

# **Fiscal Instruments for Environment and Climate Change: Experience from Indian States**



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## EXECUTIVE SUMMARY

Greenhouse gases (GHGs) and other pollutants are negative externalities imposing an external cost on the entire society and not just on the individuals who consume a certain product. Though India does not have an obligation to reduce the emissions of GHGs, it is important for Indian States to adopt a sustainable growth path. The emissions of GHGs and other pollutants, if left to free market forces, are unlikely to be reduced on their own. Hence, Government intervention is needed to internalize the externalities in production and consumption decisions of firms/individuals. The Government can achieve this in a number of ways. One of them is to impose a per unit tax/charge on output of the firm generating the negative externality. This tax/charge referred to as Pigouvian fee is levied equal to that of the external cost in order to internalise the externality. If the regulator can succeed in levying optimal taxes/charges, less polluting alternatives are encouraged, and can raise significant revenues, which can subsequently be used to fund or subsidize green technologies. Several Indian States have already levied such taxes on different polluting substances and activities. However, little is known about their operational mechanics and performance to date. This policy brief series compiles experiences from some of these States that have implemented fiscal instruments to address environment and climate issues.

In some States like Sikkim and Maharashtra, these taxes have been in place for several years, while others like Goa have very recently implemented such fiscal instruments. There is wide diversity in the nature of polluting substances on which the taxes have been imposed, the rate of such taxes, the manner in which the funds collected have been disbursed, and the purposes for which they have been utilized. This makes it difficult to compare performances of these instruments among different States. However, based on the experiences from these States, certain best practices emerge that States should consider while designing and implementing fiscal instruments to address environment and climate change concerns. Some of the key ones are listed below:

***Scope of the Fund:*** In order to help prioritize funding among vastly different opportunities, the objectives and scope of the fund should be clearly and strictly laid out so that the guidelines and eligibility criteria permit only projects that meet the stated objectives of the fund. Revenues generated from taxing “dirty products” should ideally be earmarked for activities that can improve the productive base of the economy. It could, for example, be channelled towards Research and Development in energy efficiency, promoting renewable energy technologies, eco-tourism etc.

***Fund Management Authority:*** The agencies/departments responsible for managing and disbursing the funds collected from the levy of the cess should be clearly delineated. This responsibility should ideally rest either with a separate fund management authority with representation from the Finance Department and relevant line Departments or it should be in the form of a trust with joint representation from government departments and private sector entities. This is necessary in order to avoid bias in the nature of activities that are funded and also to ensure adequate knowledge of sector-specific issues. In addition, there should be clarity on the organizations and entities that have access to these funds. Beneficiaries should include government departments, research institutes and industry, among others.

***Project Appraisal Process:*** There should be an inter-departmental committee to appraise projects and proposals seeking funding in order to ensure strict adherence to guidelines and to avoid any biases towards a particular line department. A proposal evaluation framework should be developed that goes beyond mere compliance with the requirements and gives adequate weightage to a project’s ability to meet the objectives of the fund.

***Incidence and Rate of Tax:*** The tax/charge should ideally be levied equal to that of the external cost in order to internalize the externality. However, there are several problems in deciding the optimal tax/charge due to uncertainty of the marginal costs and marginal benefits (which are not known to the regulator). In such a case, optimal tax rates can only be achieved by repeated trials resulting in longer lead times. Sometimes very high taxes are required to be able to change the behaviour or influence the outcome, but such high rates may not be politically acceptable. Taxes are appropriate when less polluting substitutes or alternatives are readily available and when modest change in price can have significant impact on markets. In addition to the rate of tax, a complete list of the goods and products being taxed should be provided by the regulator to avoid any ambiguities and room for interpretation.

***Transparency:*** There should be proactive disclosure of data and information regarding various aspects of fund collection and management. Such reports regarding collection of revenue, details of projects funded, amounts disbursed etc. should be voluntarily shared by the State Government and information should be made publicly available.

***Monitoring and Evaluation:*** A qualified professional agency should be appointed to monitor and evaluate progress of the funded projects, programs and activities. Preferably an external agency should be hired for the task to avoid conflict of interest and increase transparency. Additionally, a project monitoring and evaluation framework with a clearly defined set of metrics should be developed in order to track and evaluate progress.

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## SIKKIM ECOLOGY FUND AND ENVIRONMENT CESS ACT, 2005



Picture courtesy – Image Gallery of “Quest Himalaya Adventures”:  
<http://www.questhimalaya.com/gallery3/nature-12.htm>

*The Government of Sikkim has created an Ecology Fund by levying a cess on the price of non-biodegradable materials entering the State. The revenues are utilized for amelioration of the environment and ecology of the State. This brief explores the details of the fund and its utilization.*

## FRAMEWORK

### ORIGIN AND PURPOSE

Executed in 2005, the Sikkim Ecology Fund and Environment Cess Act aims to protect the fragile ecosystem of the State from increasing consumption of non-biodegradable materials by levying an environmental cess on the price of non-biodegradable materials entering the State. It is a fiscal instrument meant to incentivize the use of traditional materials that cause less pollution as well as reduce compliance costs of managing the environment. The cess collected is deposited in a separate non lapsable fund called Sikkim Ecological Fund (SEF). This Fund is meant to be utilized only for amelioration of the environment and the ecology of the State. The Fund is maintained as a current account in a nationalized bank.

