

**Pearl River Delta Regional Air Quality Management Plan
Enhanced Control Measures of the HKSAR**

Measures	Implementation Programme	Progress (Up to 30.11.2010)
Encourage replacement of diesel light buses with ones using clean fuel	Since 2002, the Government has offered incentives to diesel light bus owners to encourage replacement of diesel light buses with liquefied petroleum gas (LPG) or electric ones.	<p>The incentive scheme was introduced in August 2002 and completed by 31 December 2005.</p> <p>As at the end of November 2010, there were 2,795 public LPG light buses, accounting for approximately 64% of the entire public light bus fleet.</p>
Require retrofitting of particulate removal devices on pre-Euro diesel vehicles (Item completed)	With effect from 1 April 2007, pre-Euro diesel vehicles have to be installed with approved particulate removal devices.	<p>Financial assistance was provided in phases from December 2002 to December 2005 to retrofit pre-Euro heavy-duty diesel vehicles with catalytic converters. All together, about 36 500 eligible vehicles were installed with catalytic converters.</p> <p>Since April 2006, all pre-Euro heavy-duty diesel vehicles (including franchised buses), except those operate under long-idling situations (including lorries with cranes mounted, concrete mixers, pressure tankers and gully emptiers), were required to be installed with approved emission reduction devices. This requirement was extended to the “long-idling” vehicles since April 2007.</p>
Retrofit Euro II and Euro III franchised buses with selective catalytic reduction devices	To study the feasibility of retrofitting Euro II and Euro III franchised buses with selective catalytic reduction devices	The Government proposed in 2010-2011 Policy Address to fund a trial to ascertain the feasibility of retrofitting Euro II and Euro III franchised buses with selective catalytic reduction devices to reduce emissions of nitrogen oxides from the franchised bus fleet. Subject to satisfactory trial results, the Government proposes to fund the capital costs for installing selective catalytic reduction devices to Euro II and Euro III franchised buses.

Measures	Implementation Programme	Progress (Up to 30.11.2010)
<p>Encourage vehicle owners to replace pre-Euro and Euro I commercial diesel vehicles with Euro IV models</p> <p>(Item completed)</p>	<p>A financial incentive scheme was introduced in the second quarter of 2007.</p>	<p>The Government has offered a one-off grant for the period of 1 April 2007 to 31 March 2010 to vehicle owners to encourage the early replacement of pre-Euro and Euro I diesel commercial vehicles with new ones which comply with the statutory emission standards for newly registered vehicles (which is now the Euro IV emission standards).</p> <p>From the introduction to completion of the scheme, the number of on-road pre-Euro and Euro I diesel commercial vehicles has decreased from about 59 000 in 2007 to 36 000 (i.e. by about 40%).</p>
<p>Encourage vehicle owners to replace Euro II commercial diesel vehicles with Euro IV models</p>	<p>A financial incentive scheme was introduced in July 2010.</p>	<p>From 1 July 2010 till 30 June 2013, the Government will provide a one-off grant to vehicle owners to encourage the early replacement of Euro II diesel commercial vehicles with new ones compliant with the prevailing statutory emission standard (which is now the Euro IV emission standard).</p>
<p>Encourage members of public to use environmentally friendly private petrol vehicles</p>	<p>With effect from 1 April 2007, a 30% reduction in the First Registration Tax (FRT) was offered to the purchasers of environment-friendly private petrol vehicles, subject to a cap of \$50,000 per vehicle.</p>	<p>A total of 16,699 environment-friendly private petrol vehicles were approved under the scheme (as at the end of November 2010).</p>
<p>Encourage use of environment-friendly commercial vehicles</p>	<p>With effect from 1 April 2008, a reduction in First Registration Tax would be offered to the purchasers of environment-friendly commercial vehicles.</p>	<p>A total of 1,303 environment-friendly commercial vehicles were approved under the scheme (as at the end of November 2010).</p>

Measures	Implementation Programme	Progress (Up to 30.11.2010)
Encourage the use of electric vehicles	To promote the use of electric vehicles (EVs) in Hong Kong through a series of measures from 2009.	<p>The First Registration Tax for EV is waived for a period of 5 years till March 2014.</p> <p>The Government took the lead in procuring its first batch of 10 Mitsubishi i-MiEVs in August 2009. To facilitate further adoption of EVs in Hong Kong, the Government signed a cooperation framework agreement with Nissan Motor in July 2010 for advance supply of EVs to the Hong Kong market.</p> <p>The two local power companies will launch an electric vehicle leasing scheme soon, so that a wider section of the community may gain access to EV driving experience.</p>
Encourage the use of zero emission or the more environment-friendly franchised buses	To test the operational efficiency and performance of hybrid buses.	In the 2010-2011 Policy Address, the Government proposed to fund the full cost of procuring six hybrid buses for use by the franchised bus companies along busy corridors to test out their operational efficiency and performance. When the current bus franchises expire in the coming few years, the Government will impose additional requirements in the franchises for bus companies to switch to zero emission buses or the most environment-friendly buses when replacing existing ones, taking into account feasibility and affordability for bus operators and passengers.
Require drivers to switch off idling vehicles with running engines	Subject to the passage of the Motor Vehicle Idling (Fixed Penalty) Bill, to implement the ban on idling vehicles with running engines as soon as possible.	The Motor Vehicle Idling (Fixed Penalty) Bill was introduced to the LegCo in April 2010. The relevant Bills Committee of LegCo is scrutinizing the Bill.

