Environmental Fiscal Reform, Carbon Tax & Climate Finance in South Africa

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National Climate Change Response White Paper – 2011 (1)

- South Africa's response to climate change has two objectives:
  - Effectively manage inevitable climate change impacts through interventions that build and sustain South Africa's social, economic and environmental resilience and emergency response capacity.
  - Make a fair contribution to the global effort to stabilise greenhouse gas (GHG) concentrations in the atmosphere at the level that avoids dangerous anthropogenic interference with the climate system within a timeframe that enables economic, social and environmental development to proceed in a sustainable manner.
- One of the elements in the overall approach to mitigation is: The deployment of a range of economic instruments to support the system of desired emissions reduction outcomes, including the appropriate pricing of carbon and economic incentives, as well as the possible use of emissions offset or emission reduction trading mechanisms …

National Climate Change Response White Paper (2)

- South Africa (SA) committed to curb GHG emissions by 34% by 2020 and 42% by 2025 below the BAU trajectory (subject to provision of adequate financial, technological and capacity-building support)

- SA's has aspired to its emissions peaking between 2020 and 2025, remaining stable between 2025 and 2035 for a decade and declining in absolute terms from around 2035 (PPD)

- A mix of economic instruments, including market based instruments such as carbon taxes and emissions trading schemes, and incentives, complemented by appropriate regulatory policy measures are essential to driving and facilitating mitigation efforts and creating incentives for mitigation actions across a wide range of key economic sectors.

Environmental Fiscal Reform in South Africa

- Environmental fiscal reform refers to the interface between *environmental* and *fiscal* policy measures.
- An opportunity exists to undertake reforms to existing MBIs and develop new environmental tax instruments to achieve environmental goals.
- The 2006 Environmental Fiscal Reform Policy Paper provides the foundation to build on and support other environmentally related initiatives in South Africa.

- The OECD definition of an environmentally related tax has been adopted:

  "*a tax whose tax base is a physical unit (or proxy of it) that has a proven specific negative impact on the environment* "

- Although the definition does not make reference to the *intent* of the tax, *intent* is important but should not be used for classification purposes;
- The paper distinguishes between taxes and user charges, however the difference is not always clear cut in practice.

Competitiveness concerns

- Internalising negative externalities comes at a price.
- Aims to internalise externalities to a socially optimal level cannot be achieved overnight.
- There are “win-win” cases where more environmentally informed business practices could lead to corresponding improvements in competitiveness.
- Improved environmental performance may also improve access to certain markets – notably in the export sectors.
- However, these benefits are not immediately possible in all cases.
- A phased approach taking account of potential impacts on competitiveness must be adopted to give specific sectors time to adjust.

Distributional concerns: Impact on the poor

- The poor and low-income groups are often hardest hit by negative environmental externalities.
- Important for environmentally-related fiscal policy to ensure that environmental instruments are pro-poor where possible, or at least do not place a disproportionate burden on low-income groups.
- A sustainable growth path should provide protection and support to the poor.
- Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- Tradeoffs to be well managed.

Revenue – earmarking (recycling)

- For many stakeholders, there is a link between revenues from environmentally-related taxes and spending on the environment.
- The 2006 policy paper tries to maintain a clear separation of revenue and expenditure sides of the budget.
- In general, “full” earmarking is not in line with sound fiscal management practices.
- Various revenue recycling options in some shape or form could be considered (e.g. “soft” earmarking - on budget allocations-, tax incentives or tax shifting).

Environmentally related taxes (1)

- **Fuel levies (petrol & diesel)**
- **Electricity levy**

The electricity levy generated from non-renewable sources will be increased by 1c/kWh to 3.5c/kWh (2012) . The additional revenue will be used to fund energy-efficiency initiatives such as the solar water heater programme. This arrangement will replace the current funding mechanism that is incorporated into Eskom's annual tariff application. It will enhance transparency and enable government to use alternative agencies to deliver on energy-efficiency initiatives. The net impact on electricity tariffs should be neutral.

- ***International air passenger departure tax***

From 1 October 2011, the air passenger departure tax on flights to Southern African Customs Union member states and other international destinations will increase from R80 and R150 per passenger respectively to R100 and R190 per passenger.

Environmentally related taxes (2)

- **Vehicle CO_2 emissions tax**

The motor vehicle CO_2 emissions tax encourages consumers to buy vehicles with lower carbon emissions. Data shows declining average CO_2 emissions for passenger vehicles since the tax was introduced. Government proposes an increase in the tax for passenger vehicles from R75 to R90 for every gram of emissions/km above 120 gCO_2/km and, in the case of double cabs, from R100 to R125 for every gram/km in excess of 175 gCO2/km, effective from 1 April 2013.

- **Plastic bag and Incandescent light bulb levies**

Government proposes to increase the levy on plastic shopping bags, which has been at 4c/bag since 2009, to 6c/bag as from 1 April 2013, and the environmental levy on incandescent light bulbs from R3 to R4 per bulb as from 1 April 2013

Fuel levies (Petrol & Diesel)

Table 4.8 Total combined fuel taxes on petrol and diesel, 2011/12 – 2013/14

	2011/12		2012/13		2013/14	
c / litre	**93 Octane petrol**	**Diesel**	**93 Octane petrol**	**Diesel**	**93 Octane petrol**	**Diesel**
General fuel levy	177.50	162.50	197.50	182.50	212.50	197.50
Road Accident Fund levy	80.00	80.00	88.00	88.00	96.00	96.00
Customs and excise levy	4.00	4.00	4.00	4.00	4.00	4.00
Illuminating paraffin marker	0.00	0.01	0.00	0.01	0.00	0.01
Total	**261.50**	**246.51**	**289.50**	**274.51**	**312.50**	**297.51**
Pump price: Gauteng (as in February)[1]	884.00	814.05	1 077.00	1 026.69	1 206.00	1 129.17
Taxes as percentage of pump price	*29.6%*	*30.3%*	*26.9%*	*26.7%*	*25.9%*	*26.3%*

1. Diesel (0.05% sulphur) wholesale price (retail price not regulated)

Environmentally related incentives

- ***Certified emission reductions tax incentive***

To stimulate the uptake of Clean Development Mechanism projects in South Africa, income from primary certified emissions reductions has been exempt from income tax from 2009 to 2012. In light of the adoption of a second commitment period of the Kyoto Protocol, government proposes to extend the incentive to 31 December 2020.