The State govt. appoints a Collector and a few other assistants for carrying out the collection of the cess. The Additional Chief Secretary in-charge of the State Finance, Revenue and Expenditure Department has been appointed as the prescribed authority to carry out the provisions of the Act and is designated as the Commissioner of Cess.

### INCIDENCE AND RATE OF CESS

All dealers, manufacturers, State and Central Government Departments, Public Sector Undertakings, autonomous bodies, other organizations, and individual users who bring non-biodegradable materials in the State from outside for selling, manufacturing, producing any goods, or for other use have to pay the cess on the selling price. In addition, every hotel, resort, lodge or motel operating within the State have to pay the cess based on their annual turnover. For the former category, the cess is payable at the rate of 1% of total turnover on sell price of non-biodegradable materials. For hotels, motels, lodges and resorts, the rate is 5% of their total turnover, with the provision that the State Government may exempt some such entities that are below a particular turnover. A complete list of non-biodegradable materials, which includes cement, iron and steel, parts of motor vehicles, paints, varnishes, glass and glassware, wireless reception instruments etc. is provided in the Act. (Sikkim Ecology Fund and Environment Cess Act, 2005).

Every dealer that is liable to pay the cess has to register under the prescribed authority within 45 days of becoming liable, failing which they receive a notice from the authority for getting registered within 30 days of

the notice. If dealers are still unable to comply, they are liable to pay Rs. 500/day starting from the expiry of the 30 day notice (Sikkim Ecology Fund and Environment Cess Rules, 2007).

## MANAGEMENT OF THE SIKKIM ECOLOGY FUND (SEF)

The State Government of Sikkim has the responsibility for proper management of the SEF. It has the power to appoint a Government official, along with other people to assist him/her, in maintaining accounts and records in

correct forms. Via notification dated 4th October, 2008, the State Government appointed the Principal Chief Conservator of Forest (PCCF), Department of Forests, Environment and Wildlife Management (DFEWM) as the authority for the management of the Fund. The PCCF is supposed to be assisted by the Conservator of Forest (Land Use and Environment), designated as the Nodal Officer for the SEF and Environment Cess Management. The accounts and relevant records are supposed to be maintained by the Chief Accounts Officer of the DFEWM.

## PERFORMANCE

This section is based on desk research, response from a Right to Information (RTI) query that was filed by the Centre for Development Finance, IFMR with the DFEWM, Government of Sikkim in January 2013, and communication with officials from the DFEWM.

### OBJECTIVES OF SEF

The Fund is planned to be utilized broadly for the following objectives: a) creation and development of facilities helping in amelioration of the environment and maintenance cum improvement of environmental services and ecological security of the State; and b) other purposes and projects leading directly or indirectly to restoration of ecological balance of various areas in the State. Following are the specific areas for fund utilization:

#### *Environmental education*

This includes support for National Green Corps, content development for awareness and improvement of local environment, improvement of school environment program etc.

#### *Conservation of endangered species*

This includes conservation of rare medicinal herbs and improvement of highly endangered local species like Oak, Juniper etc.

#### *Other activities*

Some of the other activities prescribed are restoration of water resources, creation of green belt, control and management of private forests, control of landslide and erosion, forest research, and capacity building of field staff, Joint Forest Management committees and local youth.

## COLLECTION & EXPENDITURE FROM THE FUND

Table 1.1 below provides details on the amount of cess collected and expenditure carried out from the Fund by the Department of Forest, Environment and Wildlife Management, Govt. of Sikkim.

TABLE 1.1: YEAR-WISE COLLECTION OF CESS AND EXPENDITURE FROM SEF

Year	Amount collected as Cess fees (in Rs. '000)	Expenditure carried out by DFEWM (in Rs. '000)
2007-08	32,243	—
2008-09	80,184	2,507
2009-10	1,11,818	17,744
2010-11	1,57,225	35,251
2011-12	1,85,716	57,283
2012-13*	8,028.227	5,735.346
<b>Total</b>	<b>5,75,214.227</b>	<b>1,18,520.346</b>

Source: Information received through RTI dated 28/2/2013

\* Till December, 2012 (Nov-Dec not reconciled)

## ACTIVITIES FUNDED

The fund collected till December 2012 has been utilized for supporting numerous activities related to climate and environment undertaken throughout the State. A detailed listing is provided below:

- Knowledge generation, environmental education and awareness creation
- Curtailing Man Animal Conflict
- Improvements of existing parks and gardens
- Forest protection activities
- Awareness camps during forest fire season
- Block plantation at Dhajaydara, Selari, Ratomatay, Barsey Rhododendron Sanctuary etc.
- Garbage management throughout the State
- Mixed plantation of medicinal plants
- Manuring and mulching of the plantations
- Generation of literature for improvement of local environment
- Soil and moisture conservation
- Afforestation activities

Table 1.2 below provides Division-wise list of activities undertaken by the Department of Forests, Environment and Wildlife Management till date:

TABLE 1.2: DIVISION-WISE LIST OF ACTIVITIES UNDERTAKEN BY DFEWM

Division	Activities undertaken
Silviculture/ Research Division	Creation of sample plots of rare and endangered species, strip plantation, creation of bio-diversity conservation and eco-development research, herbarium up-gradation, providing vegetation fencing with hedge posts at vulnerable points.
Land use and Environment Cell, West Division	Perennial water source development, two-tier plantation, support for various NGOs.
Land use and Environment Cell, South Division	Development of perennial water source, development of parks, improvement of religious sites.

Himalayan Zoological Park	Printing of zoo brochures and tickets, printing of vehicle passes and conservation slogans, making of boards, signage, guide map and directional boards, construction of resting sheds and resting benches.
Land use and Environment Cell, East Division	Maintenance of nurseries, improvement of perennial water source/spring water, intensive and quality plantation, two-tier plantation and barbed wire fencing, improvement of ornamental plantation and fencing of selected sites.
Land use and Environment Cell, North Division	Creation of eco-park, improvement of conifer forest, dry stone wall fencing, water source development.
Social Forestry Cell, East Division	Fodder plantation, improvement of tree on agriculture land, awareness generation camps.
Wildlife Cell, East Division	Bio-diversity conservation, protection and conservation of wildlife, training and capacity building.

Source: Information Received through RTI dated 28/2/2013

## OBSERVATIONS AND RECOMMENDATIONS

A more rigorous impact evaluation of the Fund needs to be conducted in order to analyse its performance. However, based on the information presented in the preceding sections, some insights have been drawn that could improve the effectiveness of the Fund:

### A. Scope of the Fund

The current objectives of the Fund have been defined very broadly and a wide range of activities can be justified to be within the scope of the Fund. In fact, some of the activities that have been funded through the SEF, such as awareness generation camps, printing of tickets for zoological parks, printing of vehicle passes, construction of resting sheds and benches etc. are routine activities of the DFEWM and should have been funded from the State budget. This makes it difficult both to

prioritize opportunities as well as to evaluate the long-term impacts of the Fund. The Fund could instead focus on a few areas that are of major importance in terms of ecological and economic security for the State. Furthermore, given that the State is extremely vulnerable to climate change and has recently developed its State Action Plan on Climate Change and is seeking to raise funds to implement the same, the scope of the Fund could be amended to explicitly target certain climate change activities.

#### **B. *Nature of Activities***

Revenues generated from taxing of “dirty products” should ideally be earmarked for activities that can improve the productive base of the economy. It could, for example, be channelled towards Research and Development in energy efficiency, promoting renewable energy technologies, eco-tourism etc.

#### **C. *Fund Management Authority***

Providing the management authority for the Fund entirely to the Department of Forests, Environment and Wildlife Management might help the debt ridden Department to utilize the funds for its routine activities. For the National Clean Energy Fund that has been created through a levy of a clean energy cess on coal, for example, this responsibility lies with the Department of Expenditure, Ministry of Finance (CBGA, 2012).

In case of the Maharashtra Clean Energy Fund created through a tax on the sale of electricity, the revenues are transferred to the Maharashtra Energy Development Agency (MEDA). MEDA and Infrastructure Leasing and Financial Services Ltd. have jointly established the Urja Ankur Nidhi Trust, which is responsible for the operational aspects of the fund <sup>1</sup>.

#### **D. *Disbursal of Funds***

Information received till December, 2012 reveals that only 20% of the total accumulated funds have been utilized. The Working Committee that is responsible for developing proposals for funding under the SEF consists entirely of officials from the DFEWM. The poor utilization of funds highlights the need for both greater representation from other Departments in the Working Committee, as well as increased technical expertise and greater collaboration with research institutes and industry.

#### **E. *Monitoring and Evaluation of Projects***

There is no mention of a monitoring and evaluation mechanism for funded projects in the Act. The State government should identify and appoint a qualified professional agency to monitor and evaluate progress of the funded projects, programs and activities. Preferably an external agency should be hired for the task to avoid conflict of interest and increase transparency.