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Strengthen control of emissions from petrol and LPG vehicles	To consult stakeholders on proposals to strengthen the control of emissions, including the use of roadside remote sensing device and chassis dynamometer for emission testing.	The Government will put forward a proposal to consult the stakeholders in 2011.
Tighten emission standard for in-use diesel vehicles	To study the further tightening of dark smoke emission standard for in-use diesel vehicles.	The Government is studying the matter, and aims to consult the transport trade by end 2011..
Enhance vapour recovery systems in petrol filling stations (Item completed)	The Air Pollution Control (Petrol Filling Stations) (Vapour Recovery) Regulation was amended in 2004 to require the recovery of petrol vapour emitted during vehicle refuelling at petrol filling stations, with effect from 31 March 2005.	Since 31 March 2005, all newly built petrol filling stations have to be installed with vapour recovery systems. Since 31 March 2008, all petrol filling stations have been retrofitted with such systems to recover petrol vapour emitted during refuelling.
Tighten motor fuel standard	<p>The motor fuel standard was tightened to the Euro IV standard by 2005 (the motor diesel standard has already been tightened to the Euro IV standard since 2002).</p> <p>(Item completed)</p>	The Euro IV petrol standard came into effect on 1 January 2005.
	<p>To introduce the supply of motor vehicle fuels meeting the Euro V standard.</p> <p>(Item completed)</p>	The Euro V motor vehicle fuel (including diesel and unleaded petrol) standard came into effect on 1 July 2010.

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	<p>To develop specifications and regulations on the use of biodiesel as vehicle fuel in Hong Kong.</p> <p>(Item completed)</p>	<p>The regulatory control on motor vehicle biodiesel came into effect on 1 July 2010. The regulation sets out the specifications for pure motor vehicle biodiesel and the requirements for motor vehicle biodiesel blends. It also requires that labels be posted at the selling points if the biodiesel content in a motor vehicle biodiesel blend exceeds 5%.</p>
<p>Tighten emission standard for newly registered vehicles</p>	<p>The Euro IV emission standard was adopted since 2006. (Item completed)</p>	<p>The Euro IV emission standard was introduced on 1 January 2007 for all newly registered vehicles.</p>
	<p>To follow the European Union in adopting the Euro V motor vehicles standard for tailpipe emissions.</p>	<p>The Government has been providing tax concessions on purchases of Euro V commercial vehicles since April 2008. Given the current supply situation of these vehicles in Hong Kong, we are not yet ready to follow EU to tighten the vehicle emission standard to Euro V level. The Government will keep in view the vehicle supply situation and tighten the emission standard as soon as practicable.</p>
<p>Designate pilot low-emission zones</p>	<p>To examine the feasibility of setting up pilot low emission zones at busy corridors to restrict franchised buses with high exhaust emissions from entering the zone.</p>	<p>The Government plans to designate pilot low emission zones in busy districts such as Causeway Bay, Central and Mongkok. It aims to increase as far as possible the ratio of low-emission franchised buses running in these zones starting from fiscal year 2011-12 and that only low-emission buses will run in these zones at 2015.</p>
<p>Use of cleaner fuels by ferries</p>	<p>To look into the use of cleaner fuels by local ferries.</p>	<p>The Government launched a trial of local ferries using ultra low sulphur diesel (sulphur content not more than 0.005%) in August 2009, and the trial was completed in July 2010. The Government is analysing the trial findings so as to map out the best way forward for reducing emissions from local ferries.</p>

Measures	Implementation Programme	Progress (Up to 30.11.2010)
Control emissions from non-road mobile sources	To draw up a scheme to control the emissions of non-road mobile sources in light of the outcome of the consultation with the trades, with a view to starting the legislative proceedings in 2011.	The Government has drawn up a proposal on the control scheme. Consultation with the trades was completed in July 2010. The proposed control scheme is being reviewed in light of outcomes of the consultation.
Reduce volatile organic compounds (VOC) emissions from printing process, paints and consumer products	<p>To introduce legislation in 2004 or 2005 to require the labeling of VOC content on VOC products.</p> <p>(Item completed)</p> <p>Legislation will then be introduced in phases to reduce the use of products with high VOC contents and to impose emission standards for the printing process.</p>	<p>Since 1 April 2007, the Government has enforced the Air Pollution Control (Volatile Organic Compounds) Regulation in phases to restrict the VOC content of architectural paints/coatings, printing inks and six major types of selected consumer products (i.e. air fresheners, hairsprays, multi-purpose lubricants, floor wax strippers, insecticides and insect repellents). Lithographic heatset printing machines are also required to be installed with emission control devices.</p> <p>The Regulation was amended on 14 October 2009 to extend the control to adhesives, sealants and vehicle refinishing paints, as well as vessel and pleasure craft paints. These additional control measures have been introduced in phases since 1 January 2010.</p>