Tax revenue – 2012/13

	Gross Tax Revenue	2012/13		
		Rand mn	%	Cumulative %
1	Personal income tax	275,805	33.9%	33.9%
2	Value added tax	215,840	26.5%	60.4%
3	Corporate income tax	158,947	19.5%	79.9%
4	Fuel levy	40,320	5.0%	84.9%
5	Custom duties	35,310	4.3%	89.2%
6	Specific excise duties	28,459	3.5%	92.7%
7	STC / WTD	19,739	2.4%	95.2%
8	Skills development levy	11,378	1.4%	96.6%
9	Transfer duty, STT, etc.	8,645	1.1%	97.6%
10	Electricity levy	7,984	1.0%	98.6%
11	Other	11,407	1.4%	100.0%
	TOTAL	**813,834**	**100.0%**	

Environmentally related taxes		
	R million	2012/13
1	General fuel levy	40,320
2	Air passenger departure tax	873
3	Plastic bag levy	152
4	Electricity levy	7,984
5	Incandescent light bulb levy	132
6	CO2 Vehicle emissions tax	1,568
	Sub Total	**51,029**
	TOTAL Tax Revenue	813,834
	Sub Total / TOTAL	6.3%

National Climate Change Response Policy (NCCRP): Finance and Flagship Programmes

- **Financing National Climate Change Response Policy** and long term funding framework for climate change:
  - Mainstream climate change response into the fiscal and budgetary process and so integrate the climate change response programmes at national, provincial and local government and at development finance institutions and state-owned entities.
- **Near Term Priority Flagship Programmes for:**
  - Climate Change Response Public Works
  - Water Conservation and Demand Management
  - Renewable Energy
  - Energy Efficiency and Demand Side Management
  - Transport
  - Waste Management
  - Carbon Capture and Storage
  - Adaptation Research

DEA **Programmes**

- **Programme 1:** Administration is allocated R776m during 2012/13 financial year.
- **Programme 2:** Environmental Quality and Protection is allocated R346m in 2012/13, some of the funds will be used to improve air and atmospheric quality and improve compliance with legislative timeframes in terms of the National Environmental Management Air Quality Act and Waste Act (2008).
- **Programme 3:** Oceans and Coasts allocated R222m for ocean and coastal research and maintenance of the Polar research vessel
- **Programme 4: Climate Change** with a budget of **R31m** for the climate change management, mitigation and adaptation coordination.
- **Programme 5:** Biodiversity and Conservation with a budget of R486m. This included the renovation of accommodation and tourist facilities in the Kruger National Parks.

DEA – Progamme 6

- **Programme 6: Environmental sector Programme and Projects** is allocated R2.7bn for 2012/13 financial year (includes EPWP projects).
- **Main Programmes:**
  - Working for Coast
  - Working for Water
  - LandCare
  - Working on Fire
- Natural Resource Management (NRM) is allocated R1.5bn, of which R1.1bn for **Working for Water** (WfW) and R341m for **Working on Fire** (WoF).
  - WfW: launched in 1995 aimed at removal of alien invasive species.
  - WoF aims to enhance the sustainability and protection of life, livelihoods, and ecosystem services through integrity fire management.
- National Resource Management (NRM) created 12 858 full time equivalent jobs against the target of 18 304 through EPWP projects during 2011/12 financial year.
  - NRM received an additional R230m (WfW R150m and WoF R80m) for FY12/13.

The Green Fund - DBSA

- Primary objective of the Green Fund is to provide catalytic finance for high quality, high impact green economy projects and mainstreaming activities which would not have been implemented without fiscal support. The Green Fund is additional and complementary to existing fiscal allocations supporting the greening of the South African economy.
- The Green Fund will respond to market weaknesses currently hampering South Africa's transition to a green economy by:
  - Promoting innovative and high impact green programmes and projects
  - Reinforcing climate policy objectives through green interventions
  - Building an evidence base for the expansion of the green economy, and
  - Attracting additional resources to support South Africa's green economy development.

Green Fund - Three funding windows

- **Green Cities and Towns**

Local government, through public sector procurement and alignment of spending on infrastructure and services, with environment performance indicators, can play a significant role in generating the demand for green products and services.

- **Low Carbon Economy**

The decoupling of economic growth from its impact on natural resources will be driven by private sector efforts to lower environmental impact and resource consumption. ---- interventions targeting industrial efficiency and the carbon intensity of the economy including energy efficiency, reducing pollution from industrial processes, waste management and reuse of by-products.

- **Environmental and Natural Resource Management**

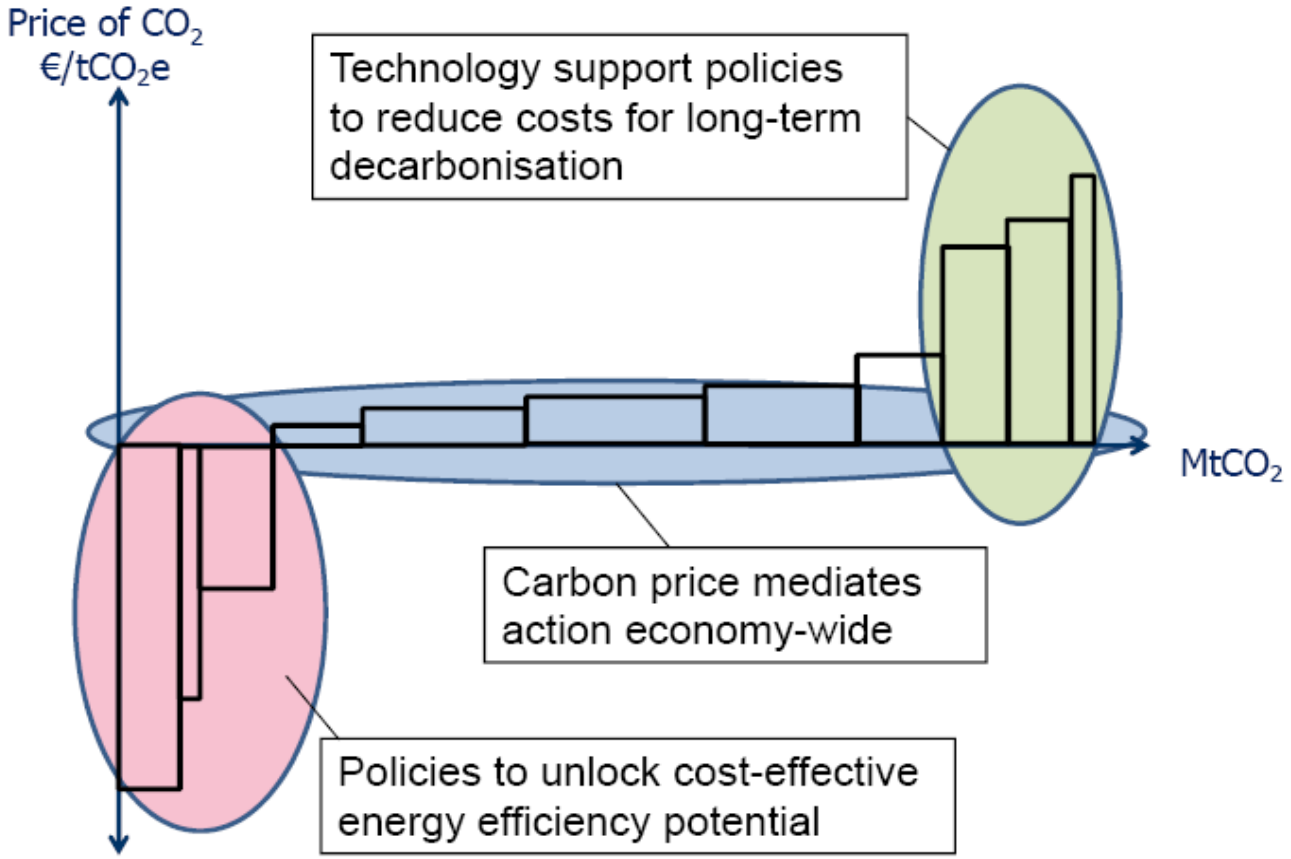
The protection of biodiversity and securing the sustainable delivery of ecosystem services is the primary focus of this Window. These include interventions targeting ecosystem based adaptation to climate change that could drive rural development models. Managing and reducing the impact of agriculture and land use changes through demand management and resource conservation will be supported.

