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Assessment of priority countries for climate action in 2010

South Africa, Mexico, Brazil, Colombia and Turkey

July 2010

Report prepared for and funded by the Oak Foundation

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Objectives of the study



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- This study was funded by the Oak Foundation in July 2010. The objective was to conduct analysis on a group of priority developing countries in order to identify short-term opportunities (“quick wins”) for climate action in 2010.
- The criteria developed for mapping of progressive countries included a range of key factors:
 - Potential to commit to innovative/transformational strategies
 - Capacity to translate strategies into concrete action
 - Maturity of current strategies (NAMAs, NAPAs, PRSPs etc.)
 - Level of cross-government buy-in for climate strategies
 - International voice (how active in climate negotiations?)
 - International weight/power (how influential diplomatically?)
- The authors wish to thank all those who have been involved, on calls and in meetings and provided input to the study.



- **Introduction and strategic context**

- **Country analysis**
 - Mexico
 - South Africa
 - Brazil
 - Colombia
 - Turkey

World leaders have committed to 'lower carbon' but not yet 2°C



- The emissions reductions outlined in the Copenhagen Accord add up to around a 4°C trajectory
 - The world needs to aim for 2°C but plan for 4°C
- Fundamental concerns over national sovereignty and the ability to move onto a low carbon, climate resilient pathway are limiting countries willingness to commit further in the international negotiations
- However, the science suggests that to keep a 2°C pathway open emissions need to peak and reduce in the next 10 years

Need to create and deliver practical models in the next 2-3 years to demonstrate low carbon transformation is feasible

The Copenhagen Accord: key elements



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Pledges

- Recognises 2°C and calls for review to be completed by 2015 including consideration of 1.5°C
- Mitigation: Extends framework of targets and actions to countries comprising almost 80% of global emissions, up from 35% under the KP
- Finance: Approaching \$30 billion fast start over 2010-2012, rising to \$100 billion p.a. by 2020. Green Climate Fund and High-Level Panel.
- Transparency (MRV): Principles agreed on measurement, reporting & verification; “international consultation & analysis” of domestic policy

Caveats

- The language lacks teeth and commitments on the table add up to a 3-4°C future.
- This de facto “pledge and review” system contains few incentives for higher ambition and no compliance mechanism
- Is the money additional to ODA and will it be delivered?
- The devil is in the “detailed guidelines”, still to be negotiated

Prospects for climate action in 2010 and beyond



- With sufficient trust, the Copenhagen Accord could perhaps be a stepping stone towards the fair, ambitious and binding agreement we need
- Limited chance of a major breakthrough at COP16 in Cancun, but potential for progress on climate finance, technology and other “building blocks” of the global climate regime
- Important domestic debates on climate policy underway in major economies including US, EU (move to 30%?), China (finalisation of 2011-2015 Five-Year Plan), India, Brazil (election in October), Japan (cap-and-trade legislation?)
- Need to sustain momentum and counter cynicism by winning specific battles and showing concrete benefits of climate action

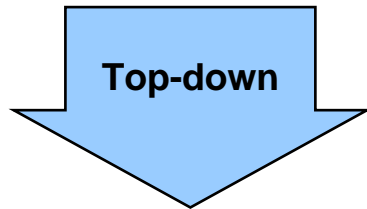
The use of fast start funds to deliver transformational activity will be essential



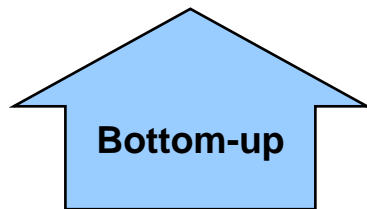
- It is critical that we do not repeat – or extend – the failures of the CDM
 - A rush to deliver project volume resulted in a large amount of non-additional and incremental projects which succeeded in driving action at the local level, but changed neither the economics or politics in recipient countries fundamentally (mainly China and India).
- It is critical that in the next 2-3 years fast start funding lays the foundations for transformational use of these scarce funds
 - A higher value proposition is needed for both recipient countries and developed country taxpayers.
- Only in this way will the climate regime be politically sustainable and countries be in a position to increase their level of ambition to meet the 2°C goal in the coming years.

A balance of top-down and bottom-up action is necessary

- Copenhagen has led to a fundamental challenge to multilateralism and the UNFCCC process
- This is being presented as a ‘false choice’ between taking either a top-down or bottom-up approach – it is essential that we have both



A top-down process is essential to ensure that the aggregation of global mitigation effort matches the imperative to reduce global climate risks...

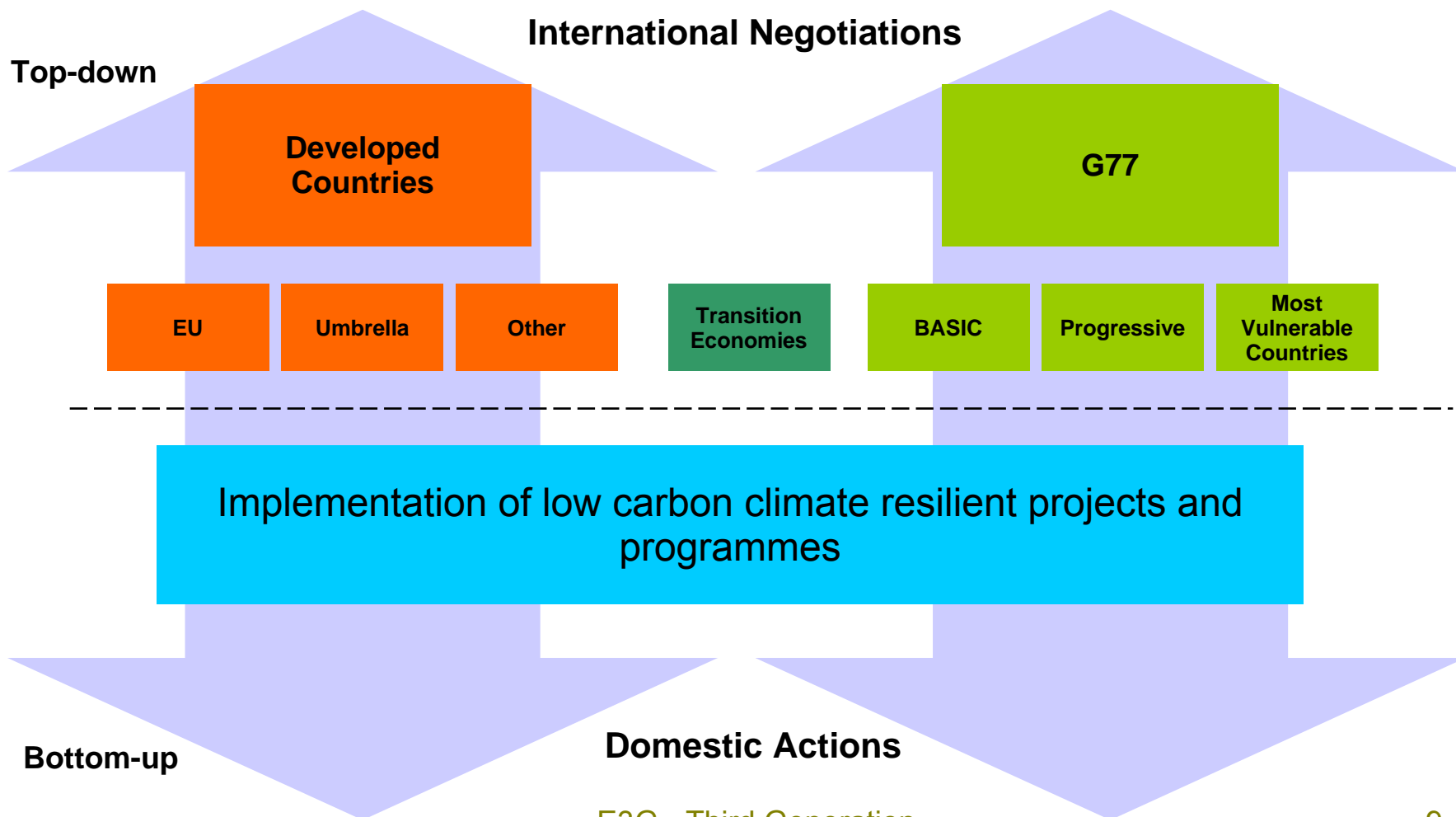


...but to rebuild trust in the multilateral system it is vital that we now make complementary investments to build the bottom-up processes within countries which can support change first in the real economy and then in countries' perceptions of their national interest in contributing to the global regime

New alliances within G77 will depend on domestic actions



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The growing tension between G77 countries became visible at Copenhagen



- G77+ China is the largest negotiation group consisting of 130 countries with significantly different economies, level of development and vulnerability to climate change.
- These differences are reflected in both countries' negotiation positions within the bloc as well as their domestic actions:
 - While key major emerging economies within G77, including Brazil, China, South Africa and India (BASIC) played a critical role in shaping the Copenhagen Accord, due to G77 objection, COP merely took note of the Accord.
 - There is growing tension between the official BASIC bloc position “right to development” and most vulnerable countries (MVC) “right to survival” objectives.
 - While AOSIS and Africa Group were strongly campaigning for 1.5°C, there was little support from BASIC countries or G77

'Swing' countries have the potential to create low carbon champions within the G77



- Key countries within the G77 can become 'swing' states by moving into the BASIC bloc and Progressive Coalition
- Becoming vocal at the international level can help shape the climate politics within the G77 and beyond
 - E.g. UNFCCC negotiations, MEF, BASIC meetings, Progressive Coalition meetings, Ministerial level negotiations (i.e. St. Petersburg Dialogue)
- Successful implementation at home shows low carbon development is possible and sets a positive precedent for other countries within the G77

Domestic actions are key to catalyzing political change within the G77 and creating low carbon champions

Champions within BASIC could help advance low carbon-high growth coalition



- BASIC group, including Brazil, South Africa, India and China, emerged from COP15 in Copenhagen and played active role in shaping the Copenhagen Accord.
- BASIC is gaining traction as a strong voice, in a balancing act with major developed economies, but is yet to produce a concrete and coherent strategy
- Indonesia, Argentina and Pakistan may join this bloc

Experimenting with new models of low carbon transformation in key progressive countries and ambitious BASIC countries can help unlock the politics.