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Reduce emissions from power stations	<p>Effective and flexible mechanisms will be set up to control the total emissions of sulphur dioxide (SO₂), nitrogen oxides (NO_x) and respirable suspended particulates (RSP) from power stations to achieve respective reduction targets by 2010.</p>	<p>CLP Power Hong Kong Limited (CLP) has been installing desulphurization (FGD) systems and denitrification systems for four of its coal-fired generating units, each of 677MW. The emission reduction systems for two of the units are now on trial run, while those for the remaining two units will be commissioned in 2011. In addition, CLP has been increasing the use of ultra low sulphur coal. Hong Kong Electric Co. Ltd. (HEC) also installed low-NO_x burners and FGD systems for two of its coal-fired generating units, each of 350MW; and a FGD system for a coal-fired generating unit of 250MW. All of HEC's installation works were completed in March 2010.</p> <p>HEC commissioned its first natural gas generation unit of 335MW in October 2006.</p>
	<p>To control total emissions from power plants and allow emission trading.</p> <p>(Item completed)</p>	<p>Since August 2005, emission caps have been set and tightened progressively during the renewal of Special Process Licences (SPLs), with a view to reducing emissions for achieving the 2010 reduction targets.</p> <p>The Air Pollution Control (Amendment) Ordinance 2008 was enacted in July 2008. It provides for stipulating the emission caps for the power plants in Hong Kong in 2010 and beyond in the Technical Memorandum for Allocation of Emission Allowances in respect of Specified Licences. Power plants are also allowed to conduct emission trading as an alternative means for compliance with the emission caps.</p> <p>The Government promulgated the first Technical Memorandum for Allocation of Emission Allowances in respect of Specified Licences in December 2008. It provides a clear statutory framework for imposing the respective 2010 emission caps on the power companies.</p>

Measures	Implementation Programme	Progress (Up to 30.11.2010)
	To further reduce power plant emissions at 2015 and beyond	<p>The Government has completed a review of the emission caps on power plants, recommending a substantial reduction in the emission of three air pollutants (i.e. sulphur dioxide -50%, nitrogen oxides -35% and respirable suspended particulates -34%) from the power generation sector by 2015 and beyond, thereby further improving regional air quality.</p>
	To promote the wider use of clean energy.	<p>The Memorandum of Understanding (MOU) signed between the Government and the National Energy Administration on 28 August 2008 ensures a continuous supply of nuclear electricity and natural gas to Hong Kong in the coming two decades, with a view to promoting wider use of clean fuels and reducing emissions from power plants. After signing the MOU, the Government and the energy enterprises on both sides have followed up on the implementation of the MOU. The Shenzhen-Hong Kong spur line of the Second West-East Natural Gas Pipeline and the liquefied natural gas (LNG) terminal in Shenzhen to be jointly constructed by energy enterprises of both sides are anticipated to be completed in 2013.</p> <p>In September 2009, the Government gave approval to CLP to extend the contract for supply of nuclear electricity from Daya Bay Nuclear Power Station (Daya Bay) for another term of 20 years from 7 May 2014 to 6 May 2034.</p> <p>HEC commissioned its first commercial scale wind turbine power generation unit of 800kW in Hong Kong in February 2006.</p> <p>CLP was granted with an Environmental Permit in August 2009 for its off-shore wind farm proposal off Sai Kung, while HEC was also granted with an Environmental Permit in June 2010 for their off-shore wind farm project off Lamma</p>

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		<p>Island.</p> <p>In July 2010, HEC installed a 550 kW solar thin-film photovoltaic system.</p>
<p>Reduce emissions from industrial and commercial processes</p> <p>(Item completed)</p>	<p>To mandate the use of ultra-low sulphur diesel (ULSD) in industrial and commercial processes.</p>	<p>LegCo passed the Air Pollution Control (Fuel Restriction) (Amendment) Regulation, which came into effect on 1 October 2008.</p>
<p>Enhance energy efficiency of buildings</p>	<p>To introduce mandatory implementation of the Building Energy Codes (BEC).</p> <p>(Item completed)</p>	<p>The Government introduced a Bill for the mandatory implementation of BEC to Legislative Council in early December 2009. The Bill was passed by the Legislative Council on 24 November 2010.</p>
	<p>To implement a comprehensive target-based green performance framework for government buildings.</p> <p>(Item completed)</p>	<p>The Government issued an internal circular in April 2009 on the implementation of a comprehensive target-based environmental performance framework in government buildings. Targets on various aspects of environmental performance have been set for new and existing government buildings. The Government will continue to implement this target-based framework and promote energy saving in government buildings.</p>
<p>Mandatory Energy Efficiency Labelling Scheme</p>	<p>To launch the Mandatory Energy Efficiency Labelling Scheme.</p>	<p>The initial phase of the Mandatory Energy Efficiency Labelling Scheme, which covers three types of products including room air conditioners, refrigerating appliances and compact fluorescent lamps, came into operation in November 2009.</p> <p>The second phase of the scheme, which extended its coverage to washing machines and dehumidifiers, commenced in March 2010 with a grace period of 18 months.</p>