Carbon tax proposal

Options for Intervention

- **Command-and-control measures (Regulations)**:
  - Use of legislative or administrative regulations that prescribe certain outcomes;
  - Usually target outputs or quantity, e.g. minimum ambient air quality standards, within which business must operate.
- **Market-based instruments**:
  - Policy instruments that attempt to internalise environmental externalities through the market by altering relative prices that consumers and firms face;
  - Utilise the price mechanism and *complement* command-and-control measures. Under certain circumstances MBIs are considered more efficient than command-and-control measures

The Core Policy Mix – a carbon price, energy efficiency and technology policies (IEA 2011)



Process with Carbon Tax Proposal

- 2012 and 2013 Budget noted the current carbon tax proposal, and indicated a discussion paper will be released to elaborate the proposal
- 2006 and 2010 Discussion documents released by National Treasury
  - 2006 Environmental Fiscal Reform Policy Paper
  - 2010 *"Reducing Greenhouse Gas Emissions: The Carbon Tax Option"*
- This May 2013 paper updates the 2010 paper, and is now a Carbon Tax Policy Paper
- It is the second and final policy paper on carbon tax requesting public comment, before NT releases draft legislation to implement the carbon tax from 1 January 2015
- Public comments to be submitted by 2 August 2013

Carbon tax policy paper

1. Introduction
2. Policy coherence
3. The economics of carbon pricing
4. A carbon tax vs. an emissions trading system
5. International carbon price developments
6. Modelling the economic impacts of a carbon tax
7. Carbon tax design features
8. Revenue recycling and transitional support measures

Annexure A: Results from modelling the impacts of a carbon tax
Annexure B: Carbon price developments in other countries
Annexure C: Energy efficiency tax incentive
Annexure D: Benchmarking
Annexure F: Carbon Offsets

Proposed carbon tax design features (1)

- A carbon tax at R120 ($12) per ton of CO_2e above the suggested thresholds with annual increases of 10 per cent until 2019/20 is proposed as from 1 January 2015.
- A basic tax-free threshold of 60 per cent is proposed.
- Additional tax-free allowance for process emission (10%)
- Additional relief for trade-exposed sectors (max 10%)
- Carbon offsetting allowed to reduce carbon tax liability (max 5% or 10%)
- The overall tax-free allowance for an entity will be capped at 90 per cent of actual verified emissions.
- Tax-free thresholds will be reduced during the second phase (2020 to 2025) and may be replaced with absolute emission thresholds thereafter.

Budget 2012: Proposed carbon tax design features: (2)

Sector	Basic tax-free threshold (%)	Maximum additional allowance for trade exposure (%)	Additional allowance for process emissions (%)	Total (%)	Maximum offset (%)
Electricity	60	–	–	60	10
Petroleum (coal to liquid; gas to liquid)	60	10	–	70	10
Petroleum – oil refinery	60	10	–	70	10
Iron and steel	60	10	10	80	5
Cement	60	10	10	80	5
Glass and ceramics	60	10	10	80	5
Chemicals	60	10	10	80	5
Pulp and paper	60	10	–	70	10
Sugar	60	10	–	70	10
Agriculture, forestry and land use	60	–	40	100	0
Waste	60	–	40	100	0
Fugitive emissions from coal mining	60	10	10	80	5
Other	60	10	–	70	10

Gradual implementation and impact of a carbon tax

- A carbon tax that is implemented gradually and complemented by effective and efficient revenue recycling can contribute to significant emission reductions,
- A carbon tax will be introduced as part of a package of interventions to ensure that the primary objective of GHG mitigation is achieved,
- Minimise potential adverse impacts on low-income households and industry competitiveness thru “soft” earmarking (on budget allocations) & using a range of environmental incentives
- The tax will influence future investment decisions and reduce the price-cost differentials between fossil fuel-based electricity, nuclear energy and renewable energy
- Pass through mechanism of the carbon tax in determining final prices of liquid fuels and electricity need consideration especially with regards consumers.

Revenue recycling (1)

- In general, "full" earmarking of specific tax revenue streams are not in line with sound fiscal management practices. However, the efficient recycling of revenue is important.
- Revenue recycling mechanisms for structural adjustment:
  - **"soft" earmarking** (on budget allocations): Independent Power Producers programme to incentivise renewable energy uptake, Electricity Demand Side Management programme, enhanced free basic energy / electricity programme, Carbon Capture and Storage rebate
  - **tax shifting**: reducing or not increasing other taxes (potential phasing-down of the electricity levy)
  - a range of environmental **tax incentives**, including Energy efficiency savings tax allowance

Revenue Recycling (2) - Tax Incentives

- **Tax exemption for revenues earned from CERs** (CDM projects)
- **Accelerated depreciation allowances** for renewable electricity generation and biofuels production
- **R&D** tax incentives (**including green technologies**)
  - 150 per cent income tax deduction for R&D operation expenses
  - accelerated depreciation (50, 30, 20)
- Tax incentives for **biodiversity conservation**
- **Energy efficiency savings** tax allowance

Revenue Recycling (3): Transitional support mechanisms

- Under the **National Climate Change Response White Paper**, several **priority flagship programmes** have been identified in the **energy, transport, water and waste sectors**.
- To complement these initiatives, consideration will be given to support for households and business as detailed below:
- **Households**
  - enhanced free basic energy / electricity
  - improved public transport
- **Businesses**
  - tax relief for CER credits
  - Research and development tax incentive
  - Implementation of the energy efficiency savings tax incentive
  - Carbon Capture and Storage rebate

M & E - Climate Financing tracking & Tracing - International

Alignment with the South African Climate Change Response Measurement and Evaluation (M&E) System

- South African National Climate Change M&E system is currently being developed to track the transition to a lower carbon and climate resilient South Africa.
- It will enable effective climate change policy audit, assessment of impacts and effectiveness and reporting on international requirements.
- It will be important for impact assessment of climate finance flows from market-based instruments, such as the proposed carbon tax.
- Therefore, interaction to ensure alignment between the core indicators for climate finance and the requirements of the National Climate Change Response M&E System will be needed.
- Overarching Climate Change Response M&E System could include the National Climate Finance Portal as one of a number of modules included in the national system.

South African Climate Finance Monitoring and Evaluation (M&E) System: Current Climate Finance Landscape

- National sources of funding remain the largest contributor to climate related finance in South Africa at present.
- Although largely packaged as part of broader fiscal measures, including manufacturing competitiveness and electricity demand management, approximately ZAR 100 billion (approximately USD$ 10 billion) has been provided through relevant national capital flows (DBSA, 2011).
- This is compared against approximately ZAR 20-30 billion (approximately USD$ 2-3 billion) provided from international sources (DBSA, 2011).
- A detailed national climate finance landscape study to map out in detail current sources and flows of climate finance in South Africa is yet to be undertaken.