Progressive countries can play a pivotal role



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- A group of mostly middle-income countries* came forward in the negotiations last year and showed a willingness to take ambitious action to decarbonise their economies. Some of these countries play key role in breaking deadlock on issues such as forestry (REDD).
- Opportunity in 2010 to build on this progress and generate concrete action:
 - Support national climate campaigns to shape domestic politics and international negotiating positions of key countries;
 - Seize opportunities to strengthen likeminded coalitions and build the global climate regime (e.g. COP decisions on finance and MRV)
- This could also support longer-term low carbon transformation objectives:
 - Demonstrate low carbon transition is possible in a range of countries
 - Increase vocal support for climate leadership within these countries and shape the politics at key moments (e.g. domestic elections)
 - Maximize level of transformation in the most ambitious countries through systemic approaches that can be used among “development analogues”

* Antigua and Barbuda, Australia, Chile, Colombia, Costa Rica, France, Germany, Ghana, Indonesia, Maldives, Marshall Islands, Mexico, Netherlands, New Zealand, Norway, Panama, Peru, Rwanda, Samoa, Spain, UK, Uruguay

Transition economies could develop innovative low carbon growth strategies



- Transition economies encompass a very diverse group of countries which are transitioning from a centrally planned economy towards a market economy. They include, more formally, the countries of Central and Eastern Europe and the Former Soviet Union, but also advanced developing economies such as Turkey and Vietnam. They have significant potential in developing innovative low carbon growth strategies and delivering bottom up action:
 - There is significant scope for increasing energy efficiency in countries with economies in transition
 - As these countries are likely to grow rapidly within the next decade (and their energy demands in parallel), there is a huge potential in shifting future investment towards low carbon and avoiding high carbon lock-in
 - Transition economies could establish a development analogue for moving towards a low carbon pathway for other countries in transition and other MICs.
- At the formal UNFCCC negotiations, transition economies negotiate within different blocs – some within G77 and some within the EU/Annex I.
 - Investment in these countries can help avoid obstructionist positions

Enabling new champions can provide a crucial opportunity to break the deadlock



- Working in new countries and nurturing new players can deliver on key strategic objectives:
 - It would allow these countries to demonstrate that the low carbon transition is feasible
 - It would support their willingness to become vocal climate leaders and help shape their domestic politics at critical junctures (e.g. domestic elections)
 - Moreover, it would boost transformation in the most ambitious countries, thus creating a first generation of decarbonisation strategies from which others can learn
- This is key to helping shape the dynamics and ambition within large negotiating blocs such as G77 where powerful voices can shape international politics

- **Introduction and strategic context**

- **Country analysis**

- Mexico
- South Africa
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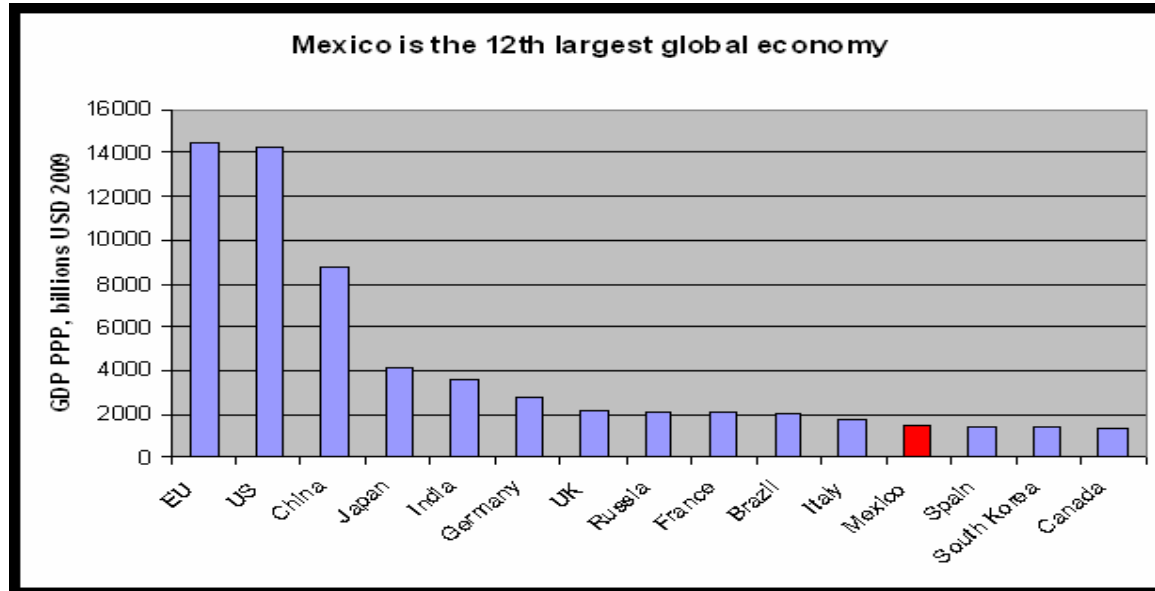
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Mexico is a OECD/G20 economy with strong ties to the US



- Mexico is 12th largest economy, Member of G20, MEF, NAFTA
- 2nd largest economy and recipient of foreign direct investment in Latin America (after Brazil)
- US as key engine of growth –80% of Mexican exports go to US; Mexico is US largest partner in region
 - Consequently, global and US recession, in particular, severely affected Mexico (GDP dropped 6.5% in 2009) but economy is recovering this year.
 - Mexico assumed a nonpermanent seat on the UN Security Council for the 2009-10 term

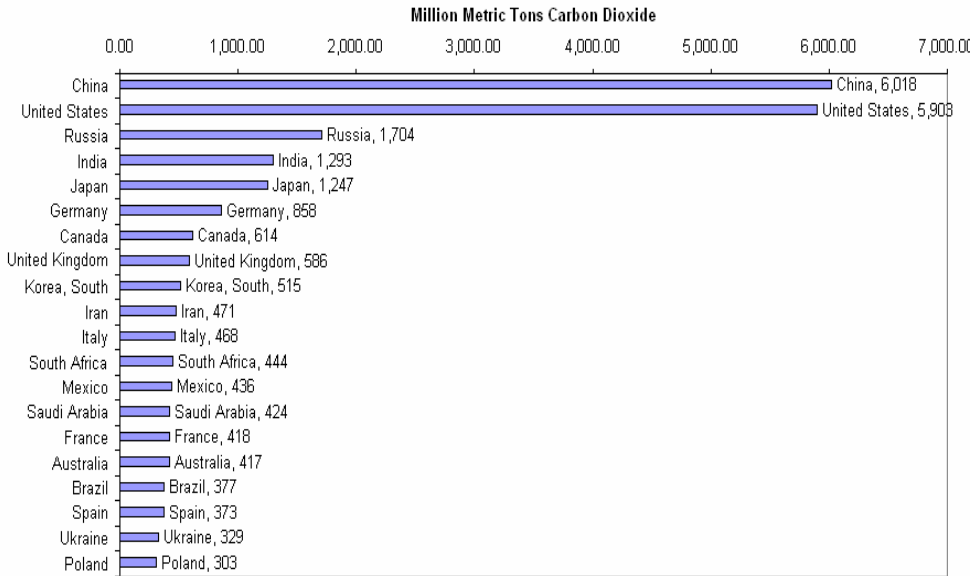
Sources:

CIA World Factbook 2010; US DOS Country Notes 2010; Pew, Who is Winning the Clean Energy Race 2010; World Bank World Development Indicators 2010; OECD Economic Outlook 87 Database

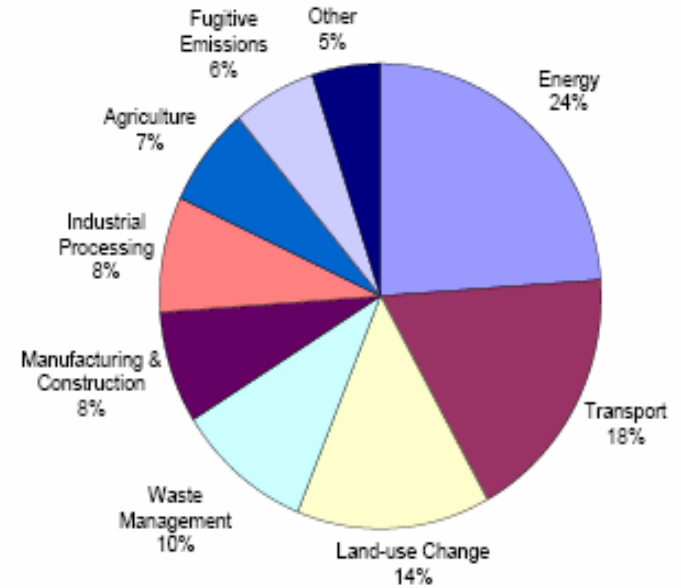
Mexico is the world's 13th largest emitter of GHG (1.6% of global emissions)



Top 20 Countries
2006 CO2 Emissions



Mexico's GHG Emissions by Source, 2002

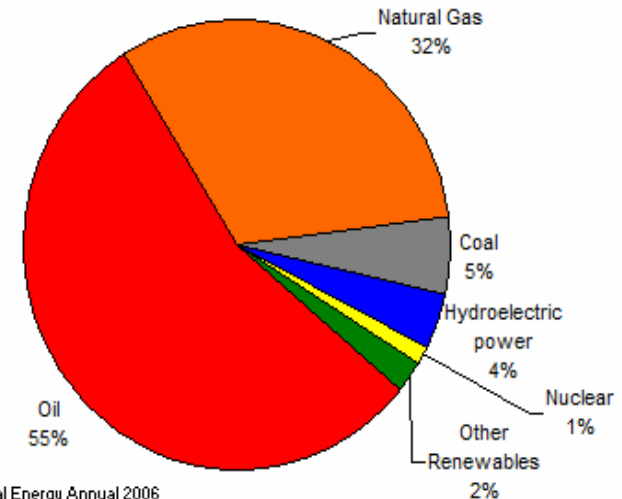


- Energy related emissions = 60%; land use /deforestation = 20%
- Per capita emissions = ~4 tons
- Mexico City is one of the largest cities in the world and transport emissions are rapidly growing

The economy is dependant on oil – as source of exports and public sector revenues

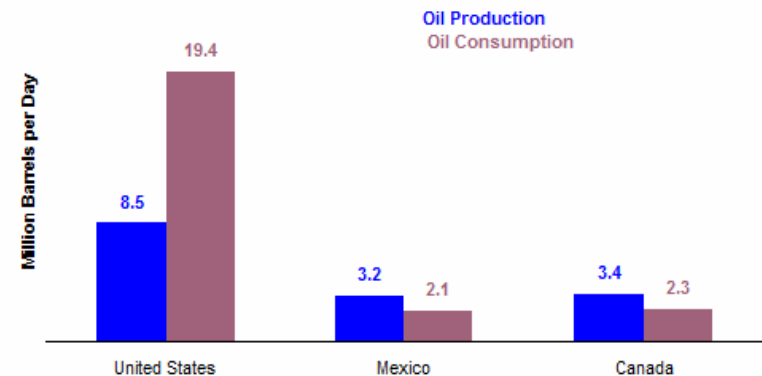
- **40% of government revenues come from oil**
- 7th largest oil producer in the world, 3rd largest in the Americas
- Economy depends on oil exports (15% of export earnings); most of which go to US
- State-owned *Petróleos Mexicanos* (Pemex) holds a monopoly on oil production
- Fundamental challenge: (given oil monopoly) is how to diversify the energy sector and foster private investment