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1 <http://www.mahaurja.com/PDF/URJANKUR.PDF>

## GREEN TAX ON MOTOR VEHICLES IN INDIA



Picture courtesy - Bruno Machetere: [http://brunomarch.com/?category\\_name=conceptart](http://brunomarch.com/?category_name=conceptart)

*Various States have used their State laws or executive powers to promulgate a tax to reduce emissions from old vehicles plying on the roads. States have generated large amounts of revenue even during a short period of time in which the tax has been in force. However, little is known about the status and modality of utilisation of the collected revenues towards the stated end objective of pollution mitigation. This policy brief explores the Green Tax and its usage by various States of India where it is being implemented.*

## FRAMEWORK

### ORIGIN

The term 'Green Tax' or 'Environment Tax' is a generic term that has been used for the purpose of nomenclature of any tax that is imposed on environmental pollutants or on goods whose use leads to degradation of the environment. In many cases, the term Green Tax is officially being used in India with reference to a tax imposed on motor vehicles to reduce pollution and protect environment and public health.

The Green tax has been promulgated by various States in India through enactment of State level legislation or formulation of policy. For eg., the States of Karnataka, Tamil Nadu, Maharashtra, Andhra Pradesh have amended their respective State level acts pertaining to taxation of motor vehicles to levy the Green Tax.

In most States, private vehicles which are older than 15 years and commercial vehicles which are older than seven years (or eight years in the case of Maharashtra) are liable to pay this tax.

### PURPOSE

The objective of the tax is to reduce the use of older vehicles with a view to phase them out and utilise the revenue generated to initiate action on vehicular air pollution control.

These taxes are often referred to as the first generation of fiscal reforms that are aimed at air pollution control and management. While Karnataka began levying the tax

in 2002, Tamil Nadu and Andhra Pradesh introduced it in 2006, and Maharashtra levied it much later in 2010.

More specialised taxation measures have also taken shape over the last few years. For eg., the New Delhi Government has created an 'Air Ambience Fund,' which will be funded by taxing sale of diesel at Rs. 0.25 per litre to support clean air policies.

More recently, initiatives towards the second generation of fiscal reforms are being discussed through court mechanisms or through legislative changes. For eg., Delhi High Court has questioned the

### Box 2.1: Green Tax of Himachal Pradesh

In a first of a kind initiative, a voluntary 'green tax' on vehicle users to generate a fund for combating climatic changes has been introduced by Himachal Pradesh. This environment fund will be utilised for environmental protection and for making it a carbon-neutral state. The tax has been designed to appeal to the duty conscious citizen to donate a certain amount on a regular basis towards the fund to compensate for damage caused due to carbon emissions. Unlike the environment tax imposed by law in other parts of the country, this green tax will be totally voluntary. The fund to be raised through tax will be managed by the state environment department.

*Source: Compiled from various news articles*

Delhi Government on the lack of an 'environment compensation charge' on polluting diesel vehicles and petrol driven cars.

## OPERATIONAL PROCEDURE

The Green Tax is generally applicable to vehicles in two categories - (a) Private vehicles that are older than 15 years (b) Commercial vehicles that are older than seven or eight years. The tax is levied when the vehicles are due

for re-registration. In some States, the tax is collected retrospectively since the year of its implementation.

The amount of tax levied varies from State to State. Andhra Pradesh appears to have the highest rate which is fixed at Rs. 1000 per annum for motorcycle and Rs. 5000 per annum for all other vehicles, be it private or commercial. The table below provides a comparison of the various rates of tax levied by different States.

TABLE 2.1: COMPARISON OF GREEN TAX RATES IN VARIOUS STATES

State	Private vehicles (15 years old) (in Rs. per annum)		Commercial vehicles (seven or eight years old) (in Rs. per annum)	
	Motorcycles	Other vehicles	Auto rickshaws	Other vehicles
Andhra Pradesh	1,000	5,000		5,000
Tamil Nadu	500 (for 5 years)	1,000 (for 5 years)	200	500
Maharashtra*	2,000 (for 5 years)	3,000 (petrol vehicles for 5 years) 3,500 (diesel vehicles for 5 years)	750 (for 5 years)	1,250 (for 5 years)
Rajasthan	250	500		200
Karnataka	250	500		200
Bihar	Under Bihar Vehicles Taxation Act, 1994 amendment, a green tax at the rate of ten per cent of the vehicle tax is payable by owners of registered commercial vehicles, which are over 12 years old (except three wheelers, tractors and trailers).			

*Source: Compiled from various news articles and official government websites.*

\* Refer Box 2.2 for a more detailed description of Maharashtra Green Tax structure.

### Box 2.2: Maharashtra's multi-tiered Green Tax structure

In Maharashtra, public and private vehicles, which are eight and 15-years-old, respectively will have to pay green tax between Rs. 200-400 every year. Tax on 15-year-old two-wheelers and cars running on petrol would be Rs. 2,000 and Rs. 3,000 for a period of five years, respectively and Rs. 3500 for diesel cars for the same period. Auto rickshaws with an eight year lifespan (15 years, for CNG autos) will be levied Rs. 750 as green tax for five years. All other commercial vehicles including four, five, and six-seater taxis for the same period would be levied Rs. 1,250. Heavy vehicles acting as passenger buses and goods carriers will be charged between 2.5-10% of the annual tax.