Measures	Implementation Programme	Progress (Up to 30.11.2010)
Encourage and facilitate adoption of cleaner production technologies and practices	A five-year programme to be launched to give professional and technical support to Hong Kong-owned factories in the Pearl River Delta (PRD) Region to adopt cleaner production technologies and practices.	<p>Working with the Guangdong Provincial Economic & Trade Commission (now the Economic & Information Commission of Guangdong Province) and major Hong Kong industry associations, the Government launched the “Cleaner Production Partnership Programme” on 18 April 2008 to encourage and facilitate Hong Kong-owned factories in the PRD Region to adopt cleaner production technologies and practices.</p> <p>The Government and the Economic & Information Commission of Guangdong Province jointly launched the Hong Kong-Guangdong Cleaner Production Partners Recognition Scheme on 28 August 2009. The Scheme aims to recognize those Hong Kong-owned factories that have performed well in this area, and to encourage them to continue to pursue cleaner production.</p>

**Pearl River Delta Regional Air Quality Management Plan
Enhanced Control Measures of the Guangdong Provincial Government**

Measures	Implementation Programme	Progress (Up to 30.11.2010)
Use cleaner energy	To reduce gradually the energy consumption per 10,000 Yuan GDP. To establish by 2010 a diversified energy production and supply system that is safe, stable, economical, efficient and clean.	<p>The energy consumption per 10,000 Yuan GDP of Guangdong for 2009 was 0.684 tons of standard coal equivalent, down 4.27% as compared with that in 2008. The energy consumption per Industrial Added Value of Guangdong was 0.809 tons of standard coal equivalent, down 6.94% as compared with the 2008 level.</p> <p>To reduce reliance on more polluting fuel like coal and oil, Guangdong is developing two new natural gas projects apart from the Guangdong Liquefied Natural Gas (LNG) Project –</p> <ul style="list-style-type: none">(a) CNOOC Zhuhai Natural Gas Pipeline Project, with a capacity of about 1.19 million tonnes/year, utilizes natural gas from the South China Sea since February 2006; and(b) Zhuhai LNG Receiving Station Project, with a capacity of 3 million tonnes/year for Phase I, is expected to be commissioned partially by 2010. <p>The power plants that have been converted to the use of natural gas as fuel include Zhongshan Hengmen Power Plant, Zhuhai Hongwan Power Plant (since February 2006) and Shenzhen Nanshan Power Plant (since April 2007). (Item completed)</p>

Measures	Implementation Programme	Progress (Up to 30.11.2010)
	<p>To construct natural gas trunk pipeline and the associated works. To complete Phase I in 2005 that will have a capacity of 3 million tonnes/year. In 2009, to complete Phase II that will increase the total capacity to 7 million tonnes/year and finish construction of a number of natural gas power plants.</p> <p>(Item completed)</p>	<p>The capacity of Guangdong LNG Project Phase I has been expanded from 3 million tonnes/year to 3.7 million tonnes/year and gas supply was started in mid 2006. Phase II with total capacity expanded to 7 million tonnes per year was also completed by end 2009.</p> <p>Four newly built natural gas power plants (with a total of 11 generating units) have all been commissioned in 2006 and 2007. Residents in Shenzhen, Guangzhou, Dongguan and Foshan can also use natural gas supplied through pipeline network.</p>
	<p>To improve by 2005 the 500KV dual circuit annular core transmission grid to ensure transmission of electricity from western provinces.</p> <p>(Item completed)</p>	<p>The five AC and three DC main transmission channels from western provinces have been completed.</p>
	<p>To rationalize the distribution of new power stations. Apart from proper construction of generating units for combined heat and power supply and those thermal power plant projects which have been reported to the State for planning and building, no more new coal-fired and oil-fired power plants will be planned for building in the PRD region.</p>	<p>Being implemented.</p>
	<p>To gradually enlarge the scale of electricity transmission from western provinces to Guangdong.</p>	<p>Being implemented.</p>

Measures	Implementation Programme	Progress (Up to 30.11.2010)
Control sulphur content of fuel	<p>To control the use of high sulphur fuel (sulphur content of coal and fuel oil should be below 0.8% in the acid rain control zone by 2005).</p> <p>(Item completed)</p>	<p>The measure was implemented.</p> <p>By 2010, enterprises which have not installed desulphurization system would have their fuel sulphur content controlled at below 0.7% for coal and below 0.8% for fuel oil. Those not meeting the limits would need to use sulphur fixing agents or sulphur removal agents.</p>
Reduce emissions from coal-fired and oil-fired power stations	<p>To phase out small-scale thermal power generating units. Power plants with a capacity equal or above 300 MW to account for over 70% of the total installed capacity in the region in 2005, which is 35% higher than that in 2000.</p>	<p>The Guangdong Provincial Government announced its plan in March 2007 to close down small thermal power generating units with a total capacity of 9,660MW in the Province by the end of 2010, including those with a total capacity of about 7,100 MW in the PRD Economic Zone [Units of about 1,600 MW closed down in 2007, 3,600 MW in 2008 and 1,900 MW in 2009 (Annex C).] As at end 2009, small thermal power generating units with a total capacity of 12,090 MW in the Province had been closed down.</p>
	<p>To install FGD systems at the power plants in Shajiao, Huangpu, Taishan and Zhuhai by 2005.</p> <p>(Item completed)</p>	<p>In 2008, generating units installed with FGD systems have increased by a capacity of 3,800 MW, amounting to a total capacity of 27,800 MW. Large scale thermal power generating units in Guangdong have all been equipped with FGD.</p>
	<p>To require all oil-fired and coal-fired generating units of capacity above 125MW to be equipped with FGD systems by 2007.</p> <p>(Item completed)</p>	

