.

- **Creation of the Solid Waste Management Fund**  
Used to finance products, facilities, technologies and processes to enhance solid waste management; awards and incentives; research programs, information, education communication and monitoring activities, technical assistance and capacity building activities. Fund is sourced from fines and penalties imposed, proceeds of permits and licenses issued by the DENR under this act, donations, endowments, grants and contributions from domestic and foreign sources, and budgetary appropriations. As in the case of the above fund, donors do not pay taxes on donations, endowments etc.

### **RA 9275 Philippine Clean Water Act of 2004**

It contains a *fiscal incentive scheme*: industrial waste water treatment or adoption of water pollution control technology, cleaner production and waste minimization technology shall be classified as preferred area of investment in the annual Investment Priorities Plan (IPP). They shall enjoy the applicable fiscal and non-fiscal incentives under the Omnibus Investments Code.

- Tax and duty exemption on imported capital equipment used for industrial water treatment/collection and treatment facilities, within 10 years from effectiveness of this Act
- Tax credit on domestic capital equipment equivalent to 100% of the value of the taxes and duties that would have been waived had these items been imported, within 10 years from effectiveness of the act.

Donations, legacies and gifts are again exempted from all internal revenue taxes and customs duties.

Who can benefit from the tax incentives:

Local government units (LGUs), water districts, enterprises or private entities which shall install machinery, equipment and other facilities for industrial waste water treatment and/or collection.

Creation of a National Water Quality Management Fund to finance:

Containment and clean-up operations of government in water pollution cases etc....

The fines ...

### **The 2008 Investments Priorities Plan (IPP):**

Annually prepared by the Board of Investments under the Department of Trade and Industry, the IPP contains the preferred areas of activities, mandatory inclusions etc.

In the 2008 plans, mandatory inclusion include Ecological Solid Waste Management projects (establishment of waste recycling facilities) and Clean Water Act projects (establishment of industrial waste water treatment facilities and sewage collection integrated with treatment facilities; and the adoption of water pollution control technology, cleaner production and waste minimization).

### **Executive Order (EO) 226: The Omnibus Investments Code of the Philippines**

Fiscal incentives that may be availed of by firms in environmental-related projects

Income Tax Holiday

### **Capital Equipment Incentives**

100% duty exemption on importation of machinery/equipment and accompanying parts of BOI-registered firms (via EO 528)

Tax credits equivalent to 100% from taxes and duties on machineries, equipments, spare parts purchased from a local manufacturer.

## Solid Waste

Solid waste fees are collected by local government, operation of disposal sites for sanitary landfill assess fees for those that dispose, also operated by local government or private sector. Central government does not collect fees related to waste management.

### **PM: Laguna Lake District Authority (LLDA), Manila**

#### ***Presentation 1: Laguna de Bay – The Environmental User Fee System for the Laguna de Bay Region***

*General Manager Edgardo C. Manda and Asst. General Manager Dolora N. Nepomuceno, LLDA*

Laguna de Bay: the largest and most vital inland water body in the Philippines. Explanation the of details of the lake. Laguna de Bay ~900 km<sup>2</sup>, avg. volume 2,250,000,000 m<sup>3</sup>. Watershed population has grown to around 10 mio. It is a life support system to about 12 million people, 3.05 million of which live along the lakeshore.

Laguna Lake Development Authority (LLDA) created in 1966 under RA 4850 (“to promote and accelerate the development and balanced growth ... with due regard for environmental management”), a mandate expanded in 1975 with PD 813 (new powers include power of LLDA to issue permits for the use of the surface water). In 1983, LLDA was classified as a Class A corporation under EO 927, and authorized to modify its organization, grant water rights over Laguna de Bay and other water bodies in the region, and control and abate pollution and collect fees for the use of lake water. In 1993, EO 149 placed LLDA under the administrative supervision and policy coordination of the DENR. DAO 2004-61 makes LLDA one-stop shop for ECC/CNC permits. EA 9275 in 2004 (Phil Clean Water Act) designated Laguna de Bay Region as Water Quality Management Area (WQMA) to be administered by in accordance with RA 4850 as amended.

LLDA’s key functions include policy and planning, regulatory and infrastructure and resources development. 14 cities, 25 lakeshore municipalities and 22 non-lakeshore municipalities fall within the jurisdiction of the LLDA. It has adopted an Integrated Water Resources Management approach: 24 micro-watersheds serve as the basic units for planning & implementing environmental improvement programs.