Total Energy Consumption in Mexico, by Type (2006)



Source: EIA International Energy Annual 2006

North America Oil Production and Consumption, 2008



Sources:
EIA 2009; CIA World Factbook 2010

Key barriers to development are weak taxes, monopolies and red tape



- **Fiscal challenge is key:** low tax rate generates insufficient public revenues to finance economic and social infrastructure
 - Deep fiscal reform will be necessary to address the imbalances and to reduce the state's dependence on oil
- **Monopolies** dominate economic landscape reducing productivity and increasing costs of goods and services
- **Red tape:** plethora of regulations stops Mexico from becoming more competitive
- **Crime and poverty:** government has not been able to tackle drug-related violence and poverty
 - 18,000 have been murdered in drug-related crime since 2006
 - About half of the population remains poor

Mexico has unique attributes of a 'bridge' country



Its 'bridge' status stems from being part of both developed and developing worlds:

- Joining NAFTA was a turning point: elevated its standing as equal trading partner of US
- OECD membership encouraged an upward harmonisation of governance and regulation and more active participation in global economic debate
 - For the first time the OECD is led by a Mexican
- But Mexico still sustains strong ties with Latin America turning it into key developmental analogue
 - Proactive role in the Millennium Development Goals (e.g. Monterrey Consensus)
- A major shift in Mexico position is observed on sustainability agenda (leaving behind defensive position of 1990s)
 - Major shift in climate change position in particular since Calderon took office

Political culture undermines current drive for economic and institutional reform



Mexico still deals with the legacy of having been run consecutively by a single party (PRI) for 71 years

- 1st president elected from an opposition party only happened in 2000
- Partisan politics threatens the government's drive toward deep reform (fiscal, economic, institutional)
- PRI is making a comeback in state governorships and Congress
 - Government only holds 143 of 500 seats in lower house of Congress – any reforms will depend on the opposition PRI (which holds 237 seats)
 - A more powerful PRI may delay ambition and depth of current climate agenda

Unfavorable results in the state governorship elections of July 2010 (a stronger PRI) will have negative impacts for Calderon's reform agenda

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Current proactive climate agenda in Mexico is unprecedented



President Calderon turned climate change into a central pillar of domestic agenda and diplomacy:

- Long term plan: (Special Climate Change Program)
 - 30% reduction below BAU by 2020 with international support (goal of 50% by 2050 contingent on global ambition and support)
 - \$64 billion is required by 2030 for 41% cuts
 - Actions span across all sectors (includes cap & trade schemes)
- Low carbon investment:
 - \$2 billion invested in clean energy (11th in G20)
 - \$500 million low carbon loan by World Bank's Clean Technology Fund
- Proactive role in climate negotiations:
 - It will host COP16 in Cancun in 2010

Calderon's climate agenda is ambitious but does not have bipartisan support

Sources:

Government of Mexico 2009; World Bank MEDEC 2010; UNFCCC 2010; World Bank Clean Technology Fund Investment Plan for Mexico 2009; UNEP Global Green New Deal 2009

A climate bill was proposed in March 2010 but the debate is in its early stages



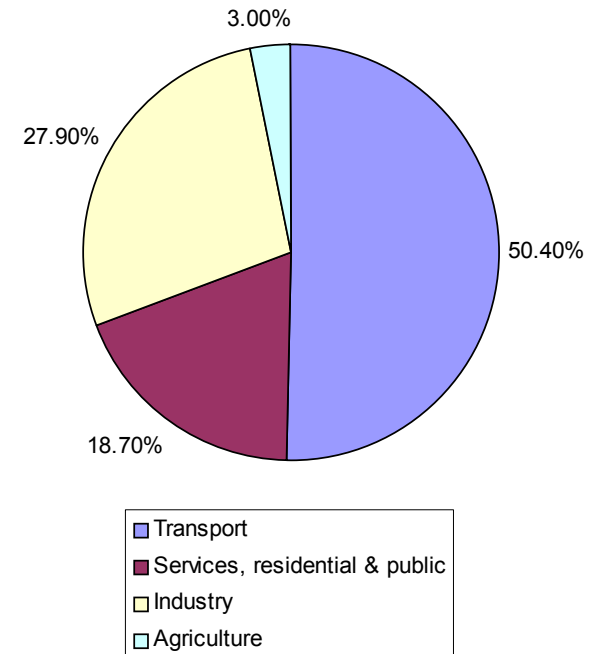
- To lock in the current ambitious drive toward climate action, it is imperative to embed current commitments into law
- Major challenge is to make mandatory climate commitments beyond Calderon's term (2012) - which is not allowed under current administrative laws
 - Local politics are influential; unfavorable results in the state governorship elections in July 2010 toward the PRI could have negative impacts for Calderon's green agenda
- Senator Alberto Cardenas introduced a climate bill in March 24, 2010 (*Ley General de Cambio Climático*):
 - It was a surprising development; many expected a bill but not from him and his climate credentials have been questioned
- To counterbalance this move, an alternative (or “mirror”) bill is expected to emerge from another house of the Congress

Clean urban transport is strategic priority for climate and development agenda



- **The transport sector represents 18% of emissions**
- **Mexico's transport emissions increased 27% between 1990 and 2005 and now account for about 2% of the global transport sector's emissions**
- **Key interventions are requested and being tested:**
 - Reduced fuel demand (higher density urban growth, efficient mass transit, and non-motorized transport, and by vehicle fleet efficiency); improved logistics management; and increased use of rail for freight transport
- **Urban transport improvements also aim to tackle developmental objectives**
 - Improvements in quality of air, reduced travel time, better services
 - Improving on daily needs and access to basic services for the poor

Mexico Energy Consumption by Sector, 2008



Changing the transport sector's carbon path has the potential to alter the overall footprint of the Mexican economy

Mexico City is setting pivotal precedents with potential for scale up



- **Underpinning a winning climate strategy for Mexico is a successful low carbon mobility model**
- Mexico City is one of the world's largest and most traffic-choked urban centres (200,000 new cars hit the road each year)
- Since 2006, City has embarked on the **biggest investment in public mobility in its history.**
- CO₂ reductions and improving mobility are twin objectives

Examples include:

- *Metrobús* uses strictest EU emissions standards (ultra low-sulphur diesel fuel) and is said to reduce by 80,000 CO₂ tons/year)
- New subway line
- The electric-transit authority, (popular light-rail train and bus system) is expanding
- Public bike rental system was introduced for first time
- Turkish delegation visited Mexico in June 2010 to learn from prototype

Finding workable solutions on the ground, will allow Mexico to **gain confidence** and build stronger climate leadership abroad

International leadership is on the rise with COP16 in Cancun as strategic step



- By hosting COP16 put the country at the centre of the diplomatic efforts to build the post 2012 international climate regime
- The government has shown leadership in the areas of finance, REDD, technology
 - Mexico has an increasingly proactive and competent climate negotiating team
 - Has engaged with the informal progressive coalition (middle income economies)
- Target to reduce GHG emissions 30% below BAU by 2020; conditional goal of 50% by 2050
- Proposal for a World Climate Change Fund under the UNFCCC: “Green Fund”
- Mexico is among the top 5 beneficiaries of the the Clean Development Mechanism (CDM)
- A key issue Mexico will have to manage is the perceived lack of transparency and inclusiveness in the international process

As a member of both OECD and G77, Mexico is in a unique position to help broker actions from key developed and developing economies

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Three opportunities with medium and high potential for quick wins 2010-11



Opportunity 1: Lock-in high ambitious climate agenda

- Building a broader political constituency to support climate bill to ensure Calderon's decarbonisation drive is embedded into law
 - Develop a bipartisan coalition including civil society

Opportunity 2: Mainstream clean transport prototypes

- Winning the politics to scale up the prototype
 - Working with key players to build new capacities and partnerships

Opportunity 3: COP16 helps build trust of UNFCCC process

- Achieving agreement in key foundational elements of a global climate deal paving the way for COP17 in South Africa
 - Robust timetable +preparation and openness

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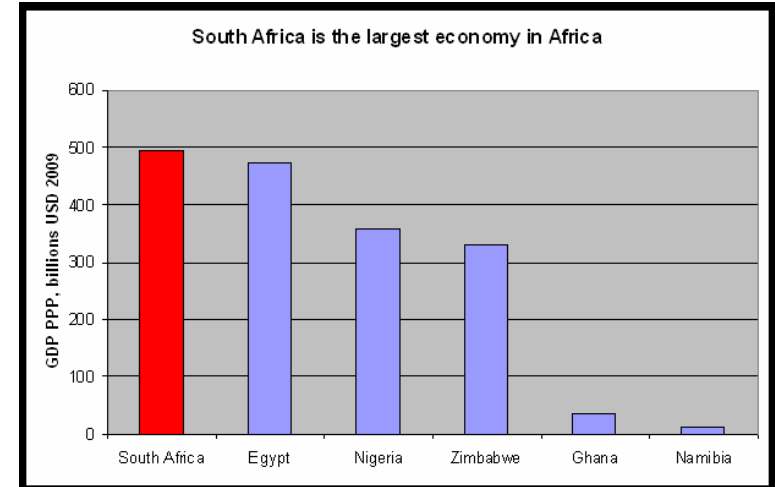
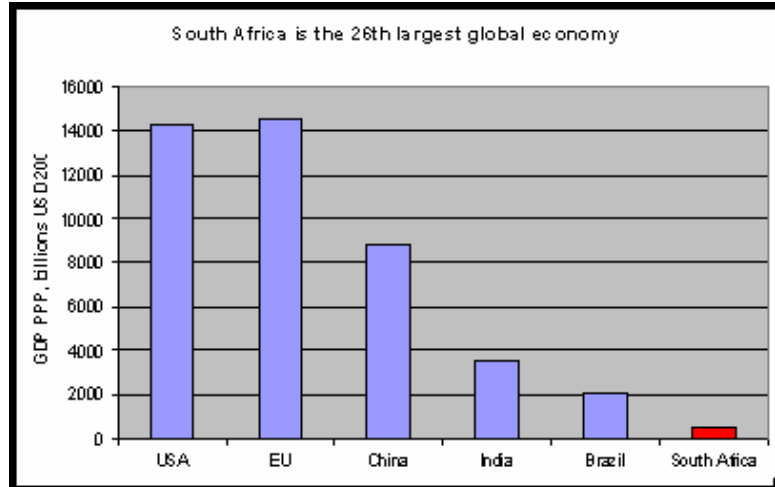
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South Africa has become a promising emerging market and G20 economy