Measures	Implementation Programme	Progress (Up to 30.11.2010)
	<p>To require all coal-fired and oil-fired power plants to adopt low nitrogen oxides (low-NOx) combustion technologies in case of alteration or expansion.</p> <p>(Item completed)</p>	<p>Low-NOx combustion technologies have already been required at all units in case of alteration or expansion.</p>
	<p>To require all coal-fired and oil-fired power plants under construction, alteration or expansion to install flue gas denitrification systems.</p>	<p>Being implemented.</p>
	<p>To promote the installation of low-NOx combustion device at existing coal-fired and oil-fired power plants.</p>	<p>Being implemented.</p>
	<p>To study the feasibility of installing flue gas denitrification systems for existing power plants.</p>	<p>Development and Reform Commission of Guangdong Province has issued the relevant policy document and notification on the need for existing power plants to install denitrification systems.</p>
	<p>To require all power plants under construction, alteration or expansion to install FGD equipment, particulate removal devices and automatic continuous emissions monitoring system.</p> <p>(Item completed)</p>	<p>The measure was implemented.</p> <p>The existing coal-fired generating units of capacity above 125MW had put in place continuous emissions monitoring system (CEMS) by end 2008, with a view to allowing the relevant authorities to have instant on-line access to the CEMS data.</p>
	<p>To enhance technological improvements of existing power plants and to implement cleaner production. Newly built power plants have to meet the advanced standard on cleaner production in the country.</p> <p>(Item completed)</p>	<p>The measure was implemented. New power plants in the region have adopted the new power plant emission standard.</p>

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	<p>To materialize the subsidization policy for thermal power plants to desulphurize by giving concessions, support and assistance in land acquisition for desulphurization systems and import of essential equipment so as to facilitate the full implementation of desulphurization projects.</p> <p>(Item completed)</p>	<p>From 1 July 2006, power plants with desulphurization system receive extra RMB 1.5 cents per unit when the electricity is sold to the power grid.</p>
	<p>To offer better sales terms (e.g. higher rates and grid connection priority) to power plants that are equipped with FGD and denitrification systems.</p>	<p>Extra RMB 1.5 cents per unit and grid connection priority have been offered to power plants with FGD systems.</p> <p>Better sales terms for power plants with denitrification systems are under preparation.</p>
	<p>To establish a province-wide quota administration system for total emissions of SO₂ and to study the emissions trading mechanism of SO₂.</p>	<p>Being implemented.</p>
	<p>To implement more stringent air pollutant emission standards for thermal power plants.</p> <p>(Item completed)</p>	<p>The new “Guangdong Emission Standards of Air Pollutants for Thermal Power Plants” has been implemented to further tighten the air pollutant emission standards since August 2009.</p>
<p>Control emissions from industrial boilers and industrial processes</p>	<p>To phase out coal-fired boilers with a capacity of less than 2 tonnes/hour in the urban areas of cities. By 2005, to stop using such coal-fired boilers in build-up areas of key cities. To require all large and medium-size industrial boilers to install desulphurization systems or adopt clean combustion technologies to reduce emissions.</p>	<p>The operation of coal-fired boilers of less than 2 tonnes/hour has been largely phased out in the urban areas of cities in the region. Removal devices for particulates must be installed onto all industrial boilers. Restaurants located in sensitive areas and those having major impact on public livelihood must be installed with devices to purify cooking fumes.</p>

Measures	Implementation Programme	Progress (Up to 30.11.2010)
	<p>To phase out all coal-fired boilers with a capacity of less than 4 tonnes/hour, as well as coal-fired boilers which are less than 10 tonnes/hour in capacity and in use for more than eight years.</p> <p>[Item completed]</p>	<p>As at 31 October 2010, a total of 8,039 industrial boilers in the region have been phased out or retrofitted.</p>
	<p>To tighten emission standards for local boilers by 2010, so as to reduce emissions from industrial boilers and other boilers (e.g. commercial boilers).</p> <p>[Item completed]</p>	<p>The Guangdong “Emission Standard of Air Pollutants for Boilers” was released and came into force on 1 November 2010.</p>
	<p>To continue phasing out various production technologies and installations that have caused serious pollution by emitting SO₂, smoke and particulates.</p>	<p>To implement on a mandatory basis a system to phase out enterprises, various production technologies and installations that have caused serious pollution.</p> <p>In principle, no construction of new cement plants and extension of cement plants will be planned in the PRD Region. Future development will focus on projects of new dry-type cement plant with daily production capacity of more than 4,000 tonnes. Projects of new dry-type rotary kiln cement plant with daily capacity of 2,500 tonnes and below will be prohibited.</p> <p>Programmes are being implemented to phase out high energy consuming and highly polluting cement plants, production lines of vertical kilns, dry hollow kilns, Lepol kilns and wet process kilns.</p> <p>The relocation project of Guangzhou Cement Plant, completed by end 2005, was estimated to reduce particulate emissions in the Region by</p>