*Source: [http://www.dnaindia.com/mumbai/report\\_pollution-maharashtra-sees-red-okays-green-tax\\_1419016](http://www.dnaindia.com/mumbai/report_pollution-maharashtra-sees-red-okays-green-tax_1419016)*

## PERFORMANCE

Based on desk research, interviews with State Government officials, and Right to Information (RTI) queries that were filed by the Centre for Development Finance (CDF), IFMR, this section provides an overview of the performance and utilisation of Green Tax revenues.

A total of five RTI applications were filed with Departments relating to Transport portfolio of which some were further transferred to related departments for responses. RTI applications were actively followed up with phone call reminders to explain to the concerned officers about the nature and depth of information that was sought.

TABLE 2.2 – LIST OF RTI APPLICATIONS FOR GATHERING DATA ON GREEN TAX

Department	Date of filing	Information requested
Commissioner of Transport, Government of Andhra Pradesh	5 January 2013	Levy, collection and utilisation of green tax
Transport Department, Government of Bihar	2 January 2013	
Joint Commissioner for Transport (Environment & e-Governance), Government of Karnataka	31 January 2013	
Office of Commissioner of Transport, Govt. of Maharashtra	7 January 2013	
Assistant Secretary II - Joint Commissioner (Rules) State Transport Authority Government of Tamil Nadu	5 January 2013	

Source: RTI response received by study team

## REVENUE COLLECTED

The promulgation of Green Tax in Indian States has led to large revenue generation for the respective State Transport Departments. While very little official statistics are available online, according to press reports, several Crores of Rupees have been collected in tax revenues. For eg., Tamil Nadu, which has declared its tax collection on the TN Transport Department website, has generated over Rs. 125 Crores since the tax became operational in 2005-06.

Green Tax related matters pertain to the Finance Department since the revenue collected is parked with them. The Transport Departments of Maharashtra, Karnataka and Tamil Nadu have uniformly declared that no separate fund has been created to collect or centralise the revenue collected through the levy of Green Tax. In other words, no separate head of account has been created for the utilisation of the taxes; instead, all the taxes are remitted to the “Government Head of Account” – the exchequer.

TABLE 2.3: GREEN TAX COLLECTED BY OTHER STATES (IN RS. LAKHS)

State/Year	2009-10	2010-11	2011-12	2012-13
Karnataka	518.13	619.24	653.61	NA
Maharashtra	NA	1,182.30	4,226.80	2,408.99

Source: RTI applications

## STATUS OF UTILIZATION

Under Government of India’s Motor Vehicles Act and the various State legislation on motor vehicle taxation, the reason for the levy of Green Tax is “... for the purpose of implementation of various measures to control air pollution.” The measures could collectively include but are not restricted to setting up of vehicle

### Box 2.3: Green Tax collected year-wise in Tamil Nadu

Year	Revenue (in Rs. Crore)
2005-06	26.70
2006-07	11.73
2007-08	13.03
2008-09	17.19
2009-10	21.90
2010-11	27.76
2011-12	27.08

\*un-reconciled figure

Source: <http://www.tn.gov.in/sta/r1.pdf>

The table below provides information on total revenues collected from the Green Tax for other States for which data was available. The amount generated has steadily increased indicating the widened tax net and better infrastructure for collection leading to a large accumulation of funds.

inspection centre/an air quality testing centre, conducting awareness programmes to encourage use of clean fuel and better technology, establishing advanced vehicle testing station to issue or renew certificate of fitness, and undertake research on various methods and mechanisms to reduce pollution.

Currently, there is very little information available regarding the utilisation of the amount collected, which agency is responsible for the usage of this revenue, and whether the State Pollution Control Boards and Environment Departments have access to these funds.

As per the Supreme Court's directions <sup>2</sup>, and as per the Guidance of Environment Pollution (Prevention and Control) Authority (EPCA), New Delhi, various activities are being planned to lower the Respirable Suspended Particulate Matter (RSPM) levels in Chennai city. In addition, a High Level Committee (HLC), headed by the Chief Secretary, Government of Tamil Nadu, has been constituted by the Government of Tamil Nadu to monitor the implementation of the activities.

In one of the meetings of the High Level Committee, the Tamil Nadu Pollution Control Board (TNPCB) had sought directions on the utilisation of the revenue collected from Green Tax for activities of the TNPCB relating to air pollution and control. However, after some deliberations, the HLC could not provide any direction in this matter owing to the fact that there was no separate head of account under which the green tax revenue was parked <sup>3</sup>.