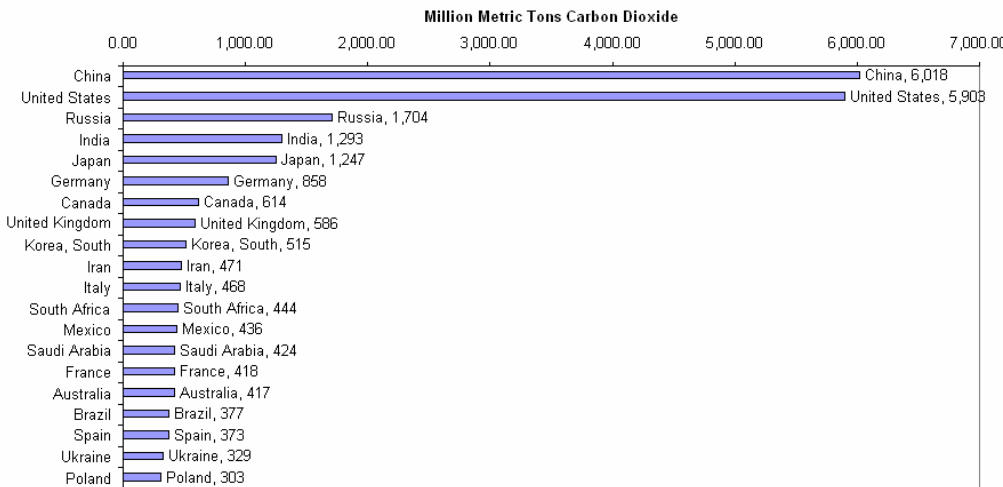
- Largest economy in Africa with 18th largest stock exchange.
- Despite 2008/09 recession, GDP is projected to grow by 3.3% in 2010 and 5.0% in 2011
- Member in key economic blocs: G20, MEF and BASIC
- Trade = \$68 bn (38th in the world)
- Foreign Direct Investment = \$126 bn (28th in the world)
- World Economic Forum's latest Global Competitiveness Report ranks it among the top ten (of 133 countries) for the sophistication of its financial markets, investor protection, the strength of its auditing and reporting standards, the efficacy of its corporate boards, the soundness of its banks and the regulation of its securities and exchanges
- Historic investments in infrastructure due to World Cup 2010: more than \$4 billion on new stadiums and transportation and communication infrastructure would:
 - create 160,000 jobs
 - contribute more than 20 billion rand (\$3.6 billion) to GDP

Sources:

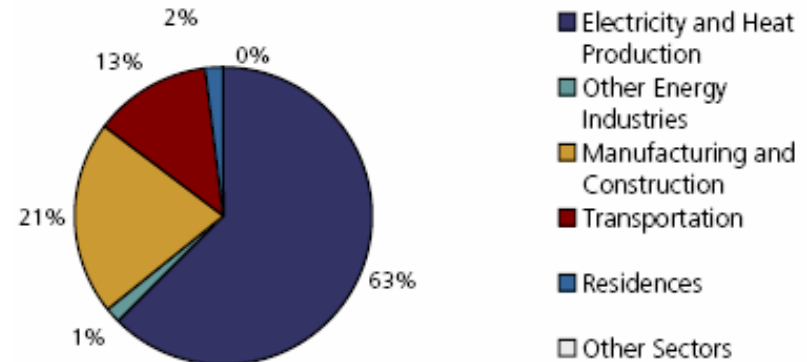
CIA World Factbook 2010; US DOS Country Notes 2010; Pew, Who is Winning the Clean Energy Race 2010; The Economist Special Report on South Africa 2010; World Bank World Development Indicators 2010; OECD Economic Outlook 87 Database; BBC 2010; Investment News.com 2010

South Africa is the world's 12th largest emitter of greenhouse gases

Top 20 Countries
2006 CO₂ Emissions



CO₂ Emissions by Sector, South Africa, 1999

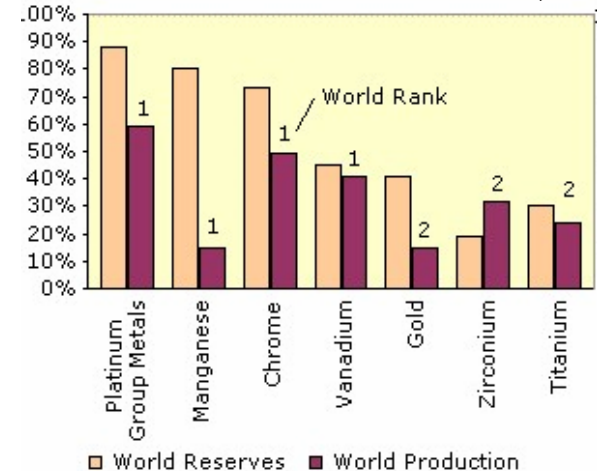


- Ranks 19th in the world for energy use (134 Mtoe)
- Electricity sector provided the largest share of emissions at 63% in 1999
- CO₂ emissions predicted to grow significantly due to further industrialisation and building of new coal plants
- Total emissions = 443.58 million metric tons CO₂
- Per capita emissions = 10.04 tons per capita
- Despite growth in emissions, clean energy investments in 2009 amounted to \$125 million
- 2010 World Bank loan to Eskom:
 - \$3.05 billion for Medupi coal fired power station
 - \$485 million energy efficiency projects
 - \$260 million solar and wind projects

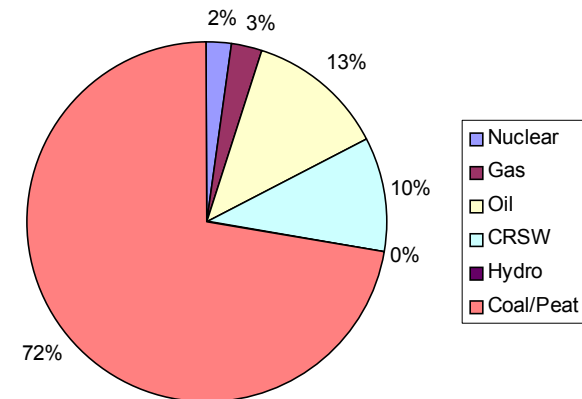
Their dependency on mining, coal and natural resources is strong

- World's largest producer of gold, platinum, chromium
- 5th largest coal producer
 - 72% share of the total primary energy supply in 2007; accounts for 85% of electricity generation capacity
- 16th largest producer of electricity at 240.3 billion kWh; most is used domestically
- Electrification is key challenge - rapid growth and poor infrastructure has led to issues of access
 - 75% of population now has access to electricity (highest in Africa); but over half of rural households have no power
 - Shortages remain problematic; frequent rolling blackouts and power cuts
 - 2008 electricity installed capacity was 43 gigawatts
 - Problems due to underinvestment, mismanagement, and expanding demand

SA Share of World Reserves & Production, 2008



South Africa Total Primary Energy Supply by Type, 2007



Sources:

CIA World Factbook 2010; The Economist Special Report on South Africa 2010; South Africa Department of Minerals and Energy 2010; EIA 2010

Despite recent growth, unemployment, inequality and poverty remain very high

- **Poverty and Inequality are high**
 - Despite a GDP \$10,000 per capita, 50% of the population live below the poverty line
 - Human Development Index is low (129th out of 182)
 - 30% of blacks are officially unemployed, compared with 6% of whites
 - 2nd most unequal wealth distribution after Namibia
- **HIV/AIDS-related deaths are highest in the world**
 - 1st in the world in terms of HIV/AIDS related deaths
 - Highest population of people living with the disease
 - Low life expectancy for both males (50) and females (48)
- **Crime and education challenges also remain high**
 - Crime: Worst out of 133 countries (e.g. 550 violent assaults per day)
 - School expectancy 13 years
- **Governance:**
 - A third of the ANC's 83-member national executive committee have been investigated for fraud or other criminal activities

Unemployment is one of the highest in the world at 25% of the population – therefore is critical that the low carbon agenda can be seen to deliver on job creation

Despite developmental issues, South Africa is still a major player in Africa



- Dominant peacekeeping force in Africa and strong role in conflict resolution through the South African National Defence Force
 - Roles in Burundi, the Democratic Republic of the Congo, Madagascar, Sudan, Comoros, and Zimbabwe
- Major energy supplier to the region
 - State company Eskom is among the lowest-cost electricity suppliers in the world. It ranks in the top 10 internationally for size and sales, supplying around 95% of South Africa's energy requirements and two-thirds of Africa's
 - Eskom will be involved in 70% of new energy production projects in the country, with independent producers being involved in the remainder
- Plays active role in African Union, Southern African Customs Union, and Southern African Development Community

A successful low carbon model in South Africa can be a development analogue for other African economies

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South Africa has a highly ambitious domestic climate agenda



- **The design of Long Term Mitigation Scenarios (LTMS) marked a watershed in domestic climate debate:**
 - LTMS aimed to identify strategic mitigation actions: energy efficiency, especially in industry; electricity supply options; CCS; transport efficiency and shifts; people-oriented strategies; supported by awareness raising
 - Strategic options for further research: social behaviour change, emerging technologies, resource identification, transition to a low carbon economy
 - Will inform Climate Change Policy Framework ready by 2010 with legal, regulatory and public fiscal measures to be enacted in 2012
 - Provided a platform for the national debate on climate policy and for shaping the international position
 - The focus in the long term was allowed South Africa to chart potential trajectories for emission reductions:
 - CO2 emissions would be 34% lower in 2020 and 42% lower in 2025
 - The process involved a wide range of stakeholders
- **Adaptation remains a priority:**
 - National Climate Change Response Strategy (2004) includes adapting to climate change; developing a sustainable energy programme; adopting an integrated response by the relevant government departments; compiling inventories of greenhouse gases; accessing and managing financial resources; and research, education, and training.

Domestic debate is focused on local impacts and the green economy



- **Some local governments are engaging proactively:**
 - August 2006 Cape Town: Energy and Climate Change Strategy including renewable energy, promoting energy efficiency, provision of reliable public transport and improved city planning.
 - June 2007 Western Cape Provincial Government: Climate Change Response Strategy and Action Plan
 - Johannesburg and Durban are developing plans
- **New links between climate agenda, growth and green jobs are being identified:**
 - A high level summit on Green Economy was organized in 2010. Key governmental departments are working with civil society to develop a Green Economy Plan by Summer 2010.
 - 11% of 2009 stimulus was allocated to green measures

Sources:

Government of South Africa 2009; South African Environment Ministry Green Economy Summit Draft Statement May 2010; HSBC 2009

The low carbon agenda is moving forward through participatory mechanisms



- **National Planning Commission:** long term growth and low carbon development plan to 2025
 - Independent body with stakeholders and experts from academia, civil society, and the private sector
 - Key decisions: liberalising the energy sector; pass legislation which will facilitate and get international funding for RE; decision on nuclear as a replacement for coal including funding issues in the next 6 months; demand side management, especially in energy intensive industries; and diversifying the economy
- **Role of business:** limited to voluntary agreements made in Energy Efficiency Accord (with the National Business Initiative).
- **NGOs:** networks for advocacy and lobbying for action against climate change are on the rise (e.g. South African Energy Caucus, South African Climate Action Network – SACAN).
- **Trade unions:** are not yet champions of the green economy but are supportive of the green jobs opportunity.