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		<p>approximately 3,000 tonnes/year.</p> <p>Some cement production units located in Sanshui area in Foshan City were closed down by the end of 2007. All existing vertical kiln cement production units were closed down by the end of 2008.</p> <p>Guangdong announced in January 2008 a plan to phase out all serious polluting cement plants in the province with a total production capacity of 38 million tonnes by 2010. Of these, a total production capacity of 28.53 million tonnes is located within the PRD Economic Zone (Annex D). As at the end of September 2010, Guangdong had phased out cement plants with a total production capacity of 57 million tonnes.</p> <p>Guangdong announced in October 2007 a plan to phase out iron and steel plants (a total production capacity of 16 million tonnes) (Annex E) by end 2010. As at the end of September 2010, Guangdong had phased out iron and steel plants with a total production capacity of more than 11.64 million tonnes.</p>
	<p>To actively study the technologies for controlling emission of NOx from stationary sources such as power plant boilers, industrial boilers and restaurant boiling water furnaces.</p>	<p>Emission of NOx from stationary sources such as electricity station boilers, industrial boilers and restaurant boiling water furnaces will be under control in 2010.</p>

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	<p>Location and planning of industries causing serious pollution will be strictly determined and administered centrally. The system of environmental assessment of construction projects will be enhanced.</p>	<p>Being implemented.</p>
	<p>To require all cement, ceramic and sheet glass manufacturing enterprises in the PRD region to install highly effective dust extractors and desulphurization systems.</p> <p>[Item completed]</p>	<p>All cement, ceramic and sheet glass manufacturing enterprises in the PRD region had been equipped with highly effective dust extractors and desulphurization systems by 30 September 2010.</p>
	<p>To draw up the Guangdong “Emission Standard of Air Pollutants for Cement Industry”.</p> <p>[Item completed]</p>	<p>The Guangdong “Emission Standard of Air Pollutants for Cement Industry” came into force on 1 November 2010.</p>
	<p>For industrial sectors such as petrochemicals, steel, non-metallic mineral products, paper and paper products, textile and dyeing, technological improvement at existing enterprises will be enhanced and cleaner production will be implemented. New projects have to meet the advanced standard on cleaner production in the country.</p>	<p>Being implemented.</p>

Measures	Implementation Programme	Progress (Up to 30.11.2010)
Reduce the emission of VOC	To replace by 2003 paints using VOCs with xylene as the main solvent.	Completed. Since 1 January 2006, all water-based paints and adhesives are required to comply with the technical requirement of environmentally friendly products. All water-based paints and adhesives bearing an environmentally friendly label have to comply with the VOC content limit.
	To draw up VOC emission standards for furniture manufacturing, printing, surface coating (automobile manufacturing) and shoe-making industries. [Item completed]	The four standards came into force on 1 November 2010.
	Initiate tasks for vapour recovery at petrol filling stations, tanker trucks and oil depots. To fully implement motor fuel vapour emission standard for all oil depots, tanker trucks and petrol filling stations. [Item completed]	Guangdong announced in March 2008 a plan to complete vapour recovery work at oil depots, tanker trucks and petrol filling stations in the major PRD cities by end 2010. Since 2009, the work plan for installing vapour recovery systems at petrol filling stations, oil depots and tanker trucks is being implemented in phases. The installation work in PRD region was completed on 31 October 2010, covering 2,097 petrol filling stations, 57 oil depots and 809 tanker trucks in total..
Reduce tailpipe emissions from motor vehicles	To commence the construction of a regional rapid light-rail system by 2005. To construct expressways in major cities, such as the district expressway in Southern Guangzhou and the Shenzhen-Shenping Express Trunk Road.	Phase I of Shenzhen-Shenping Express has been commissioned. Rail system between Guangzhou and Zhuhai started construction in December 2005. The system, 144km in length with a maximum speed of 200km/hr, is expected to be completed by 2009.

Measures	Implementation Programme	Progress (Up to 30.11.2010)
	<p>To develop green transport by implementing clean vehicle action programmes in major cities of the region. To encourage the use of clean fuels, develop electric vehicles, actively promote the use of advanced clean fuel motor vehicles and step up the development of public transport.</p>	<p><u>Shenzhen</u></p> <ul style="list-style-type: none"> - Formulated the “Medium to Long Term Planning for the Development of Clean Vehicles in Shenzhen”. - Drew up and implemented the 2003-2008 general work programme for the use of clean fuel in public transport vehicles. - The National III emission standard has been implemented ahead of schedule for newly purchased public transport vehicles as well as replacements. In 2007, the number of replacements amounted to 1,874, making a total of 8,702 public transport vehicles complying with the National III emission standard in the city. [Item completed] - Selected in January 2009 as one of the first pilot cities to demonstrate and promote energy-saving vehicles and vehicles powered by new energy. Subsidies are provided to public service organizations to encourage purchase and use of energy-saving vehicles and vehicles powered by new energy - A total of 50 new generation hybrid public transport vehicles were put in use in Shenzhen at the end of 2008. [Item completed] <p><u>Guangzhou</u></p> <ul style="list-style-type: none"> - Active promotion of LPG public transport vehicles. There were over 6,700 LPG-driven public buses in Guangzhou, accounting for 80% of