South African Climate Finance Monitoring and Evaluation System: Recording Climate Finance Flows (1)

- Parameters for a climate finance definition (DEA, 2011):
  - The use of international sources of funding, as complementary to domestic sources, to fund the cost of transitioning to a climate resilient society; and
  - Market-based instruments as well as environment-related financial reforms in the private and public sectors to fundamentally transform South Africa into a climate resilient economy and society
- A nationally accepted definition of climate finance, with buy-in from public and private sectors, donors and multilateral development agencies, needs to be adopted for MRV purposes.

South African Climate Finance Monitoring and Evaluation System: Recording Climate Finance Flows (2)

- Suitable institutional arrangements need to be in place to manage an effective M&E system.
- Within a comprehensive measurement framework, the information that a central body should collect on each financial flow includes:
  - *Value* - Total financial amount, split by year for multi-year projects
  - *Source* - Country of origin or private company
  - *Intermediary* - Bilateral, multilateral, public-private partnership etc.
  - *Recipient* - National level or specific organisation
  - *Type* - Grants, offset finance, concessional lending or commercial lending
  - *Use* - Mitigation, adaptation or enabling activity
  - *Sector* – Specific sector that finance will be invested in e.g. renewables, energy efficiency, forestry etc.
  - *Objective* - Core indicators that the finance will be measured against, including any co-benefits such as full time and temporary job creation

DBSA – 2011: Profile of Respondents

Stakeholder groupings	Questionnaires issued	Responses received	%
Reinsurance and insurance	9	2	22.2%
Asset Management	12	2	16.7%
Listed companies	28	5	17.9%
Private Equity and Venture Capital	8	0	0.0%
International Financial Institutions (IFIs)	14	4	28.6%
South African Development Finance Institutions (DFIs)	8	4	50.0%
Commercial & Investment Banks and Microfinance Institutions	10	5	50.0%
Government and State owned entities (including research institutions)	39	8	20.5%
Civil Society	13	1	7.7%
Advisors	16	3	18.8%
Regulators	3	0	0.0%
TOTAL	**160**	**34**	**21.3%**

Questions were focused on identifying the following:

- Assessing the current state of climate change investment activity, constraints and impediments
- Future financing developments in responding to climate change
- Identifying the need for institutional and/or funding support mechanisms to catalyse investment

DBSA- 2011: A national climate financing mechanism would be beneficial provided it is clear how this fits in with existing policy and is easily accessible by all stakeholders.

"Environmental funds are appropriate when the threats to the environment that are being addressed are **long-term** and require a **sustained response over a number of years.** ***They are not the solution when the environmental issue in question faces major, urgent threats requiring mobilization of significant amounts of funding in a short time.*****"**

General consensus among respondents that a national funding mechanism and tracking facility would be useful subject to a clear mandate, appropriate governance and reporting. ***Important for distinction to be made between 'fund' and 'funding mechanism' – case studies show that funding mechanism is preferred for maximum flexibility and ongoing innovation.*** Suggested areas of focus: early development of projects

According to examples explored, the financial mechanism should encourage **co-financing**, **complementarity** and focus **on incremental cost financing in terms of mitigation.**

DBSA - 2011: South Africa's response strategy should be focused on climate resilience and coupled with an integrated regional response.

As the region's most well developed capital market and robust history of fiscal discipline, it is unlikely that international climate finance support would be accessible to South Africa within the short term as the current climate finance architecture favors Least Developed Countries (LDCs).

South Africa's climate response strategy should therefore be coupled with an integrated regional response focusing on climate resilience and regional infrastructure to capture international climate finance in the short term. (Lord Nicholas Stern)

South Africa should consider climate resilience as a core strategy as opposed to defining mitigation and adaptation actions, as these distinctions are becoming increasingly inefficient due to new development, mitigation and adaptation institutions. These distinctions are unlikely to remain polarized as multilateral and supranational structures debate channels for disbursement and the need for institutional reform.

DBSA – 2011: Climate Finance Sources & Gaps relevant to South Africa - Principles to attract resources

- **Principle 1**: Provide as much **flexibility** as possible while the climate finance landscape evolves
  - Some form of interim or temporary arrangement
  - Easy to unwind/change/replace if required

- **Principle 2**: Make it as **easy** as possible for climate finance to flow to South Africa
  - Coordination rather than gate-keeper function
  - 'Honest' broker with information on sources and uses of funding
  - Single point of contact – potential bureaucratic complications
  - Easy to unwind since no contractual relationships

- **Principle 3**: Make the most **efficient** use of all climate funds available to it (both external and domestic)
  - **Match** projects with best-suited sources
    - Broker function
  - **Speed** up implementation
    - Technical support capacity to facilitate funding flows
    - Audit rather than 'sign-off' function
  - **Allocate** funds according to national funding priorities
    - National funding priorities determined through interaction with line departments, NPC

DBSA – 2011: Institutional access proposal- Design principles for national climate finance mechanism and initial concept

- **Adequate:** Recognising the need to significantly increase the amount of money for mitigation and adaptation, funding, in particular for adaptation, must be massively increased;
- **New and additional:** Any assistance provided by developed countries under climate change needs to be additional to existing Official Development Assistance (ODA);
- **Equitable:** Funding should be in accordance with common but differentiated responsibilities and respective capabilities;
- **Predictable:** Ensuring flows can be sustainable in the long-term;
- **Accountable :** Ensuring representation is equitable and transparent;
- **'MRV' able:** Finance support should be monitored, reported, and verified (MRV) in order to assess progress in meeting financial obligations;
- **Coherence:** In view of the fragmentation of funding currently flowing to Africa, there is need for coherence in climate change financial architecture;
- **Direct access:** need direct access to any new funds with minimal management by intermediaries;
- **Address adaptation:** Responding to adaptation is a major priority

Definition of Climate Finance

Climate-specific finance:

- Capital flows that target low-carbon or climate resilient development – GHG mitigation or adaptation are explicitly stated objectives or outcomes
- Both international public or private financing flows

Climate-relevant finance:

- A broader set of capital flows (public or private) from developed to developing countries that will influence (positively or negatively) emissions and/or vulnerability to climate change in developing countries
- Flows that support development and economic growth in key emitting sectors or to sectors affecting vulnerability to climate change

Source: UNFCCC Climate Change Expert Group

camco - 2013:
South African Climate Finance Landscape Study

- Detailed national climate finance landscape study to map out current sources of climate finance in SA
- Identify at what stage of project development cycle (e.g. R&D, demonstration, deployment) the funding is made available, and for what purpose
- Distinction can also be drawn between climate-specific and climate-relevant funding, and between climate finance and green finance
- Draw on work completed or underway (DBSA and Green Fund)
- Detailed understanding of relevant funding sources and payment flows will assist in effective M&E, and help avoid double counting

camco – 2013: National Climate Finance Portal

- Establishment of a web-based national climate finance portal (note: related Green Fund intentions in this regard)
- Portal could be used for a variety of purposes, including:
  - Submission of funding applications
  - Bi-annual reporting and effective real time monitoring
  - Data analysis and filtering, including aggregation of project level data for programme level reporting and evaluation
  - Provision of automated communications to relevant participants
  - Information dissemination to broader public
  - Marketing of funding options

Carbon Pricing & Climate Finance

- A carbon price is primarily intended to correct for one for the most significant global market failures.
- How the revenue raised via a carbon tax (or the auctioning of permits under an emissions trading scheme) is used will impact on the overall economy of a country as well as the distributional implications and on the competitiveness position of trade exposed and energy intensive sectors.
- Some form of tax shifting and /or revenue recycling might be appropriate.
- Tax shifting implies that the revenue from for example a carbon tax could be used to reduce other more distortionary taxes – such a payroll taxes.
- Revenue recycling mean that some of the revenue from a carbon tax could be used to fund initiatives to neutralize the impact on the poor, e.g. free basic electricity, subsidized public transport, subsidized solar heater geysers, or temporary relief or incentives to industries (e.g. the proposed energy efficiency savings tax incentive).