High carbon industries drive growth, posing a threat to low carbon transition

Electrification choices risk high carbon lock-in

- Incumbent infrastructure and reliance on coal for heavy industry make the switch more difficult
 - Eskom received a \$3.75 billion World Bank loan recently, most of which will finance one of the world's largest coal plant (\$3.05 billion)
 - Mining industry remains influential voice in electricity choices debate

Need to win low carbon growth debate

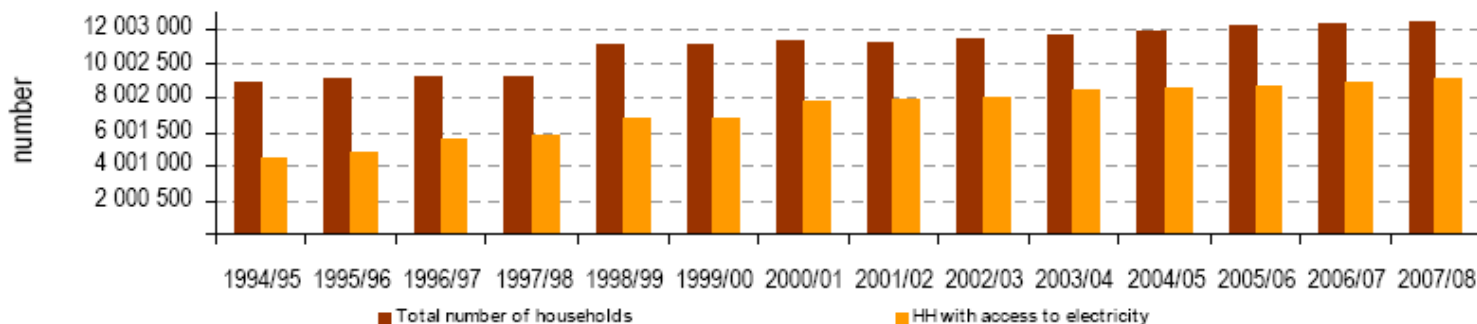
- Because of high employment rates, concerns about job loss in high-carbon industries are politically sensitive
 - The mining sector is at considerable risk from climate related regulation, including carbon taxes, while manufacturing could be hurt by regulatory concerns and faces supply chain, investor and reputational risks

A successful low carbon agenda will need to prioritise key development objectives



- Low carbon agenda needs to tackle access-to-energy objectives and unemployment :
 - Energy access for the poor: goal of universal access to electricity by 2014; although access is steadily improving, 27% households did not have access to electricity in 2008
 - Job creation: tackle the 25% unemployment challenge; Green Economy Summit focused on developing a green economy plan by end of July 2010 which will define the job creation potential on a sector by sector basis

HOUSEHOLDS WITH ACCESS TO ELECTRICITY



Sources:

Government of South Africa Development Indicators 2009;
South African Environment Ministry Green Economy Summit
Draft Statement May 2010

As South Africa builds confidence on the ground, its international role is rising



- Key leader of developing countries in terms of climate, conservation and biodiversity – hosted the 2002 World Summit on Sustainable Development
- Vocal at UNFCCC negotiations, endorses 2°C goal
- Supports Copenhagen Accord with target of cutting emissions 34% below BAU by 2020; and 42% by 2025
- At Copenhagen:
 - Joined BASIC bloc (Brazil, South Africa, India, and China)
 - Involved in the drafting of the Copenhagen Accord
- After Mexico as host of COP16 in Cancun, South Africa will host the next big political moment at COP17 in 2011 where an international agreement is possible
 - South Africa must show leadership to ensure COP decisions made in Cancun can translate into an agreement in Johannesburg

Shaping South Africa's position in the negotiations will be critical to raising global ambition

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Three opportunities with medium to high potential of quick wins (2010-2011)



Opportunity 1: A transformative electricity plan

- Combines objectives of low carbon electricity with access for the poor goals
 - Avoid high carbon energy lock-in while increasing living standards

Opportunity 2: A consensus-based low carbon development plan

- National planning commissions delivers a blueprint for green growth
 - Combine with job creation impetus
 - Incorporates stakeholder

Opportunity 3: Prepare SA leadership for successful COP17

- Robust strategy for COP16 outcomes – uncertainty over what Cancun will achieve
- Build new, high-ambition coalition with the goal of getting a climate deal by 2011 (or by 2012)

- **Introduction and strategic context**

- **Country analysis**

- Mexico
- South Africa
- **Brazil**
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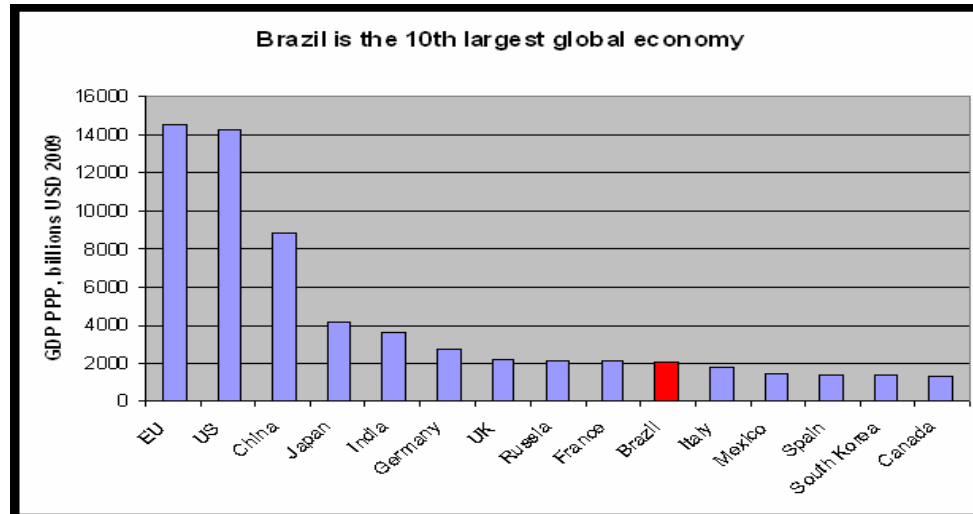
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Brazil is transforming itself: from 'country of the future' to 'country of the present'



- Continent sized country with federal democracy in which state governments have considerable power (similar attributes to the US)
- 10th place in the global economy; G20 member
- 2nd most important recipient of foreign direct investment (FDI) after China
- Population of ~200 million (35m new families by 2030); 86% living in urban areas
- Economy is still relatively closed (trade accounts for 24% of GDP)
- Growth is correlated to commodity prices (and therefore to the Chinese economy)
- Emerging economy; but stable, democratic and peaceful with neighbours

Sources:

CIA World Factbook; World Bank Development Indicators 2010; OECD Economic Outlook 87 Database, The Economist

Confidence is rising as Brazil begins to deliver on its economic promise



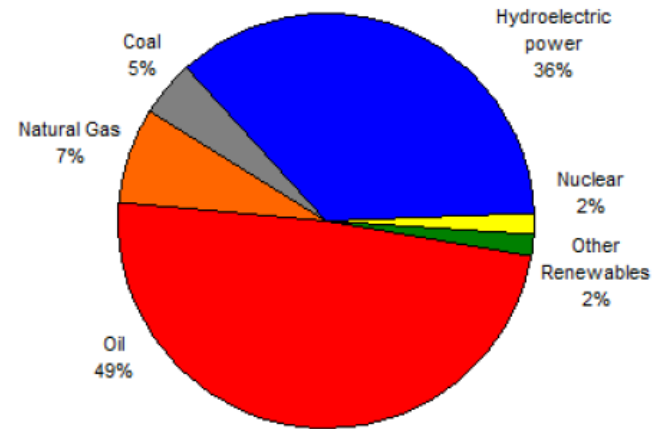
- Underpinning its 'promise' is Brazil's **vast natural wealth**
 - World's largest freshwater supplies
 - Largest tropical forest and home to one of greatest ecosystems
 - Highly fertile land
 - Mineral wealth
 - Hydrocarbon wealth
 - Self-sufficient in oil with offshore discoveries in 2007; expected to become a large oil exporter by the end of decade
- **Deep macroeconomic reform** starting in 1995 has led to growing investor confidence and more resilient economy
 - New currency (real); more disciplined public finance policies over the years
 - Inflation is relatively under control
 - Global downturn left Brazil relatively unscathed – it was one of the first countries out (traditionally international economy woes would send Brazil into tailspin)
 - Foreign investors are becoming more confident in Brazil's prospects and its ability to avoid the meltdowns of the past
 - Frequent crises have led to stronger banks; financial markets have become more sophisticated and liquid

Brazil could become one of the world's five biggest economies by 2050 - along with China, America, India and Japan*

Brazil's clean electricity production coexists with increasing role of fossil fuels

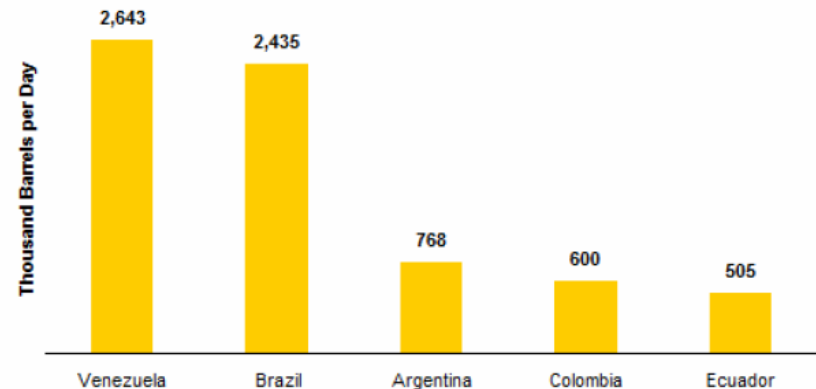
- 10th largest energy consumer globally; 3rd largest in the Western Hemisphere (behind USA & Canada)
- 49% of energy consumption from oil
- Electricity generation is dependent on hydroelectric dams
- One of the largest oil producers in the world
 - Increasing domestic production is a long term goal
 - Discovery of large off-shore oil deposits
- State controlled oil giant, **Petrobrás** is Brazil's biggest player in oil sector controlling almost all production
 - Historic monopoly until 1997, is now open to competition and foreign investment (foreign-operated oil projects make up a small share of total production)
- Ethanol: one of the largest producers in the world and largest exporter (90% of global export market)
 - Key fuel for Brazil's domestic transportation fuel market
 - Ethanol accounts for 50% of current light vehicle fuel demand; predicted to grow to 80% by 2020

Total Energy Consumption in Brazil, by Type (2006)