Surrounding inhabitants already rely on the Laguna de Bay for drinking water, fishing, cooling, a waterway for transportation and a recreation area. With more than 400.00 people in the Manila metropolitan area, it is now being considered as the next major source of potable water for that area. A private water company already draws around 300,000m<sup>3</sup> of water per month.

Still, the unprecedented economic growth in the area is a driver of ecosystem change. Population growth and rapid economic development manifested in industrial and commercial development, urban sprawl, and lake use conversion all result in solid waste management problems, sewerage and sanitation problems, congestion, sedimentation and siltation, increased input of pollutants and degraded water quality, flooding problems and loss of biodiversity.

Water pollution sources have strongly shifted from agricultural and industrial sources in 1995 (40/30%, respectively; domestic only 30%) to domestic (77,9%, agriculture only 9,8%, industry 11,5%) in 2004. The reduction of industrial pollution should be noted. LLDA believes this can be attributed to the environmental user fee system. Its introduction was based on a World Bank funded “Metropolitan Environment Improvement Program” (MEIP). This study focused on a system of economic incentives to promote water pollution and abatement. Based on data obtained from 535 firms, it presented a design for a pollution charge program to be implemented nationwide. Phase I has covered the Laguna de Bay region only.

Out of 39 industry sub-sectors, the top 5 polluting firms contribute nearly 90% of the total BOD load. This accounts for more than 50% of total number of firms discharging wastewater into the lake, 40% of which discharge more than 150 m<sup>3</sup>/day.

Why was Phase I implemented in the Laguna de Bay region? Because it was already seen as the next major source of domestic water supply.

Why was LLDA chosen as the implementing authority? covers a well-defined area (ecosystem/watershed-based), and its mandate already provides it with an extensive and encompassing legal authority, covering reviews and approval of development projects and plans, and issuing permits and collecting fees on both intake and discharge of water. All that means that it requires no additional legislation to implement a pollution charge program. It is also authorized to use its revenues for environmental and water related projects.

In 1997, LLDA introduced the Environmental User Fees System (EUFS) as an industrial wastewater effluent fee program to create economic incentives for industry to reduce wastewater discharges. Thus, is a market-based instrument to require polluters to reduce water pollution (application of the polluter pays principle). EUFS is being implemented in three phases:

Coverage: Covers all types of establishments with wastewater discharge in the Laguna de Bay region.

Year I: 1997 – only covered the top 5 polluting industries (food processing, piggeries/slaughterhouses, beverages, dyes and textiles, paper and pulp).

Year II – 1998 expanded the coverage to include 100% of all industries with wastewater discharges

Year III – 1999 expanded to coverage to include foodchains and restaurants.

### **Design Specification**

Based on pollution loading, charges assessed for all levels

Unit pollution charge progressive above permissible limit and regressive below that limit: EUFS originally was designed to have a threshold of 50mg/l BOD, from which upwards it is progressive. 5 pesos per kg until 50, over that 30 pesos per kg. It is flexible by accommodating multiple pollutants and sources of loadings. It is also dynamic by responding to ambient conditions. And it generates predictable/reliable revenues and provides incentives to reduce loading. It is calculated based on the volume of the effluent, the substances contained in the effluent and the organic load of the effluent, as expressed in its five days biochemical oxygen demand (BOD) and concentration. Biochemical oxygen demand (BOD) is the amount of oxygen required by bacteria while stabilizing decomposable organic matter under aerobic conditions.

### ***Presentation: Harmonization of the Environmental User Fee System (EUFS) with the Philippine Clean Water Act (RA 9275)***

*Engineer Guillermo Orgil*

A Discharge Permit is a legal authorization granted by the LLDA to discharge liquid waste or wastewater of a specified concentration and volume into the sewer or any water body that directly or eventually drains into the Laguna de Bay for the specified period of time.

The Fee consists of a fixed fee and a variable fee. The fixed fee covers the necessary costs of compliance, monitoring, analysis etc., and is based on the volume of discharge ( $Q < 30 \text{ m}^3/\text{d}$ , amount to be paid is 177 US\$, from 30 to 150  $\text{m}^3/\text{d}$ , it is twice that, from 150  $\text{m}^3/\text{d}$  upward it is triple that. For discharge containing heavy metals, the minimum is 354 US\$. The variable fee levied is levied on the amount of pollution, depending on the strength or concentration of the discharge, in accordance to a detailed formula.

BOD5 < 50 mg/l USD 0.11/kg

>50 mg/l USD 0.66/kg

The number of discharge permits issue has still been increasing year over year. 1997: 323 applied, 154 issued; 2007: 1130 applied, 815 issued, 33 revalidated. Total loading from 1997 to 2006 has dropped from over 5000 to around a 1000 in 2002, growing again to 2500 in 2006. But ave. has dropped all the same given that the number of firms covered has multiplied repeatedly in that period. This development has been due to conversion from wet to dry processes, waste minimization and closures.