International Climate Change Financing

- As part of the UNFCCC negotiation process climate finance is raised in the context of : “catalysing efforts in developing countries to strengthen climate resilience, curb greenhouse gas emissions and support sustainable development (UN SG High-Level Advisory Group)” .
- The Advisory Group has grouped potential funding sources into four groups:
    - public sources for grants and highly concessional loans (generated from taxes, including a carbon tax)
    - development bank-type instruments
    - carbon markets
    - private capital

International Climate Finance – Revenue Sources

- The following specific potential sources of funding has been identified:
  - Carbon pricing instruments such as taxes and auctioning of allowances under trading schemes
  - International transport taxes (aviation and maritime)
  - A global financial transaction tax
  - Direct on budget contributions (public finance sources)
  - International private investment flows such as concessional and non-concessional public financing
  - Carbon markets
- The Advisory Group has emphasized the importance of the "political acceptability" of any proposed instruments in both developed and developing countries and the likely incidence of an internationally imposed tax on developing countries.

Mobilizing Climate Finance (IMF, 2011) (1)

Carbon pricing policies

- "Comprehensive carbon pricing policies such as a carbon charge or emission trading with full auctioning of allowances are widely viewed as a promising option."

- "A carbon price of $25 per ton of carbon dioxide (CO2) in Annex II economies could raise around $250 billion in 2020… Allocating 10 percent for climate finance would meet a quarter of the $100 billion funding committed for climate change in 2020."

- "The economic costs of a $25 price are expected to be modest – less than 0.1 percent of GDP on average – if domestically retained revenues are applied productively,

- Comprehensive carbon pricing policies are more efficient at raising revenue than broader fiscal instruments when environmental benefits are accounted for."

Mobilizing Climate Finance (IMF, 2011) (2)

Market-based instruments for international aviation and shipping

- A globally applied charge would be consistent with the principle of universality, and could be reconciled with the UNFCCC principle of common but differentiated responsibilities and respective capabilities by a **system of compensatory transfers to developing countries**, or to some subset thereof—identified by clear criteria, and likely evolving over time as economic circumstances change.

- "More generally, combining a global charge with targeted compensation provides an effective and feasible way to pursue efficiency and equity objectives."

- "Ensuring 'no net incidence' for developing countries requires careful consideration of the 'real' incidence of these charges—who it is that suffers a consequent loss of real income."

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Carbon Tax vs. Emissions Trading

Carbon Tax

- Price certainty – fixed price
- Emission reductions – **quantity uncertain**
- **Administration** and compliance – piggy back on existing administrative systems
- **Visibility** of tax
- **Design** – tax base, collection point, price level

Emissions trading

- **Price uncertainty** – volatility
- Emissions are capped – **quantity certain**
- **Complexity** – negotiations, high transaction costs, new institutions.
- Some costs (and benefits) are **hidden**
- **Coverage**, point of obligation, cap level

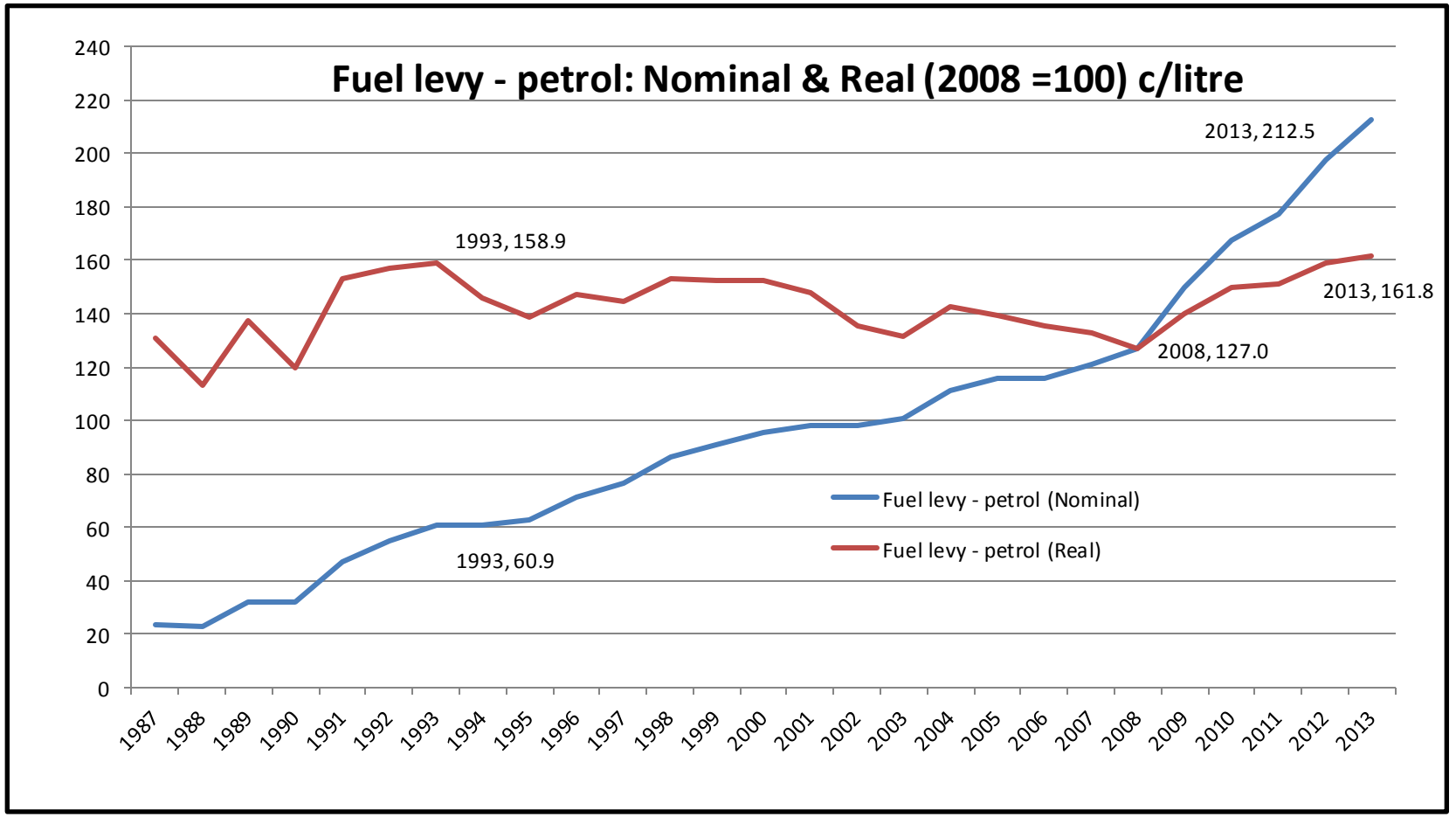
Environmental taxes - Political Economy Concerns

- " … a political impediment to the introduction of environmental taxes is the argument that they harm international competiveness. Partly as a result of concerns regarding international competiveness, many proposals for environmental taxes have been made at the international level. For example the European Community has proposed that a carbon tax be introduced in its member countries, but its implementation is dependent on other major countries introducing measures with comparable effect. These international agreements are inevitably difficult to complete".
- David C . L. Nellor, Environmental Taxes, in Tax Policy Handbook, edited by Parthasarathi Shome, International Monetary Fund (IMF), page 111 (1995).