## RECOMMENDATIONS

Green Tax has a clear stated objective – to channelize the monies for prevention and control of air pollution. Guidelines for appropriate utilisation of the revenue collected from Green Tax should be established through a transparent and effective mechanism. A high-level inter-departmental coordination committee should discuss overlapping areas that impact air quality and the gaps in resources, so the funds can be effectively channelized for a holistic approach to air quality management. In addition, given the increasing importance of climate change in State level agenda, the overlap between air quality management and climate change mitigation should be explicitly mentioned and adequately addressed in the guidelines.

The more immediate concern seems to be one of governmental accounting procedures and hurdles to make the funds available for air quality work in the respective States. In addition, State Governments that are initiating a similar green tax structure are faced with prohibitive litigation.

With deteriorating urban air quality and its direct linkages to health and climate change impacts, this revenue stream, if tapped, becomes a major resource for States to catalyse action on air quality within a co-benefits framework.

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## MAHARASHTRA LOAD MANAGEMENT CHARGE



Picture courtesy – Savant Technologies: <http://www.savantit.com/energyefficiency.html>

*Government of Maharashtra introduced a load management charge for all industrial consumers, and residential and commercial users consuming beyond a certain limit of electricity. The amount thus collected was planned to be used for carrying out Energy Efficiency and Demand Side Management activities by the Utilities.*

## FRAMEWORK

### ORIGIN AND PURPOSE

Maharashtra Electricity Regulatory Commission (MERC) considered it necessary to influence consumer demand by load regulation through imposition of load management incentives and penalties on consumers who were not subjected to load shedding. This move was triggered by continued power shortages in the State, limited capacity of the distribution Utilities, limited availability of data to strategize and plan Energy Efficiency (EE) and Demand Side Management (DSM) programs, and the need to develop and implement EE and DSM measures. Accordingly, the MERC issued two sets of Orders, first in April 2005 and the second set of Orders in March and October 2006, directing imposition of a load management charge, if consumption was above a certain limit specified by the Commission and offering a load management rebate if the consumption was below the limit.

### INCIDENCE OF CHARGE AND REBATE

All residential and commercial users consuming more than 300 units per month in 2006 or 500 units per month in 2005 and all industrial consumers (irrespective of their level of consumption) in the Reliance Energy

Ltd. (REL), Brihan Mumbai Electricity Supply and Transport Undertaking (BEST) and Tata Power Company Ltd. (TPC) License area had to reduce their monthly electricity consumption to a level of 80% of their consumption in the corresponding month in the previous year. A “Load Management Charge” was applicable for consumption exceeding the 80% limit at the rate of additional 100% of the highest tariff chargeable to the respective category for 2006 / additional Re 1 per unit for 2005, and was included in the energy bill of the consumer for that month. The charges came into effect immediately and the Commission decided to assess the situation after a month to decide on the need for load shedding (MERC, 2006).

Similarly, any reduction in the monthly consumption below the 80% limit was incentivised with a “Load Management Rebate” at the rate of 50% of the normal chargeable rate to the units in the tariff slab for 2006 / Re 0.5 per unit for 2005, by adjusting the bill accordingly. Consumers receiving the rebate in 2005 had the same level of targets in 2006. Those who failed to achieve the targets in 2005 had the 80% target moved to 2006 as well.

There were certain exemptions to the Charge and the Rebate. These were not applicable to the operational

installations of following essential services: railways, water supply and sewerage systems operated by Government/local authorities, telephone exchanges, defence establishments, ports and harbours, meteorological observatories, hospitals, news agencies, TV and radio stations, posts & telegraphs, airports and atomic energy establishments.

In the case of consumers having Time of Day (ToD) meters, the above benchmark period Charge and Rebate were applicable only to consumption recorded from 1800 to 2200 hours. Also, this monthly consumption reduction target was not applicable to new consumers

and to old consumers who have changed their occupancy during the last one year (2006 Orders). In 2005, however, it was applicable to these consumers and reference period was the last billing period.

## CREATION OF FUND

The net amount collected as load management charge (total load management charge minus total load management rebate) is kept in a separate account by the Utilities and is used for carrying out energy efficiency and DSM activities.

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## PERFORMANCE

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### EFFECT ON CONSUMPTION

These Orders did not result in any noticeable reduction in consumption. In fact, the March and October 2006 Orders, because of very high levels of load management charges, caused severe hardships and imposed economic penalties on the consumers. Consumers were neither aware of the need for energy efficiency and energy conservation (EC) nor the measures to be taken to achieve them. Hence, they were unable to reduce their consumption below the limit prescribed by the Commission. Consequently, the Orders of March and October 2006, levying load management charges and offering load management rebates, were subsequently withdrawn in December 2006 (Review of Load Management Charges, 2006). In view of lack of consumer awareness, however, the Commission directed the distribution Utilities to increase consumer awareness about the need for EE and EC and the manner in which EE/EC can be brought about, by undertaking extensive consumer awareness campaigns. The earlier Order of 2005 was also withdrawn at a later stage and it was done in a phased manner on a one utility at a time basis.