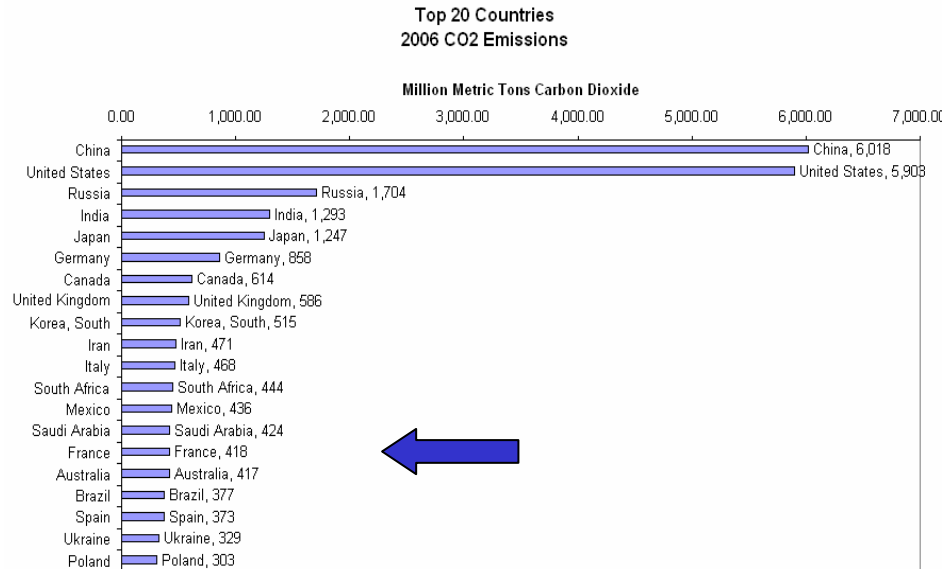


Source: EIA International Energy Annual 2006

Top 5 South American Oil Producers, 2008



Brazil is the world's 4th largest emitter of GHG; 17th if deforestation is excluded



- Unlike most developed countries and emerging economies, Brazil's energy sector contributes little to GHG emissions (~36% of energy supply comes from renewables, mostly hydro)
- **Unsustainable agriculture and livestock raising, and deforestation represent ~75%.**
- Brazil is expected to see a rise in carbon intensive electric power, diesel-based transport, methane-emissions from landfill development
- Brazil's low carbon transition will require an additional investment of \$400bn by 2030

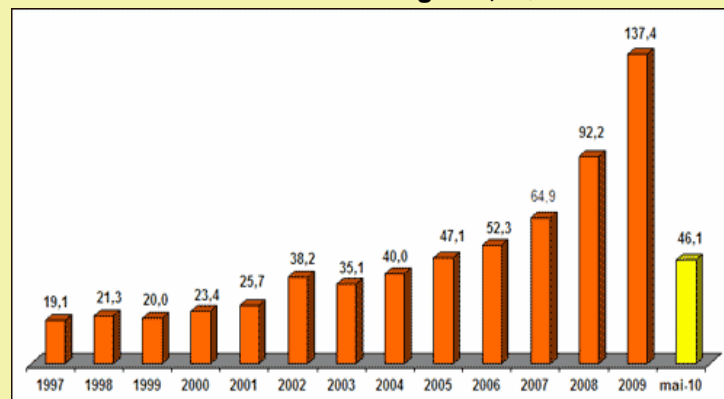
Brazil is still a land of paradoxes: two countries coexisting in one

- Despite growth, sophisticated economic policy-making and financial markets, Brazil lacks a successful formula to **release its wealth**:
 - Public spending tends to be regressive:
 - Public money flows are large but most benefits flow to a few:
 - E.g. Brazil's national development bank, BNDES, transfers money to large Brazilian companies (often privately-held)
 - Interest rates are among the highest in the world
 - Limited access to credit constrains economic prospects of small and medium economic actors and entrepreneurs
 - Income distribution is among the worst in the world and 26% of the population lives below the poverty line
- Most wealth creation is **concentrated in the commodity sectors**:
 - Efficient yet narrow governmental focus on supporting industries where Brazil has unbeatable advantages in international markets
 - Limited support to other sectors (high-tech industries) despite Brazil's high level of creativity and invention
 - Low levels of investments in R&D compared to other economies of its size

Sources:

BNDES website, World Bank: Brazil Low Carbon Study 2010; CIA World Factbook,

BNDES investment figures, R\$ billion



- Since 1952, Brazil's Banco Nacional de Desenvolvimento Econômico e Social (BNDES) is the government-owned development bank – the main source of long-term credit. It also supports capital markets, has an import and export branch, and operates investment funds.
- **BNDES is 2nd largest development bank in the world**: disbursements of R\$140 bn (about \$77bn) in 2009 and R\$ 35.7 bn in 2010 Q1 (34% higher than a year ago).
- On average, 30 to 40 % of the bank's disbursements go to infrastructure projects.

Brazil is turning itself into one of the world's biggest aid donors



- **Brazil's soft power is rising in the developing world:**

- Overall figures (see table) are reaching similar levels to donors such as Sweden and Canada
- Assistance in Africa rivals China and India
 - Greatly increasing profile in Africa investment (\$10bn since 2003), trade (\$25bn annually) and cultural cooperation – emerging as a major player in Africa
- Lobby efforts for permanent seat at the UN Security Council
- Active search for markets for Brazilian goods (i.e. spread of technology know-how in ethanol production to developing countries will help Brazil compete on the global stage)
- Aiming to create stability in developing world for future foreign investment opportunities

- **Brazilian lending is unique to Western-style aid:**

- Less conditionality for recipients
- Focuses on social programmes and agriculture (i.e. Bolsa Familia)
- Blurs the lines between donor and recipient and challenges the traditional top-down system – Brazil still accepts aid

- **Swift increases in development aid means there are challenges:**

- Incompetence, corruption and unfulfilled promises still exist

Brazil's Foreign Aid Commitments, 2010, \$m

Brazilian Co-operation Agency	30
Other technical co-operation	440
Humanitarian aid	30
To UNDP	25
To World Food Program	300
To Gaza	10
To Haiti	350
Total direct aid	1200
BNDES loans in developing countries 2008-Q1 2010	3300
...of which new loans Q1 2010	1500

Lula's era will soon come to an end with October 2010 elections



Brazilian elections to be held on 3 October 2010

- First time since 1989 that Lula does not run as candidate
- If none of the candidates receives more than 50% of votes, a run-off will be held on 31 October 2010
- Presidency, all Chamber of Deputies seats, governorships and state legislatures will be contested

Traditional parties dominate but green party is getting stronger

- Dilma Rousseff is of the ruling Workers' Party (polls favor her) and Jose Serra is former Sao Paulo state governor (centrist, PSDB party)
- Former Environment Minister (until 2008), Marina Silva is running on clean government/low-carbon growth platform
 - Running mate is progressive businessman Guilherme Leal, co-owner of Natura (sustainability oriented cosmetics company)
 - Green party still lacks financial muscle to compete with larger parties.

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Deforestation and bioenergy dominate mitigation agenda and climate diplomacy



- **Deforestation**

- Deforestation is expected to be the key driver of Brazil's GHG emissions through 2030
 - Multiple drivers: agricultural and livestock expansion, new roads, illegal logging combined with international market dynamics (e.g. demand for meat and crops)
 - How to tackle the demand for land for agriculture and livestock is at the core of the mitigation challenge in Brazil

- **Bioenergy**

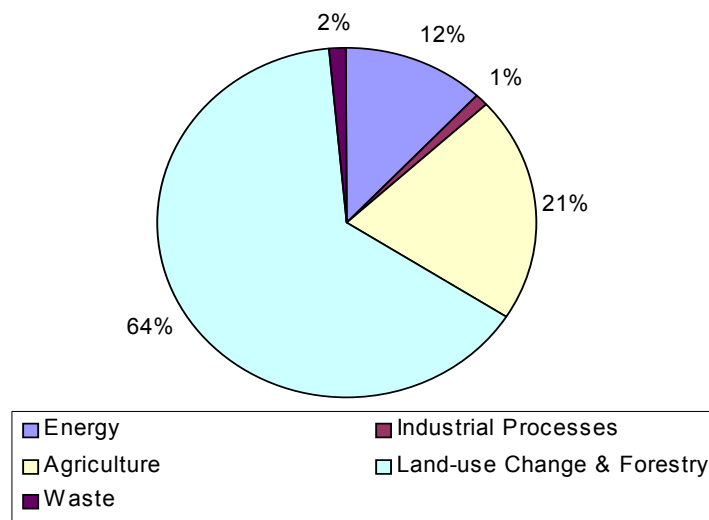
- Brazil's apparently small endowment of coal, gas and oil was a great stimulus to innovation, and the country pioneered renewable energy long before many developed economies (i.e. hydro and bioethanol);
- Without historically high investments in renewable energy, Brazilian energy matrix would be far more carbon intensive;
- A fundamental challenge: How to keep a low carbon energy matrix in Brazil as economy grows?

In the international context, the challenge is for Brazil to expand the boundaries of their climate diplomacy (e.g. innovative financing)

An effective strategy for the Amazon is at the core of Brazil's mitigation challenge

- The Amazon region comprises 61% of Brazil's land area with a population of 20 million people
 - Largest continuous tropical forest in the world and hosts around 20% of the world's plant and animal species
 - The forest sector provides **6.5 million jobs**
 - About 17% of the Amazon forest, or 60 million hectares – an area equivalent to France – has been converted to other land uses in the past 30 years
- Deforestation is responsible for three quarters of Brazil's GHG, and makes the country the 4th largest climate polluter in the world
 - Deforestation in the Brazilian Amazon alone releases about 200 million tonnes of carbon annually, accounting for 3% of global net carbon emissions and about 70% of national emissions
- Deforestation results from direct and indirect drivers:
 - Mining, logging, subsidies for cattle ranching, investment in infrastructure, land tenure issues, inadequate law enforcement, the high price of grains and meat, and large-scale agriculture
 - Increase demand for soybean and biofuels presents an opportunity but the challenge is to avoid more deforestation

Brazil GHG Emissions by Sector, 2005



Brazil's Amazon Fund could set multiple precedents



- Launched in 2008, the Amazon Fund is autonomous and seeks to mobilise international funding to tackle deforestation, and to promote conservation and sustainable management of forests:
 - Managed by BNDES – the national development bank
 - Operates on a donation basis
 - Goal is to raise \$21 billion by 2015; Norwegian Government has pledged to contribute up to \$1 billion by 2015
- The fund is setting a precedent in the region in terms of public accountability and transparency by including a variety of stakeholders:
 - The **Guidance Committee** monitors results and sets guidance for the application of funding; incorporates multi-stakeholder participation: local government, national ministries, civil society – indigenous peoples, traditional communities, NGOs, industry, scientists
 - The **Technical Committee** certifies the emissions count
- Some innovative elements of the fund for it tries to combine multiple objectives:
 - Voluntary fund – non-reimbursable funding
 - Cannot be used to offset emissions in Annex 1 countries
 - Protects national sovereignty over the Amazon
 - Must meet concerns and be transparent to donors, national and state governments, NGOs, indigenous people's organisations, industry, and the public
 - Implementation responsibility falls to local governments and indigenous peoples
 - Performance based financing