**DENR Administrative Order No. 2005-10**

implementing Rules and Regulations of the Philippine Clean Water Act of 2004 (RA 9275) contains in Article 2 of Chapter 2:

“Water Pollution Permits and Charges” promulgates the implementation of a wastewater charge system in all management areas including Laguna Lake Region and Regional Industrial Centers and all other areas through the collection of waste water charges/fees.

**Section 5 of RA 9275, the Clean Water Act:**

Specifies that the areas within the jurisdiction of LLDA shall be designated as one management area under the Administration of LLDA in accordance with RA 4850 and that the standards and wastewater charge system of the CWA should be followed by LLDA.

LLDA Board Resolution 332, series of 2007 (harmonization with Clean Water Act) decreed that the name be changed from EUF to Wastewater Charge System as used in DAO 2005-10 (IRR of the Clean Water Act). Also, the variable fee is based on the net waste load model prescribed by the Clean Water Act, a method limited to industry and establishments who abstract water from surface water. If the source water is from groundwater or water suppliers (district or service providers), the concentration of water intake shall be assumed as zero or negligible priority pollutant parameter.

**Wastewater discharge fee reform:**

Reform consideration is to change charging parameters from BOD5 to COD (Chemical Oxygen Demand), introduce an additional charge for heavy metal contents in the waste water, and extending the environmental user fee system to households.

Here, as well, revenue does not cover infrastructure development, but mostly covers the collection/administrative costs.

In the Philippines, the water provider/supplier is also responsible for sewerage treatment and infrastructure. In Manila, two privatized companies are in charge of water supply and waste water collection, treatment and disposal. They have negotiated targets relating to water supply, unaccounted water and sewage treatment. They have e.g. invested in 26 new treatment plants and septic . Money for these projects thus comes from the private sector. Costs are, of course, passed on to households. Rates for water and wastewater charges are negotiated with the government every 5 years. Targets are thus agreed between private developers and government. Outside of Manila, this still has to be worked out with the Water Districts. Study currently exploring options for cost-sharing between national and regional governments. The rationale lies in the unwanted externalities of water pollution (health, tourism, fishery productivity etc.).

Similar policies are being explored for solid waste. Department of Finance has already approved, now Cabinet and President must approve.

No differentiation between state and private enterprises.

Samples are collected at source and brought for laboratory analysis at the LLDA laboratory. Manila Metro only covered to around 50% monitoring of polluters, but in export manufacturing zone, where the largest, heaviest polluters are located, higher coverage rates are possible. The inability to cover 100% of sources means prioritization is necessary in accordance with priority industry sectors.

**Presentation: Legal Support to EUFS Implementation**

*Attorney Eduardo L. Torres*

An overview of RA 4850 (1966), also known as the Laguna Lake Development Act of July 18, 1966  
1987 Constitution: Article 2 Sec. 16 - the State “shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature” and “protect and promote the people’s right to health” (Art. 2 Sec. 15).

Initiatory proceedings - Modes of discovery: regular field monitoring with inspectors on site, desk reviews of submitted report and complaints in print/broadcast. Once initiated, person/establishment has five days period from receipt thereof to personally appear before LLDA office and submit written reply.

BR 192 created a Public Hearing Committee: serves as a quasi-judicial arm of LLDA, with authority to issue and enforce ex-parte show cause orders, ex parte CDOs/DOs (cease and desist or dismissal orders) and temporary lifting orders (TLOs). Supreme court, in LLDA vs Macario A. Asistio, Jr, City Mayor Caloocan City et al. (16 March 1994) confirmed authority of LLDA to issue CDOs; a ruling confirmed by the Cour in LLDA vs. CA et al. (18 Dec. 95) Binangonan

LLDa, as an institution and the moving force and spirit behind it is able to meet the desired legal actions to implement/enforce the wastewater charges/EUF system, ... LDA as a special charter has the strength of a government regulatory agency and the flexibility of a corporate entity.

### **Presentation: Laguna de Bay – Expansion of the EUFS and Effective Use of Revenues**

*Ms. Alicia E. Bongco, Assistant Project Manager, Component 2 (Strengthening of Institutions and Instruments), LISCOP Project, LLDA*

Prevailing attitude as a resource that is free and public, rather than a resource which has a price and may be considered private property.