Measures	Implementation Programme	Progress (Up to 30.11.2010)
		<p>all public buses in the city (as at the end of 2007). The 16,700 taxis in the city have largely been converted into LPG taxis. [Item completed]</p> <ul style="list-style-type: none"> - At present, there are 28 LPG refilling stations. [Item completed] - New generation hybrid public transport vehicles started to run in Guangzhou in January 2008. <p><u>Huizhou</u></p> <ul style="list-style-type: none"> - From 1 August 2007, all new public transport vehicles are required to comply with the National III emission standard.
	<p>To require all new motor vehicles to fully meet emission standards. To step up annual inspection and on-road spot checks of in-use vehicles. To strengthen the control of in-use vehicles to ensure that over 90% of motor vehicles in the cities within the region will meet tailpipe emission standard by 2005.</p>	<p>The National II emission standard was implemented in 1 July 2005.</p> <p>A recommended catalogue of motor vehicles complying with the National III emission standard was introduced on 1 July 2006 to encourage and support the sale, import, purchase and use of motor vehicles on the catalogue.</p> <p>Starting from 1 July 2008, all newly registered motor vehicles in PRD Region have to comply with National III emission standard.</p> <p>Starting from 1 July 2009, all newly registered motor vehicles in Guangdong Province have to comply with National III emission standard.</p> <p>Furthermore, starting from 1 September 2010, new light duty petrol vehicles and gas vehicles in PRD region are required to comply with National IV emission standards.</p>

Measures	Implementation Programme	Progress (Up to 30.11.2010)
		<p><u>Guangzhou</u></p> <ul style="list-style-type: none"> - The requirement for all newly registered vehicles to comply with the National III emission standard was advanced to 1 September 2006. - The “blacklist” of vehicles with excessive emissions was first published on the Guangzhou Environmental Protection website in August 2007. <p><u>Shenzhen</u></p> <ul style="list-style-type: none"> - A catalogue of motor vehicles complying with the National III emission standard has been implemented since 1 July 2007. - A reporting and joint investigation system for smoky vehicles has been established.
	<p>To introduce subsidy policy for replacement of “yellow-label vehicles” (i.e. petrol vehicles with pre-National emission standard or below and diesel vehicles with National II emission standard or below).</p>	<p>The subsidy policy was rolled out in September 2009 to tie in with the national policy of subsidizing “replacement of old vehicles with new vehicles”. The policy offers subsidy to owners ranging from RMB 3,000 to 6,000 for vehicle replacement. In 2010, a total of 81,700 “yellow-label vehicles” were phased out.</p>
	<p>To strengthen management on regular inspections of in-use motor vehicles to make sure that the required environmental performance is met.</p>	<p>The in-use motor vehicles inspection / maintenance system is being progressively implemented and improved. Non-compliance motor vehicles are prohibited from using the roads. “Regulation on the Prevention and Control of Pollution from Motor Vehicles in Guangdong” was promulgated on 2 June 2010.</p> <p>[Item completed]</p>

Measures	Implementation Programme	Progress (Up to 30.11.2010)
		<p><u>Shenzhen</u></p> <p>The pollutant emissions inspection and mandatory maintenance system for motor vehicles has been implemented since 1 December 2007.</p>
	<p>To experiment a labeling system on the environmental categorization of in-use vehicles in key cities, and to regulate and restrict vehicles of certain categories using the road according to the ambient air quality.</p>	<p>The environmental labeling system on in-use vehicles has been implemented in Guangdong since March 2009. A total of 4.898 million labels were issued in the PRD Region as at 31 October 2010.</p> <p>[Item completed]</p> <p>Since March 2010, the PRD region has gradually implemented the “Regulation of the National-wide Vehicle Inspection and Environmental Labeling System for Motor Vehicles”, with a view to implementing the “yellow-label” and “green-label” schemes for vehicles running in the region. The regulation also applies to cross-boundary vehicles from Hong Kong. Some PRD cities are progressively phasing in road use restriction measures for “yellow-label” vehicles.</p> <p><u>Shenzhen</u></p> <ul style="list-style-type: none"> - An environmental labeling system for motor vehicles has been introduced. - Road use restriction measures for “non-green-label vehicles” have been further enhanced since 1 July 2009. The restriction zones for “yellow-label vehicles” are being gradually expanded. Shenzhen aims to restrict “yellow-label vehicles” from using main roads in city by 2011.