### COLLECTION AND UTILIZATION STATUS OF THE FUND

One positive outcome of the load management charge and rebate strategy is that the April 2005 Order helped in collecting a net amount of Rs. 700 million (about US\$

17.5 million) (Palaniappan, 2008), which immediately became available to the Utilities to pursue EE/DSM related activities. Till date, the following activities have been carried out from the Fund (Deo, 2008):

- Compact fluorescent lamp (CFL) promotion pilot projects in Nashik and Mumbai. More than 0.85 million CFLs distributed under the pilot projects
- State level CFL promotion under Clean Development Mechanism
- Pilot project in Nashik involving capacitor installation on agricultural pumps
- Maharashtra Energy Development Agency's project on EE in rural water supply pumping and street lighting application
- "I will, Mumbai Will" energy conservation awareness campaign for Mumbai at a cost of US \$ 1.2 million
- Reliance Energy Ltd. and BEST pilot DSM programmes involving outlays of US \$ 1.38 million and US \$ 0.07 million, respectively
- DSM plan preparation and load research work undertaken by REL, BEST, and the Tata Power Company Ltd.

Some amount of funding (according to a petition<sup>4</sup> filed in 2006 the idle amount till then was Rs. 350 million i.e. half of what was collected) is still left with the respective Utilities and MERC has asked them to submit a plan on the EE/DSM activities to be supported from the Fund.

4 <http://www.kiritsomaiya.com/Power/press301106.doc>

## CONCLUSION

Levy of a load management charge is one of the many different instruments that can be used to promote energy conservation. Often, a particular policy instrument may not be effective and policymakers need to resort to a combination of instruments in order to be more effective in attaining this objective. In Maharashtra's case, the load management charge should have been complemented with other informational measures, like labelling schemes, information campaigns so as to reduce the search cost for the consumers. Products that are energy efficient look costlier upfront as the

consumers do not take into account the long-run energy savings while buying the product, but the consumers can be given the benefit of direct subsidies, tax credits or allowances so as to encourage the use of energy efficient products. Such direct subsidies have been given in a number of countries. Revenues raised from the load management charge can be redistributed to households and firms who suffer disproportionately from taxes (through tax credits, reduction in personal income tax etc.) and to subsidize energy efficient products and green innovative activities carried out by households and firms.

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## GUJARAT GREEN CESS ACT, 2011



Picture courtesy – Global Gujarat News: <http://english.globalgujaratnews.com/article/gujarat-industries-not-to-pay-green-cess-to-state-govt/>

*The Government of Gujarat has created a Green Energy Fund by levying a cess of Rs. 0.02/unit on generation of electricity from non-renewable sources. The revenue generated would be utilized for promotion of renewable energy sources. The Act has been mired in controversy since its inception. However, a recent Supreme Court judgement in favour of the cess might finally show it the light of day.*

## FRAMEWORK

### ORIGIN

In March, 2011, the Gujarat Government introduced a cess of Rs. 0.02 per unit on generation of electricity from non-renewable sources generated by power firms at the generation station or at the captive generating plant (Harikumar, 2011). A Collector and an Inspector, appointed by the State Government, would be responsible for collecting the cess throughout the State. The proceeds of the cess, interest and penalty recovered under this Act are first credited to the Consolidated Fund of the State. After deducting the collecting expenses, the amount is transferred to a separate fund called the Green Energy Fund.

### PURPOSE

The Green Energy Fund is under the control of the State Government and would be used for the following purposes: a) promoting the generation of electricity through renewable sources; b) purchase of non-conventional energy; and c) taking initiatives for protection of the environment in the State. The State Government also has the authority to allocate and disburse sums from the Fund to relevant Departments for achieving the objectives of the Act (Gujarat Green Cess Act, 2011).

### INCIDENCE OF CESS

The cess applies to all public and private enterprises that generate electricity in the State, including industries that generate power for their own captive use. The following two categories of power producers are exempted from paying the cess: a) producers generating power from renewable sources (solar, wind, bio-energy, liquid and solid waste, hydro power plants, bagasse and agro waste); b) generating companies having aggregate installed capacity of less than 1000 KWs. Companies that produce electricity within the State have to register irrespective of whether the electricity is consumed within or outside the State.

### OPERATIONAL PROCEDURE

The generating companies should have generating meters and panels installed within their premises to facilitate inspection. Moreover, they have to keep and maintain monthly books of accounts containing nature, quantity and calorific value, rate and total value of fuel used. The Collector would assess cess, interest (for delayed payment, not exceeding 18% per annum), and penalties on biannual or annual basis depending upon the size of the power plant. Generating companies can apply for refund of the excess amount of cess paid. (Gujarat Green Cess Rules, 2011).