Raw Water is surface and groundwater extracted, pumped, piped, etc. to the point where it requires treatment, if necessary, before it is suitable for use. As water becomes scarcer and its quality continues to deteriorate, new approaches are explored to improve the management of water resources. Water pricing reforms are among the various measures designed to encourage the efficient use of water resources. NEDA's position on water pricing is that water is a limited resource that must be conserved and managed efficiently, and needs to be treated as an economic good so capacity and willingness to pay (economic principles) must be considered in pricing water. Legal basis for LLDA raw water pricing consists of the power of LLDA to grant surface water rights in its area of jurisdiction, a power that has been transferred from NWRB under RA 4850.

#### **Classification of Laguna Lake Water:**

##### Consumptive

- Irrigation
- Domestic water supply

##### Non-consumptive

- Industrial cooling
- Hydroelectric power
- Transport route
- Fishery
- Recreation

Different approaches have been explored, e.g. MoA with the users (administrative pricing), resource charge scheme or economic pricing.

Trust Funds are widely used as a financing mechanism to fund environmental protection. They allow easy tracking of where the funds go.

### **Presentation: Lessons from EUF implementation**

Ms. Dolora N. Nepomuceno, Assistant General Manager, LLDA

Application in a well-defined watershed area has made it easier to implement: start simple and build experience. “Ready, Fire, Aim” rather than “Ready, Aim, Fire”

- sector based pilot run;
- 1 to 2 controllable parameters – biochemical chemical demand until 2007 (?), then added total suspended solids;
- pollution charge at all levels to improve legitimacy, starting from zero discharges and progressive once effluent standards are exceeded.

Other useful experiences:

- stakeholders consultations are very important! Even the rates were all influenced by the stakeholder consultations.
- Coupling market-based features with regulatory elements in one instrument can result in perverse reactions of discharges, i.e. dilution of wastewater.
- Actual water quality of receiving body not taken into account in the current calculation formula applied by LLDA.
- Strong and credible regulatory body as implementer of MBI

The incentive effects of pollutant charges can be eroded by **inflation** if the charge per unit of emissions stays constant in nominal terms but declines in real terms. It is recommended that fines and charges be indexed to inflation rates to improve their effectiveness over time and ensure the continuity of the instruments and incentives.

Acceptability of the modified EUFS by affected sectors may be enhanced through **hypothecation**, i.e. plowing back tax collections to the paying sectors.

Effective lake/river basin management is not afraid to act – ready, fire, aim approach: a more realistic strategy – take action, analyze and make course correction.

## **Philippines, Day 2: July 8, 2008**

**AM: Ateneo School of Government, Manila**

### ***Environmental Protection and Management in the Philippines***

*Antonio G.M. La Vina, J.S.D., Dean*

#### **Background on Philippine Environment:**

- Mega-biodiversity
- Threatened Ecosystems

- Degraded environmental and depleted natural resources
- Overexploitation
- Population growth, urbanization and industrialization

#### Overall Policy Framework

##### **Goals of ENR Management:**

- environmental protection,
- economic development,
- promotion of social justice.

##### **Policy Instruments implementing this framework:**

- Constitution
- Philippine Environmental Policy (a law)
- Philippine Agenda 21
- Millennium Development Goals (MDGs)

##### **Legal Framework**

- Comprehensive body of laws, with over a 100 laws on environmental issues;
- Longer history of NR laws than environmental laws; but these were still oriented on the laws imposed by the United States during colonial times, geared towards promoting corporate development and exploitation. From the beginning, thus, no real taxation of natural resources and environmental use. Government and society did not, thus, benefit from the use of these natural resources.
- In the late eighties, thus, a departure from this approach prompted a movement to community-based approaches of NR laws, so that NR extraction and use benefit society and the state;
- By contrast, the more recently adopted environmental laws have been very advanced dealing with air, water and waste: Clean Air Act, Clean Water Act and Solid Waste Act: “World Class laws”

##### **National Institutions**

- Lead agency: Department of Environment and Natural Resources (DENR);
- Other national government agencies: DENR does not have all the powers relating to the environment, but is complemented by important functions held by the Dept. of Finance, Justice, Agriculture, Energy and Transportation;

- Special multi-jurisdictional and multi-sectoral, coordinative bodies, e.g. Interagency Committee on Climate Change, National Cabinet Committee on Maritime and Coastal Affairs (interacting with CN and VN)
- Legislature (Congress), which pass legislation;
- Judiciary and quasi-judicial agencies, with special courts only addressing environmental issues/disputes;
- Citizens and citizens' organizations (non-governmental organizations);
- private sector (voluntary and compliance activities).

### **Local Institutions**

System of local autonomy in the Philippines affords the local level very real powers.