Measures	Implementation Programme	Progress (Up to 30.11.2010)
		<ul style="list-style-type: none"> - The vehicle inspection and environmental labeling management system established by the Ministry of Environmental Protection has been implemented since August 2010. <p>[Item completed]</p> <p><u>Guangzhou</u></p> <ul style="list-style-type: none"> - Starting from 1 January 2008, motor vehicles are granted environmental labels in accordance with performance. - The national-wide vehicle inspection and environmental labeling system for motor vehicles was introduced in November 2010. <p>[Item completed]</p>
	<p>To vigorously promote the sale of motor vehicle fuel complying with the National III standard in the province.</p> <p>[Item completed]</p>	<p>Guangdong Province already announced the local National III standard for motor fuel in August 2006.</p> <p>The extension and reconstruction project of Sinopec's Guangzhou subsidiary was commissioned on 9 September 2006. The company is now capable of producing motor fuel complying with the National III standard.</p> <p>All petrol filling stations in Shenzhen and Guangzhou have been supplying National III standard motor fuels since April 2007 and May 2008 respectively. From July 2008, the supply network has been expanded to cover Zhongshan, Dongguan and Zhuhai. It</p>

Measures	Implementation Programme	Progress (Up to 30.11.2010)
		has been further expanded to cover Huizhou in July 2009. As at 31 July 2010, Guangdong extended supply of National III standard motor fuels to the entire PRD region.
	To give consideration to advance introduction of the National IV standard motor fuel. [Item completed]	Preparation of fuel standard has been completed.
	To promote the sale of vehicle fuels complying with the National IV standards in the PRD region.	Guangzhou advanced the supply of National IV standard petrol on 1 August 2010.
	To study ways to control the growth of motorcycles in key cities.	Motorcycles have been banned from entering the urban areas in Guangzhou and Dongguan since 1 January 2007 and 1 September 2007 respectively.

**Schedule for Closing Down
Major Small-scale Thermal Power Generating Units
in the Cities of Pearl River Delta Economic Zone
between 2006 and 2010**

Cities	Capacity to be Closed Down (MW)	Time and Capacity (MW)			
		2007	2008	2009	2010
Guangzhou	2336	570	500	1265	-
Shenzhen	765	682	83	-	-
Zhuhai	229	-	229	-	-
Huizhou	250	-	250	-	-
Dongguan	350	-	-	350	-
Zhongshan	519	-	519	-	-
Foshan	2043	-	2009	34	-
Jiangmen	549	399	-	150	-
Zhaoqing	147	-	-	147	-
Total	7187	1650	3591	1946	-

**Schedule for Phasing Out Cement Plants
in the Cities of Pearl River Delta Economic Zone
during the 11th Five-year Plan Period**

PRD Cities	Capacity to be phased out (million tonnes)
Guangzhou	12.77
Shenzhen	-
Zhuhai	0.3
Huizhou	1.9
Dongguan	3.03
Zhongshan	0.29
Foshan	9.34
Jiangmen	-
Zhaoqing	0.9
Total	28.53

**Schedule for Phasing Out Iron and Steel Plants
in Guangdong Province
between 2007 and 2010**

Time	Production capacity of steel plants to be phased out (million tonnes)	Production capacity of iron plants to be phased out (million tonnes)
2007	3	0.1
2008	1.91	0.37
2009	2.77	-
2010	7.34	1.15
Total	15.02	1.62

**Pearl River Delta Air Quality Management and Monitoring Special Panel
Summary of 2011 Action Plan**

Assess the Progress of the Management Plan

- Conduct site inspections to assess the progress of implementing various measures in the Management Plan when necessary
- Review the progress and effectiveness of the Management Plan and recommend new items to be included

Regional Air Quality Monitoring Network

- Publish on a daily basis the Regional Air Quality Index to the public
- Submit the Monitoring Report on the Guangdong-Hong Kong PRD Regional Air Quality Monitoring Network, including the Report on the Operation of the Regional Air Quality Monitoring Network, in April and October 2011
- Carry out thematic studies by making use of the data collected by the Regional Air Quality Monitoring Network, where necessary
- Recommend and commence thematic research projects

Regional Emissions Inventory

- Exchange information on the PRD emissions for 2008-09 and keep informed of the distribution of different pollution sources and the effectiveness of emission reduction measures

Final Assessment on the Management Plan

- Carry out final assessment of the Management Plan by collecting data on

emissions from pollution sources in the PRD region in 2010, preparing the emission inventories for 2010 and reviewing the experience gained in implementation of the Management Plan.

Enhance Technical Exchanges and Training of Personnel

- The scope of technical exchanges includes:
 - Findings of the PRD Air Quality studies conducted by Hong Kong
 - Operation of the regional air quality monitoring network and compilation of emissions inventories
 - Technical exchanges on emission reduction in the power sector and renewable energy
 - Experience sharing on promotion of motor vehicles emission standard and testing / management methods for in-use vehicle emission
 - Setting of the air quality objectives
 - Control of VOC emission from solvent-based products for industrial, commercial and domestic uses
 - Implementation of other control measures in the Management Plan

Emissions Trading Pilot Scheme for Thermal Power Plants in the PRD Region (the “Pilot Scheme”)

- The Emission Trading Management Panel established in May 2007 will continue to assist the two governments in the implementation of the Pilot Scheme and report on its operation details to the Expert Group and the Joint Working Group if and when necessary.