Urban agenda and adaptation will require more strategic attention



- **Transport** - widespread ethanol use has led to lower carbon intensity compared to other countries
 - But transport accounted for 12% of national GHG emissions in 2008. The sector is responsible for half of the country's total fossil fuel consumption.
 - Investments in modal shifts (e.g. bus rapid transit) and fuel switching could deliver reductions
 - 60% of Brazilians live in cities and Sao Paulo is one of the most congested cities in the region.
- **Waste management** - this sector suffers from both public and private sector underinvestment
- **Energy – especially given Brazil's new found oil-wealth**
 - The National Climate Change Policy excluded original language seeking 'gradual abandonment' of fossil fuels. Lula vetoed it under pressure from Ministry of Mines and Energy
- **Adaptation** - Brazil is likely to suffer acutely from negative climate effects and yet adaptation efforts have not been a priority of the climate agenda
 - Eastern parts of the Amazon region predicted to become savannah-like ecosystems by the end of this century
 - Water resources (key input for electricity generation) are highly vulnerable
 - Climate is likely to punish poor people the most

2009 set the basis for economy wide decarbonisation but uncertainties remain



- Shortly before Copenhagen Brazil announced voluntary reduction targets of **36.1% and 38.9%** with respect to business as usual GHG emissions by 2020
 - 70% reduction in deforestation by 2017
 - U turn in diplomacy: only a year ago, Brazil was not ready to make reduction commitments
- A **National Climate Change Policy** was signed in December 2009 (Brazilian law 12187) – which covers the entire economy
 - Estimates reductions per sector
 - Recommends activities (must be quantifiable and verifiable) but lacks specific targets or implementation measures
 - A decree will specify reduction targets – based on GHG inventory to be finished by end of 2010

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Three opportunities with medium and high potential in 2010-11



Opportunity 1 - Mainstreaming 'green growth' in energy policy and Brazilian development bank

- Advocate a much greater low carbon focus in two key economic players: Ministry of Energy and Mines and Brazil's national development bank (BNDES)

Opportunity 2 - Building a coalition for sustainable low carbon agriculture

- Need to mainstream 'opportunities' of resilient low carbon agriculture
- Build public pressure on high carbon agricultural sector and raise awareness of their carbon footprint and extent of their policy influence

Opportunity 3 - Establishing Brazil's leadership on climate finance

- Build pressure on the government to show leadership on climate finance issues; align its UNFCCC climate diplomacy with more progressive domestic public diplomacy
- Support participatory processes for civil society and strengthen negotiators' accountability toward citizens

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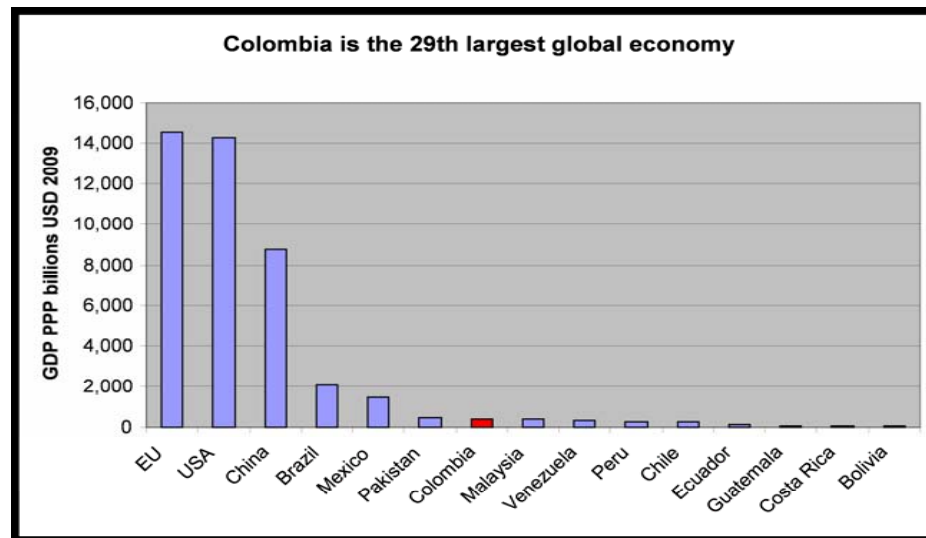
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Colombia's middle income economy is export-driven with high foreign investment



- Steady growth of GDP – highest rate 2002-2007 – 2% growth in 2010 and good management of recession (29th largest economy)
 - Drivers : improved security, rising commodity prices, pro-market measures, oil and gas sector boost, and exports
- FDI \$10 billion – among friendliest frameworks for energy –investments in region
- Economy is closely linked to the US:
 - Free trade deal has been signed but not yet in force
 - Big recipient of US aid (drug ward) and ally of Washington as a result
 - US is Colombia's largest trade partner (China is #2)

Sources:

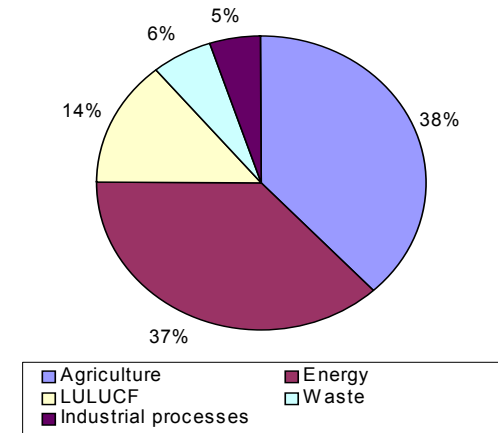
CIA World Factbook 2010; BBC Country Profiles: Colombia; World Bank Country Briefs 2010; EC Colombia Country Strategy Paper 2007-13

Energy generation is low carbon; but urbanisation is increasing emissions

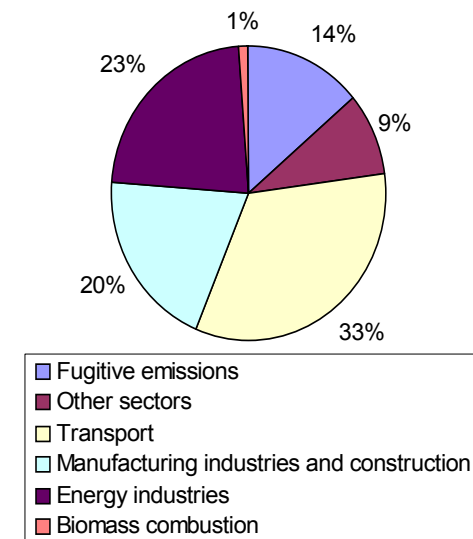


- Colombia's electricity generation is relatively clean: nearly 80% is based on hydropower (on average) over the last decade
- As a result, their contribution to global emissions is low (0.2%)
- Agriculture and energy sectors hold the largest share of GHG emissions
 - 33% of energy source emissions come from the transport sector
- But urbanisation is the main cause of emissions growth; much of the climate agenda will be won in cities

Colombia Total GHG Emissions by source, 2004



Colombia CO₂e Emissions from Energy Sources, 2004

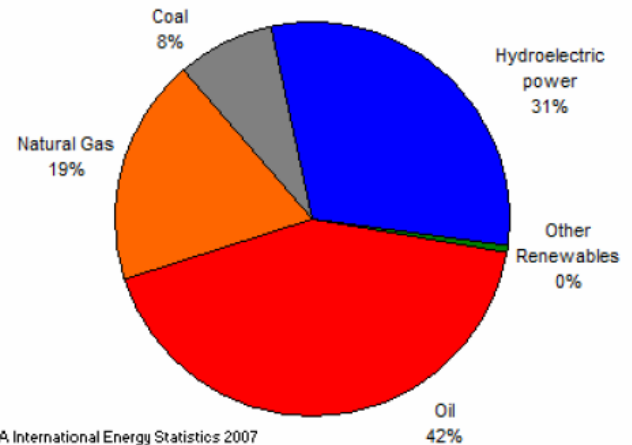


Abundant oil and coal may turn Colombia into higher carbon economy



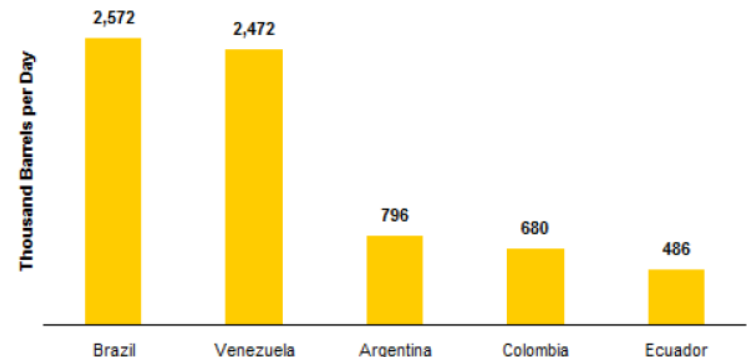
- World's 4th largest net coal exporter
- Relies on hydropower for its domestic electricity needs; so is able to export almost all of its coal production
- Government has invested \$47 billion in the energy sector (2009-15)
- Mineral wealth and significant natural resources
 - Oil reserves
 - Gold, silver, platinum, emeralds, coal
- Attractive for energy investments through regulatory reforms and improved security:
 - Allowing foreign oil companies to own 100% stakes in oil ventures;
 - Lower, sliding-scale royalty rate on oil projects;
 - Longer exploration licenses;
 - Forcing Ecopetrol, the national oil company, to compete with private operators.
- Oil production has increased and is set to double in the next 5: about half of oil production is exported to the US
 - Oil sector received \$2.95 billion in foreign direct investment (FDI) in 2009

Total Energy Consumption in Colombia, by Type (2007)



Source: EIA International Energy Statistics 2007

Top 5 South American Oil Producers, 2009



Sources:

CIA World Factbook 2010; BBC Country Profiles: Colombia; EIA International Energy Statistics 2007; EIA Country Profile Colombia 2010

Economic stability coexist with high levels of conflict and drug-related violence



- **Political violence:** rebels have been at war with the State since the 1960s
 - The insurgents lack military or popular support necessary to overthrow the government and violence has been decreasing since about 2002, but insurgents continue attacks against civilians and large areas of the countryside are under guerrilla influence or are contested by security forces
 - Military expenditure is 3.4% of GDP (2005)
 - Colombia has between 1.8 and 3.5 million internally displaced persons
 - A deadly campaign by left-wing Farc rebels continues (funded by the cocaine trade)
- **Internal conflict has led to violations of human rights and international humanitarian law**
- **Drugs and crime:** drug-related crime is the most common cause of death after cancer and has fuelled kidnapping
 - The US has bankrolled the fight against the drug trade with billions (US is a key market for Colombian cocaine): 'Plan Colombia' 1999
 - World's leading coca cultivator with 167,000 hectares in coca cultivation in 2007, a 6% increase over 2006; the world's largest producer of coca derivatives; supplies cocaine to nearly all of the US market and the great majority of other international drug markets

Colombia is one of the most violent countries in the world, which has major impacts on development and foreign investments

Opportunity creation and clean government are critical for development



- **Poverty:** Despite strong growth in recent years, millions live in poverty (46.8% in 2008); extreme poverty (17%)
- **Unemployment:** About 14.6% of population is unemployed; 2nd largest rate in Latin America
- **Corruption** is deeply ingrained in the political system. Clean government was central theme of popular presidential candidate Antanas Mockus
- Additionally, Colombia has 3 million “**internally displaced people**” according to the UN’s High Commissioner for Refugees (civilians fleeing from violent fighting between leftwing guerrilla organisations, rightwing militias and former para-police and paramilitary squads).