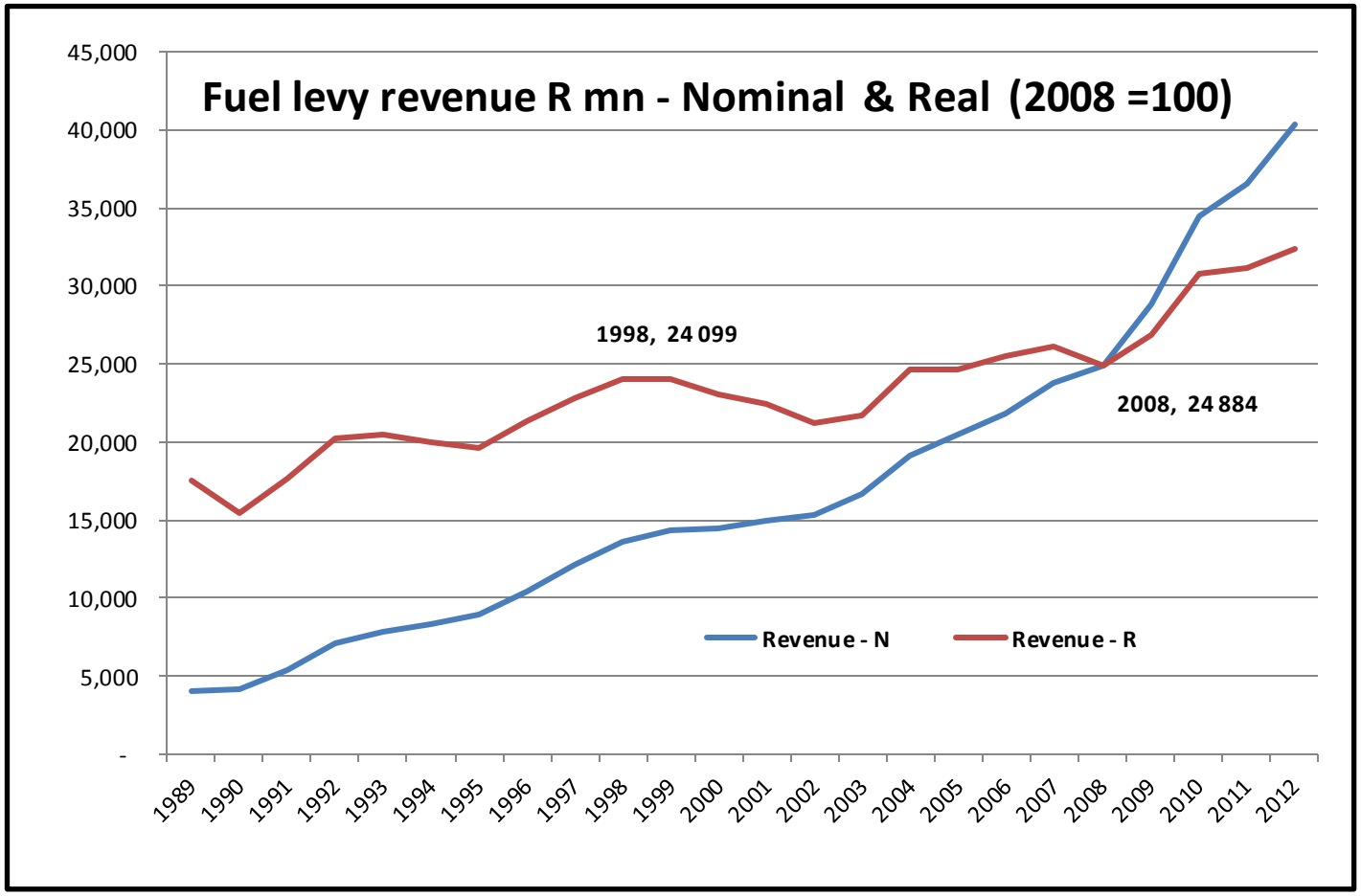
Fuel levy – petrol

	Fuel levy - petrol (Nominal)	Fuel levy - petrol (Real)	% Change (N)	% Change (R)
1989	31.9	137.1	39.3%	21.4%
1990	31.9	120.0	0.0%	-12.5%
1991	46.9	153.0	47.0%	27.5%
1992	54.9	157.1	17.1%	2.7%
1993	60.9	158.9	10.9%	1.2%
1994	60.9	145.8	0.0%	-8.2%
1995	62.9	138.5	3.3%	-5.0%
1996	71.6	146.9	13.8%	6.1%
1997	76.6	144.7	7.0%	-1.5%
1998	86.6	153.0	13.1%	5.7%
1999	90.6	152.1	4.6%	-0.6%
2000	95.6	152.4	5.5%	0.2%
2001	98	147.8	2.5%	-3.0%
2002	98	135.4	0.0%	-8.4%
2003	101	131.7	3.1%	-2.8%
2004	111	142.7	9.9%	8.4%
2005	116	139.6	4.5%	-2.2%
2006	116	135.4	0.0%	-3.0%
2007	121	133.0	4.3%	-1.8%
2008	127	127.0	5.0%	-4.5%
2009	150	140.1	18.1%	10.3%
2010	167.5	150.0	11.7%	7.1%
2011	177.5	151.3	6.0%	0.9%
2012	197.5	158.8	11.3%	5.0%
2013	212.5	161.8	7.6%	1.9%

Fuel levy – petrol cents / litre: (Nominal and Real = 2008 prices)