- Special multi-jurisdictional and multi-sectoral, coordinative bodies
- Citizens and citizens' organizations
- private sector
- local governments with:
  - devolved functions under Local Government Code
  - conferred functions under environmental laws

### **Example: Adapting to Climate Change**

Affected areas: food production, infrastructure, increased flooding, human health, sea level rise and other natural disasters.

Therefore, current goal is to develop a national policy on adaptation to climate change effects (example: increased risk of typhoon). The risks are largely known, meaning that government can prepare – but interagency coordination and cooperation is essential. Most importantly, financing has to be obtained.

### **Example: Industry and Mining**

Philippine soil is highly mineralized throughout (“ring of fire”). But externalities of natural resource extraction are not internalized under current policies, causing widespread watercourse pollution etc. As a result, mining has become highly controversial, prompting citizen protest.

Previously, mining companies had no legal obligations when a mine was abandoned; now, however, there are statutory funds to which mining companies have to contribute prior to engaging in their activities. Sharing of income is still an insufficiently addressed issue.

Comparative discussion: In the Philippines, there are also fees on resource and petroleum extraction. Benefit sharing national/local/community is becoming increasingly common. This follows the realization that local people are the most effective in actually tackling the problems.

National standards on emissions, effluents, etc. – national standards are floor, and local government can apply higher standards where appropriate.

### **The Citizen Sector**

Role of the Public –

- Need for greater access to environmental information:  
improving monitoring and research  
How to translate consultation requirements into meaningful participation

### **The Private Sector**

- Beyond CSR – compliance through public disclosure and voluntary measures
- Promote investment in ENR management
- Scale up and expand market mechanisms, promoting over-compliance and avoiding the challenge of needing to supervise and catch violators;
- Greenhouse Gas Protocol: initiative of private companies to begin monitoring and counting their GHG emissions.

### **Role of Legislature and Judiciary**

#### Role of legislature

- Generally new laws not needed;
- Most needed reforms can be done through executive actions;
- Exceptions: expanding devolution , redefining the role of the DENR

Green Courts - access to justice for the poor

### **Conflict of Consensus**

Consensus Building Institute: Mutual Gains Approach to Negotiation – BATNA

### **Conclusion**

Comprehensive ENR policy and laws, but weak implementation and enforcement

Continuing bias for maximum utilization imbedded in decisions

Reforms to address financial challenges, non-compliance, monitoring capacities etc.: 1 forest ranger per 4000 Hectares of forested land, and 1 inspector for 500 companies in urban -> therefore the strategy is to maximize stakeholder involvement, e.g. through deputized officers from local government, churches and NGOs, and for industrial companies multi-sectoral monitoring teams. Second strategy is to deliberately prioritize by focusing on largest polluters.

Organizational structure impedes effective ENR management

(integrated spatially based management units, removal of utilization promotion functions)

Local Government as effective resource managers

(enabling conditions and expanded roles)

Strengthened multi-sectoral partnerships

Recommendation: local governments should be allowed to implement their own environmental fees – this has been the experience in the Philippines. Examples include local diving and fishing fees etc. In Boracay, which attracts many divers because of its corals, such a fee of 50 pesos is already implemented on the boat trip to go there. Local governments also charge for what you do there, e.g. diving fee, boating fee, etc., depending on activity. Revenue is used for environmental protection measures to improve (e.g. hiring guards) and rehabilitation, public information campaigns and other environmental purposes. San

Carlos City wanted to protect the watershed, so they imposed watershed management fee from all users of the water. Thus, part of the monthly bill is a watershed management fee, with revenue used to protect and improve the watershed. National legislation in the Philippines authorizes local governments to do so, and even so more power should be given to local governments.

**Presentation: Philippine Council for Sustainable Development**

**1992 Earth Summit**

3 Proposals submitted to the newly elected President to consider for the creation of a council for sustainable development:

- Department of Foreign Affairs
- Department of Environment and Natural Resources
- Civil Society Organizations – would have had greatest scope (social objectives/implications)

Philippine commitment to Rio and the Earth Charter was lodged at the National Economic and Development Authority.

The Council's *principles and work ethic* were geared towards making it an inclusive negotiating table, and include:

- subsidiarity (self-governance)
- consensus building
- open access
- multi-stakeholder partnership.

**Composition:**

- Government – 16 government departments represented by officers with rank of director or higher
- Civil Society – people's organizations, NGOs, Sectoral/major groups committed to environment and sustainable development thru a process designed by them
- Labor and business: 2 representatives chosen by them thru a self-designed process

**Functions:**

- Review and ensure implementation of the commitments of the government
- Establish guidelines and mechanisms that will expand and operationalize SD principle and incorporate these in the Philippine Development Plan
- Formulate policy reform, programs and projects and recommend new legislation

As a result, for instance if a delegation attends UN meetings, it is always made up of multi-stakeholder representatives.