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## PERFORMANCE

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### CURRENT STATUS

The Green Cess has been opposed by major industrial players in Gujarat, such as Nirma Ltd, Essar Power, Reliance Industries, Tata Chemicals Ltd, Arvind Ltd, Philips Carbon Black Ltd, United Phosphorus Ltd and others, challenging the constitutional validity of the tax. In May 2012, these companies filed petitions in the High Court contending that the State is not competent to levy cess on generation of electricity since it comes under the 'Union List,' and that the Parliament has exclusive legislative competence in this respect by virtue of Entry 84 in List I of Schedule 7 of the Constitution of India. It was also held by the court that electricity was "goods" and the State could levy tax on the sale and consumption of electricity but could not levy cess on the production of electricity (Balan, 2012). All the companies filing petitions were granted interim relief from the cess by the High Court via notification released in December 2012 (Special Civil Application, 2012).

#### *High Court Judgement*

In an order issued by Gujarat High Court in January 2013, it has provided oral judgement on this matter. It has asked the State Government to refund the cess

already paid by the petitioners. It also clarified that any further action taken for collection of cess under this Act would be invalid. The request of the respondents (State government) to stay this judgement was rejected on the ground that it would not serve any useful purpose (Special Civil Application, 2013).

#### *Supreme Court Judgement*

The Supreme Court in July 2013 stayed the Gujarat High Court judgement on quashing the Green Cess. It even allowed the State Government to compute the Green Cess on industries that generate power for captive use, but not to recover dues till the appeal is pending (Paliwal, 2013). The State Government maintained that public health is a State subject and therefore, it is empowered to legislate on the subject. It was added that generating stations in Gujarat using conventional sources pollute the atmosphere and environment and thereby, cause injury to public health. However senior advocates requested the Court to distinguish between commercial producers and those generating to run their own units without selling it to consumers for a profit (SC stays Gujarat HC judgement quashing Green Cess Act, 2013).

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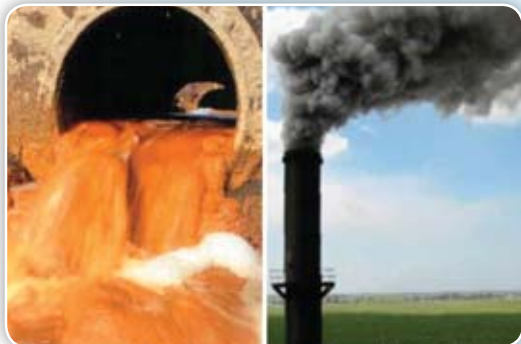
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## GOA CESS ON PRODUCTS AND SUBSTANCES CAUSING POLLUTION (GREEN CESS) ACT, 2013



Picture courtesy – Law is Greek: <http://www.lawisgreek.com/environment-pollution-hazardous-substances>

*The Government of Goa introduced a cess on polluting products and substances including hazardous materials. The consolidated fund will be utilized to reduce the carbon footprint of the State. With the potential to generate significant revenues, the performance of the fund remains to be seen.*

### FRAMEWORK

#### ORIGIN AND PURPOSE

Government of Goa implemented the Green Cess Act in May 2013. The Act facilitates levy and collection of cess in order to reduce the carbon footprint caused due to various products and substances, including hazardous materials. The cess will be credited to the 'consolidated fund' and will be utilized for undertaking measures to reduce the carbon footprint, through schemes finalized by the Government. (Official Gazette - Government of Goa 2013).

#### INCIDENCE AND RATE OF CESS

The cess is levied following the 'polluter pays' principle. Polluting substances are carried to the State of Goa and later transported to neighbouring States for utilization. Goa becomes a transit point and the materials cause environmental pollution and greenhouse gas emissions. The Act seeks to provide for levy and collection of cess on the products and substances, which upon their handling, consumption, utilization, transportation, combustion or movement, cause pollution to the environmental resources of Goa.

The rate of the cess, to be specified by the Government, would not exceed two percent of the sale value of the products and/or substances. It would be collected from every person carrying out the above mentioned activities

with the substances. Failure to comply will be punished with a fine not exceeding Rs. 1 lakh.

The Act also bars courts from any kind of interventions. It states that courts would not have jurisdiction in any matter relating to the Government charging the cess, and that courts can't even grant an injunction in respect of the levying of the cess or the penalty (Law to make the polluter pay - Polluters will see red over the Green cess 2013).

#### REVENUE POTENTIAL AND UTILIZATION OF FUNDS

The cess is expected to contribute between Rs. 100 Crore to Rs. 120 Crore to the treasury annually. The import of coal itself, which amounts to about 10 million tonnes per year, is expected to contribute about Rs. 75 crore annually (Green cess to help state treasury grow by Rs 120 Cr 2013).

The Act has a provision to appoint a competent authority and constitute an environment and energy audit bureau. The audit bureau will identify sensitive areas of energy and environment conservation. It will also recommend appropriate measurers for reducing carbon footprint and suggest measures for deriving benefits under carbon credit trading and related matters in the State (Govt introduces Green Cess Bill in assembly 2013).

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