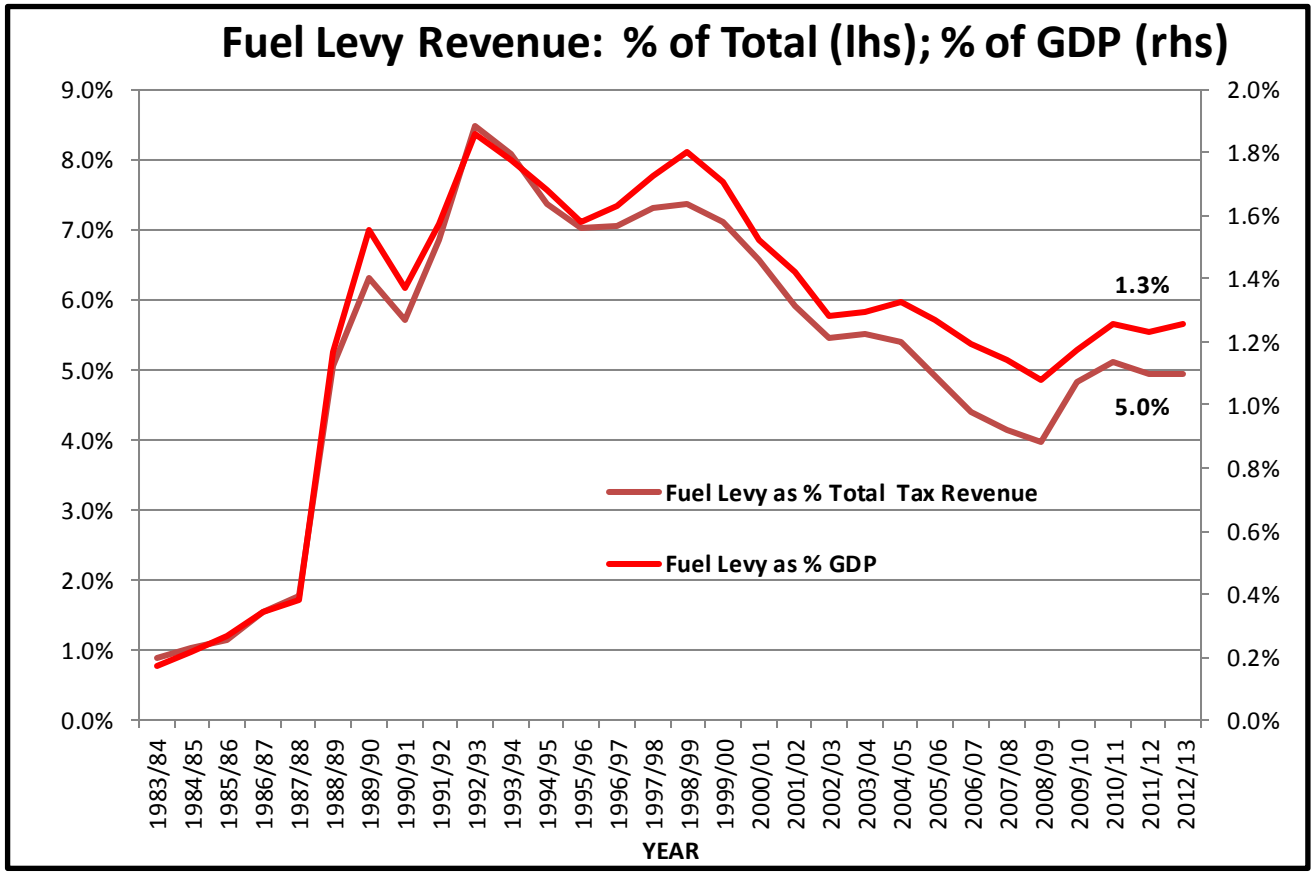


Fuel levy revenue – Rand million

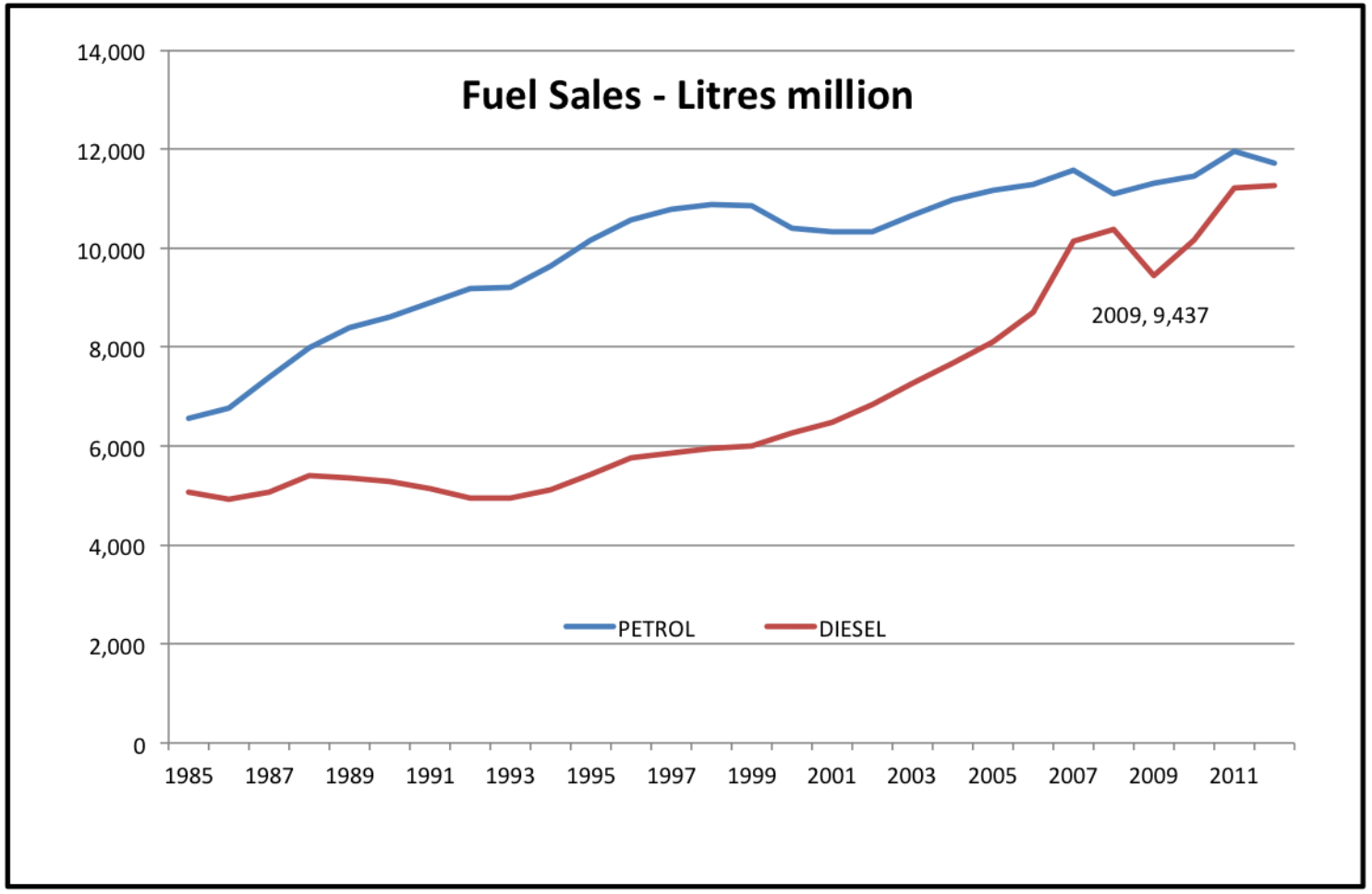


Fuel levy revenue

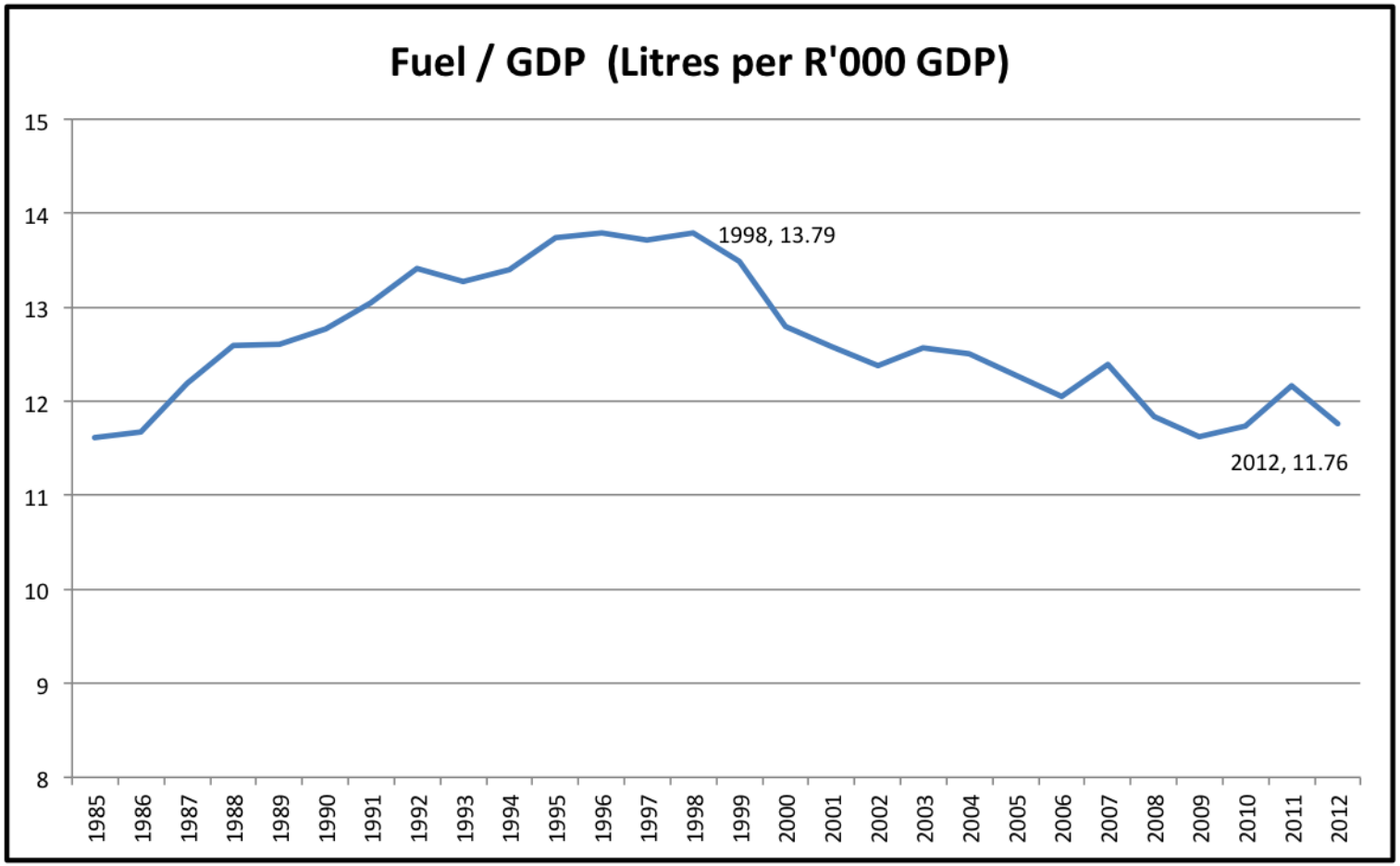
2011/12: R36.6 billion; 21.7 billion litre; 50 800 $MtCO_2$



Fuel Sales, litres - million



Fuel – Litres per real GDP'000 (2005 prices)



Department of Transport

		Transport - National - Budget Allocations		
	R'000	**2012/13**	**2013/14**	**2014/15**
1	**Departmental baseline**	23,021,852	28,418,447	29,725,696
	SANRAL: National Road Agency: Capital	*6,394,541*	*7,515,300*	*7,849,560*
	SANRAL: National Road Agency: Coal haulage	*648,910*	*665,498*	*696,111*
	PRASA: Passenger Rail Agency of SA	*7,481,110*	*10,710,959*	*13,865,547*
	Compensation of employees	*381,322*	*405,748*	*430,101*
	Other	*8,115,969*	*9,120,942*	*6,884,377*
2	**Conditional Grant to Local Government**	5,589,135	5,912,264	6,184,228
	Public Transport: Infrastrcuture & Network Operations			
3	**Conditional Grant to Provincial Government**	13,093,000	13,735,539	14,367,374
	Provincial Road Maintenance	*8,540,479*	*8,952,830*	*9,364,661*
	Public Transport Operation	*4,552,521*	*4,782,709*	*5,002,713*
4	**Net additions (e.g. PRASA)**	571,313	156,960	3,100,381
5	**TOTAL**	**42,275,300**	**48,223,210**	**53,377,679**

Multilateral - Climate Change Funds

Fund	Focus	Administration	Effective
Adaptation fund	Adaptation	Adaptation fund board	2009
Climate investment fund: Clean technology fund	Mitigation	World Bank	2008
Climate Investment fund: Strategic Climate Fund	Adaptation and Mitigation	World Bank	2008
Forest Carbon Partnership Facility	Mitigation – REDD	World Bank	2008
Forest Investment Programme	Mitigation – REDD	World Bank	2009
Global Environment Facility trust fund	Mitigation and Adaptation	Global Environment Facility	1994
Least developed countries fund	Adaptation	Global Environment Facility	2002
Special climate change fund	Adaptation and mitigation	Global Environment Facility	2002