Point: to make things work, an interagency approach is important. The CSD has been very helpful in this regard.

## **PM: Department of Environment and Natural Resources**

### ***Presentation: Environmental Taxes and Fees in the Philippines***

Mr. Julian D. Amador, Director, EMB

#### ***Forest Management***

##### **Forest Charges**

- Levies on cut/harvested naturally growing timber and other forest products
- Rates provided for in RA 7161
- Applicable on said resources gathered from public forestland and alienable and disposable lands.

##### **Government Share**

- Amount paid by a forestland user for use of forest land
- implied in Article , Section XII of the 1987 Constitution
- made explicit by EO 278 pof 1987.

##### **Performance Bond**

- Different from taxation;
- Required to ensure that actions of forest resource users comply with government's environmental standards
- May be deposited in cash or through a contract of suretyship, usually period of five years, renewable every five years. The actual timber use license is maximum of 25 years.
- i.e. a financial instrument requiring the resource use to transfer cash or buy a surety bond e.g. from an insurer and transfer it to the government for exercise in case environmental damage occurs. If everything goes well, following an evaluation of the performance of the permittee, the bond (money or suretyship) is returned

##### **Forest Bond Rates (DAO 2004-16)**

Timber License Agreement – e.g. 20% of total forest charges, but not less than P12,000 plus reforestation  
IFMA Harvesting Timber from Natural Forest  
Registration of Agents, Contractors, and dealers of logs, lumber, veneer and commercial poles  
Special land use permits and leases  
Forestry Bon Mining Waste Disposal Site Permit

### **Incentives for Pollution Control Devices**

As provided in the Philippine Mining Act of 1985 (RA 7942)  
Pollution control devices acquired, constructed and installed are not subject to tax

### ***Mines and Geosciences***

#### **Mine Wastes and Tailings Fee**

Semi-annual fee imposed on all operating mining companies  
Accrues to reserve fund for payment of damages to lives and property caused by mining pollution

#### **Mine Rehabilitation Fund**

A Fund established by the operating mine  
Serves as a deposit to ensure availability of funds for complying with the operating mine's Environmental Protection and Enhancement Program

#### **Final Mine Rehabilitation/Decommissioning Fund**

A fund established by the operating contractor  
Accrued before the end of the operating life of the mine  
Covers the full cost of the Final Mine Rehabilitation/Decommissioning Plan

### ***Protected Areas and Wildlife***

- Fees and Charges for use of facilities inside protected areas
- Deposited in the Integrated Protected Area Fund (IPAF)
- Used in the protection and management of protected areas in the country
- Imposes fines, fees and charges and accepts donations, contributions, endowments and grants
- Deposited in the Wildlife Management Fund (WMF)
- Used to finance wildlife conservation activities:
  - Habitat rehabilitation
  - Enforcement and protection
  - Monitoring Activities

### ***Environmental Management***

No environmental taxes in this area as such  
But collection of permit application and processing fees  
Fiscal incentives for proponents of treatment facilities and anti-pollution devices/schemes are provided  
Aimed at making industries comply with environmental standards  
Example of schedule of fees for hazardous waste management and chemicals:  
Registration of Hazardous Waste Generator P 600  
Annual Registration of Transporters P500/vehicle

Application fee for notification of the export of hazardous waste  
Etc.

Registration, annual registration etc. (see slides...)

### **Air Quality Management Fund**

Sourced from:

- Air emission charges from stationary and mobile sources: the Act allows for the collection of pollution/emission charges, but no rates have been specified yet, still being implemented, but assessment being made as to how high the rates will be etc.
- Fines and penalties for non-compliance with air emissions standards and other provisions of the CAA and its IRR (e.g. for vehicles PHP 1000 for 1<sup>st</sup> offense, 3000 for 2<sup>nd</sup> offense, 5000 for 3<sup>rd</sup> offense and henceforth)
- Fees collected in the implementation of the CAA and its IRR for permits, and
- Grants and donations from donor organizations

The fund:

- Finances containment, removal and clean-up operations of the government in air pollution cases,
- Guarantees restoration of ecosystems and rehabilitate areas affected by the acgts of violators of the Act
- Supports research, enforcement and monitoring activities

### **Water Quality Management Fund**

Sources of the fund include:

- Discharge fees and charges: implemented for industry and commercial sources nationwide based on load concentration and volume (cf. LLDA), but with only 40-50% of industries monitored, and only once a year (not twice). Also, in select areas, e.g. some markets, each market stall owner contributes a small daily amount to cover the wastewater treatment costs. Households are not covered yet.
- Fines and penalties for non-compliance with provisions of the CWA and its IRR
- Fees collected in the implementation of the CWA and IRR, i.e. fees for issue of permit.
- And donations etc.

Used for

- Rehabilitation
- Financing pollution control equipment purchase
- Information, education, communication
- Research, enforcement and monitoring activities

## **Pollution Adjudication Board**

Important Prohibited Acts under RA 9275 – Powers of the PAB

Recommend to the Secretary imposition of CDO and penalties from 10,000 to 200,000 Pesos per day of violation

PAB issues COD (Cease and desit orders) and imposes finds from 10000 to 100000 per day of violation, and recommend s that proper government agencies file criminal charges against violators

Fines are computed on the basis of a calculation based on exceedance of standard (DAO 34 & 35 for water, DAO 81 for air), PAB Resolutions 10, 10-A and 04-2003; after 2004 on Clean Water Act of 6 May 2004 from PHP 10,000 to 200,000 per day of violation.

### ***Presentation: Environmental Management Bureau***

Ms. Victoria Abrera, Chief, Planning Division, EMB

EMB is mandated to implement on a nationwide scale the following environmental laws:

- Clean Air Act of 1999 (RA 8749)
- Philippine Clean Water Act (RA 9275)
- Environmental Impact statement System (PD 1586)
- Toxic Substances and Hazardous Waste Control Act (RA 6969)
- Ecological Solid Waste Management Act (RA 9003)

## **Philippines, Day 3: July 9, 2008**

### **AM: City of Marikina, Philippines**

#### ***Welcome remarks***

*Mayor Marides Carlo (Lourdes) Fernando*

Privilege card given to all taxpayers in the city who pay in full their tax obligation in January of each year. This card allows access to certain government services outlined in the brodcchure, e.g. free basic health services, free testing, free vaccination, also for pets, free rescue services, some public announcements in journal, free entrance to museums and discounts for sports facilities. Partner establishments/corporations will give you a discount if you use a Privilege Card. Using it efficiently, it is possible to recover all tax expenses through discounts. This has strongly increased the tax revenue.

Bicycle Program: bicycle lanes throughout the city helps alleviate poverty and helps the environment.

#### **Questions:**

Waste collection takes up a relevant part of the budget. Water is private sector run, with concession son the national level. People pay directly to the private company. Similar regarding power.

Poor people can afford the fee of waste collection. Around 10 dollars per year for each household. Marikina is one of the few municipalities in the country already collecting waste fees from private households; usually, only industry and commercial establishments are covered by waste fee schemes. Marikina has a full schedule, with variable rates depending on the size of the establishment. Water in

Metro Manila under privatized company, but the rates charged by the private sector are approved by the government. Likewise, the power sector cannot set rates without the approval of the government. Rates are subsidized, with low levels still very cheap (benefitting the poor) and rising quickly as consumption goes up. Thus, even squatters – the poorest of the poor – can afford water and electricity.

Percentage of fee revenue collected from households for waste collection – what is the percentage relative to industry and commerce? Around 50%.

## **Annex 3: List of People Met and worked**

### **1. Singapore**

#### ***Ministry of Finance***

Mr. Harvey Koenig: Deputy Director, Tax Policy Directorate, Ministry of Finance

Mr Samuel Chan: Deputy Head (International Tax), Tax Policy Directorate, Ministry of Finance

Mr Lim Zhi Wei: Senior Associate, Tax Policy Directorate, Ministry of Finance

Mr Low Xin Wei: Deputy Head (Economic Strategy), Economic Programmes Directorate, Ministry of Finance

Mr Fong Kok Choy: Head (Economic Programmes), Economic Programmes Directorate, Ministry of Finance

Mr Frederick Choo: Head (International Relations), Economic Programmes Directorate, Ministry of Finance

Ms Rohini Singh: Associate (ASEAN/ASEAN+3), International Relations, Economic Programmes Directorate, Ministry of Finance

#### ***Ministry of Environment and Water Resources***

Mrs Loh Kok Loo, Director, Corporate Development Division

Ms Dawn Tay, Deputy Director, Finance Department, Corporate Development Division

Mr Garbon Ho, Assistant Director, Finance Department, Corporate Development Division

Ms Jenny Koh, Assistant Director, Finance Department, Corporate Development Division