UN-REDD Programme	Mitigation - REDD	United Nations Development Programme	2008

Bilateral Funds

Fund	Country	Focus area	Effective date
Hatoyama Initiative – Private and Public Sources	Japan	Adaptation and mitigation	2008
International Climate Fund	United Kingdom	Adaptation and mitigation	2008
International Climate Initiative	Germany	Adaptation and mitigation	2008
International Forest Carbon Initiative	Australia	Mitigation - REDD	2007

Objectives of key funds: Climate Invest Funds

- **Clean Technology Fund:**
  - invests in the demonstration, deployment and transfer of low carbon technologies. Key sectors include electricity generation, transport (modal shifts to public transportation) and energy efficiency investments by the industrial, commercial and residential building sectors.
- **Strategic Climate Fund:** is an overarching fund for funds aimed at piloting new approaches to climate change or scaling up activities focusing on a specific climate change response. Three funds operated under the SCF:
  - Pilot programme fo Climate Resilience
  - Forest Investment Programme
  - Scaling up Renewable Energy in Low Income Countries Programme

Objectives of key funds: Global Environment Facility

- **GEF Trust Fund:**
  - Supports climate mitigation efforts of developing countries: focus areas include renewable energy, energy efficiency, sustainable transport and management of land use, land-use and forestry (LULUCF)
- **Least Developed Countries Trust Fund**
  - Supports needs of the Least Developed Countries which includes developing National Adaptation Programmes of Action
- **Special Climate Change trust Fund**
  - Supports implementation of long-term adaptation measures of developing countries and technology transfer
  - for adaptation, funds channeled towards water resource management, land management, agriculture, health, infrastructure development and climatic disaster risk management.