Mr Fong Peng Keong, Deputy-Director, International Relations Division

Mr Chong Teng Sheng, Assistant Director, International Relations Division

Presentation by Strategic Policy Division, MEWR

Ms Karen Chong, Senior Assistant Director, Strategic Policy Division

Mr Andrew Loh, Senior Assistant Director, Strategic Policy Division

Presentation by National Environment Agency (NEA)

Ms Jacin Chan, Assistant Director, International Relations Department

Mr Paul Tan Hang Meng, Senior Engineer, Waste Management Department

Mr Poon Chiew Tuck, Senior Engineer, Pollution Control Department

Presentation by Water Studies Division, MEWR

Mr Stanley Fong, Deputy Director, Water Studies Division

Mr Kwok Wing Onn, Deputy Director, Policy and Planning Department, Public Utilities Board

#### ***Asia-Pacific Centre for Environmental Law (APCEL), National University of Singapore (NUS)***

Presentations on Environmental Law, Governance and Management – Innovative Approaches from Singapore and Selected Environmental Taxes in Singapore

Ms. Lye Lin Heng, Associate Professor, NUS, and Deputy Director, APCEL

### ***Land Transport Authority***

Mr. Yeo Teck Guan, Director, Public Transport Regulation

Presentations on Land Transport Planning in Singapore  
Mr. Oscar Jiang Jing, Transport Planner, Local Planning

Presentation on Managing Road Usage  
Ms. Mabel Wong, Deputy Manager, Road Tax & e-Services, VRL Service Operations

Presentation on Electronic Road Pricing  
Mr. Ang Sok Giam, Senior Engineer, ERP Systems, Road Pricing

Guided tour by  
Ms. Krishnakumari Alagarsamy, Land Transport Gallery Manager

## **2. Philippines**

### ***Department of Finance***

Mr. Margarito B. Teves, Secretary (Minister), Department of Finance  
Various officials/presentations (name list requested)

### ***Laguna Lake Development Authority (LLDA)***

Mr Edgardo C. Manda, General Manager, LLDA  
Ms. Elisea G. Gozun, former Secretary of Environment and Natural Resources

Presentation on Overview of the Environmental User Fee System (EUFS)  
Ms. Dolora N. Nepomuceno, Assistant General Manager, LLDA

Presentation on Harmonization of the EUFS with the Philippine with the Philippine Clean Water Act  
Mr. Guillermo E. Orgil, Engineer, Pollution Control Division, LLDA  
Ms. Rowena Pagdingalan, Engineer, Pollution Control Division, LLDA

Presentation on Legal Support to EUFS Implementation  
Mr. Eduardo L. Torres, Division Chief, Legal Division, LLDA

Presentation on Expansion of the EUFS and Effective Use of EUF Collection  
Ms. Alicia E. Bongco, Assistant Project Manager, Component 2 (Strengthening of Institutions and Instruments), LISCOP Project, LLDA

### ***Department of Environment and Natural Resources (DENR)***

Ms. Analiza R. Teh, Asst. Secretary for FASPO  
Mr. Manuel Gerochi, Undersecretary for Staff Bureaus

Presentation on the Department of Environment and Natural Resources Organisational Structure  
Ramon Ezpeleta, Director, Administrative Services

Presentation on Plans and Programs of the Environmental Management Bureau (EMB)  
Ms. Victoria Abrera, Chief, Planning Division, EMB

Presentation on the Implementation of Foreign-Assisted and Special Projects Office (FASPO)  
Ms. Analiza R. Teh, Asst. Secretary for FASPO

Presentation on Environmental Taxation and Fees  
Mr. Julian D. Amador, Director, EMB

***Ateneo School of Government***

Presentation on Philippine Environmental Institutions  
Dr. Antonio G.M. La Vina, Dean of the Ateneo School of Government

Presentation on the Philippine Council for Sustainable Development

***Partnerships in Environmental Management for the Seas of East Asia (PEMSEA)***

Mr. Raphael P.M. Lotilla, Executive Director, PEMSEA Headquarters

Presentation by PEMSEA Scientific Staff on  
Mr. Stephen Adrian Ross, Chief Technical Officer, PEMSEA Programme  
Ms. Nancy Bermas-Atrigenio, Senior Country Programme Manager, PEMSEA Programme

***Marikina City***

Ms. Marides C. Fernando, City Mayor, City of Marikina  
Mr. Poncianito Santos, Jr., City Councilor, City of Marikina  
Ms. Carmelita Lorenzo, Public Information Office, City of Marikina

## **Annex 4: Evaluation Sheet per participants**

**Annex 5: Financial Report (against budget approved prepared by  
AA's for liquidation)**