President-elect wants policy continuity but seeks new focus beyond security



The **Uribe administration** (of which Santos was part) invested in improving framework for investors and tackling security claiming several successes.

- Strong institutional framework – very friendly to foreign investment
 - World Bank ranked Colombia # 1 in Latin America for ease of doing business in 2010
- Enhanced security by extending State presence through police and mayors
 - Kidnapping rates falling by 88% since 2002 and halving of the homicide rate
- Decreased guerrilla conflict
 - 32,000 rightwing paramilitaries persuaded to demobilise and the FARC's (guerillas) numbers have fallen from 21,000 in 2002 to 8,000

The **Santos administration** seeks to maintain pro-business policies and give priority to agro-industry, infrastructure and mining

- But he also aims to move beyond Uribe's central focus on security (from 'democratic security to democratic prosperity') switching to job creation
- Climate change is expected to receive more strategic attention
- Turning Colombia into an OECD country is diplomatic priority

Sources:

CIA World Factbook 2010; BBC Country Profiles: Colombia;
World Bank Country Brief 2010; World Bank Doing Business in
Colombia 2010; Financial Times: Investing in Colombia 2010

Despite conflict, a positive urban agenda is moving forward with Bogota as pioneer



- Bogotá has been a **test ground** for new approaches to transport and city planning
 - *Pico y Placa* is a license plate based vehicle restriction system (1998) is in place and has reduced car circulation in peak times
 - TransMilenio (2000) the Bus Rapid Transport (BRT) system has helped reduce travelling time (32%), emissions (40%) and reduced accidents (90%).
 - Majors in Bogota have pioneered some of the prototypes that are being reproduced within and outside Colombia
- Colombia set a **precedent** through car-free Sundays and ‘Ciclovías’ which have been successful:
 - Each Sunday and holidays the main streets of Bogota, Cali and Medellin, and other municipalities are blocked off and are car-free. Bogota’s weekly ciclovías are used by approximately 2 million people (30% of citizens) on over 120 km of car-free streets .

Successful and popular transport approaches in Bogota are inspiring other cities in Colombia and Latin America

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Colombia is at a crossroads: will high carbon energy sustain growth?



- The country is predicted to grow substantially after the financial crisis; new power generation capacity will be needed
- Has ambition to become a major regional hub for energy trade
- There is a risk that future expansion will lead to an increasing share of coal-fired generation capacity due to:
 - Colombia's significant reserves of coal
 - A need to diversify away from hydropower due to the high vulnerability to water shortages linked to El Niño events
- Under a Business as Usual scenario, transport energy use in 2030 will be 80% higher than 2004 levels (a 3% increase per year)

Without deliberate low-carbon energy policies, Colombia will follow a high carbon growth path as the economy grows this decade

Growing awareness of climate vulnerability could reshape climate agenda



- Colombia is highly vulnerable to climate change impacts:
 - Increased incidences and threat from: malaria and dengue; sea level rise; precipitation - intensification of weather phenomena such as El Niño and La Niña; and desertification
- Adaptation and disaster-risk reduction are gaining ground as priorities for the Government; which is reshaping the climate agenda
- National Development and Poverty Reduction Plan (2006-10) includes reducing emissions from deforestation but also adaptation
- Adaptation and resilience is expected to receive strategic attention in the incoming Santos administration.

Setting adaptation as strategic priority may lead to a more ambitious effort to accelerate the international and domestic low carbon transition

Sources:

World Bank CTF Investment Plan 2010; CNA 2009; UNFCCC 2010; GTZ/Colombia National Academy of Sciences 2000

Low carbon development is gaining ground in Colombian politics



- Traditionally, REDD and deforestation have dominated climate agenda (some progress has been achieved on curbing deforestation and conservation)
- Low carbon growth and development has not been a top priority of President Uribe (2002-2006; 2006-2010) but toward the end of his Presidency the ambition of the climate agenda increased
 - Focus is moving toward **adaptation, renewable energy, energy efficiency and clean transport**. (e.g. incentives for hydroelectric, bio-diesel, ethanol).
 - Uribe administration has worked on a **National Climate Change Strategy** that aims to mainstream climate in all the key ministries – the plan is expected to be approved prior to Uribe's exit.
 - The political rise of Antanas Mockus during the 2010 election (took the lead in the polls in Colombia thus attracting global media attention as a potential Green Party President) set a precedent in election politics: environmental and climate issues received more attention than ever before.
- **President-elect Juan M. Santos** is expected to pay more attention to climate change issues
 - Climate change is expected to be a new strategic issue– diplomatically and domestically
 - Ministry of Environment, Housing and Territorial Development is likely to become a stand-alone Ministry of environment again (undoing Uribe's merger)
 - A low-carbon development plan is being draft/consulted specifying key actions for main economic sectors
- Private sector is entrepreneurial and tends to see **low carbon agenda as opportunity** (green energy)
 - Several Colombian CDM (+20) projects are considered innovative and involve public-private partnerships
- **Conflict of interests** are expected once the government is set to define robust priorities for decarbonisation agenda
 - President-elect Santos has strongly endorsed the mining sector and agricultural business
 - Abundant coal and oil reserves may lead to divergent views on the ambition (and desirability) of the low carbon transition

New entry points in climate policymaking are emerging



- One potential opportunity for an ambitious Colombian climate agenda is the effort by the Ministry of Environment, Housing and Territorial Development to draft a '**Low Carbon Development Plan**' (LCDP) and **approve this year**.
 - Uribe's National Climate Change Strategy is expected to be approved by July 2010 – providing the long-term vision for key ministries
 - The LCDP will outline a pathway and some key sectoral priorities. Some financial resources have been set aside for the Plan. National Planning Department must approve it.
- It is unclear the extent to which the LCDP will affect Colombia's energy policy. "**Contexts and Strategies Plan**" (2005-25) provides an overview of energy needs and production possibilities and sets several strategies.
- Environmental NGOs in Colombia have mainly focused on anti-deforestation effort, raising environmental awareness and protecting biodiversity.
 - NGOs may require support and re-tooling to better influence energy policy

A key challenge for Colombia's low carbon development plan is to define energy pathways that avoid a switch to coal- and oil-led growth

Sources:

World Bank CTF Investment Plan 2010; CNA 2009; UNFCCC 2010; GTZ/Colombia National Academy of Sciences 2000

Cleaner transport and energy efficiency are two sectoral priorities



- Transport is a key sector for Colombia's low carbon development prospects: it is the fastest-growing source of GHG emissions
 - Urbanisation is on the rise therefore calling for increased investment cleaner transport options to offset rising private motorization and a declining share of public transport usage.
- A effective strategy will require scaling-up investments to replicate prototypes that have delivered positive results in Bogota and other cities in the last decade.
 - National Urban Transport Policy (2002) introduced Integrated Mass Transport Systems and Strategic Public Transport Systems for large and medium sized cities
 - The Government will invest ~**\$2.5 billion** on sustainable transport systems – the largest contribution (\$960ml) is expected to be from private sector
 - The World Bank's Clean Technology Fund will provide a **\$100 million loan**
 - Bogota's TransMilenio system benefited from CDM finance. But this Kyoto Protocol mechanism is not adequate to finance the scale of investment needed and most long-term capital for transport is likely to come through regional and multilateral lending.
- Energy efficiency will be promoted in several sectors through regulatory approach

Colombia is reshaping its role in the climate negotiations; seeking new alliances



- Colombia was engaged in the smaller consultative group that led to the Copenhagen Accord
- Negotiators tend to be regarded by peers as competent and constructive
- Colombia convened in Cartagena the first informal meeting of negotiators seeking to make progress and move beyond paralysing North vs South politics (a.k.a. “Progressive Countries”)
 - The first meeting included: Antigua & Barbuda, Australia, Chile, Colombia, Costa Rica, France, Germany, Ghana, Indonesia, Maldives, Marshall Islands, Mexico, Netherlands, New Zealand, Norway, Panama, Peru, Rwanda, Samoa, Spain, UK, and Uruguay.
- Along with other middle income economies Colombia aims to have stronger voice in the negotiations – which is not always achievable within political complexity underpinning the G77+China bloc
- New alliances:
 - There were signs in Bonn session (June 2010) that Colombia could be leaning toward closer collaboration with **other like-minded countries** in the region (e.g. Costa Rica, Chile)
 - One concern within the UNFCCC is that the **adaptation finance** focusing on most-vulnerable countries may leave out Colombia and other middle-income economies that are highly vulnerable to climate change.

Getting a global climate deal calls for new champions – Colombia could potentially become one of them by encouraging innovative alliances

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Three opportunities with medium to high potential of quick wins (2010-2011)



Opportunity 1: Ensure low carbon development plan is broadly consulted and tackles energy choices effectively

- Low Carbon Development Plan to be completed within the next 12 months
 - Encourage multi-stakeholder engagement/process
 - Reduce risk of having a low-carbon development plan on the hand, and an energy policy (moving toward high-carbon choices) on the other.
 - NGOs will need support for re-tooling in order to leverage the policy momentum around low carbon development

Opportunity 2: Become a low-carbon transport champion

- The city of Bogota has set positive transport-related precedents that need to be scaled up around the country
- The country could become a low-carbon transport champion from which other countries could learn
- The urban agenda offers opportunities for NGO capacity building and carrying out collaborative efforts with Mexico – where low-carbon transport is picking up

Opportunity 3: Leverage Colombia as ‘constructive voice’ in the UNFCCC negotiations by

- New alliances: maintaining support of ‘progressive groups’ that want more progress in the negotiations and less naming-and-blaming; becoming a positive story in the media.
- Setting precedents: Become the first country to submit a transport nationally appropriate-mitigation action (NAMA) as well as be a champion of innovative sources of long-term finance

- **Introduction and strategic context**

- **Country analysis**

- Mexico
- South Africa
- Brazil
- Colombia
- Turkey

Contents: Turkey country analysis



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1. Country background

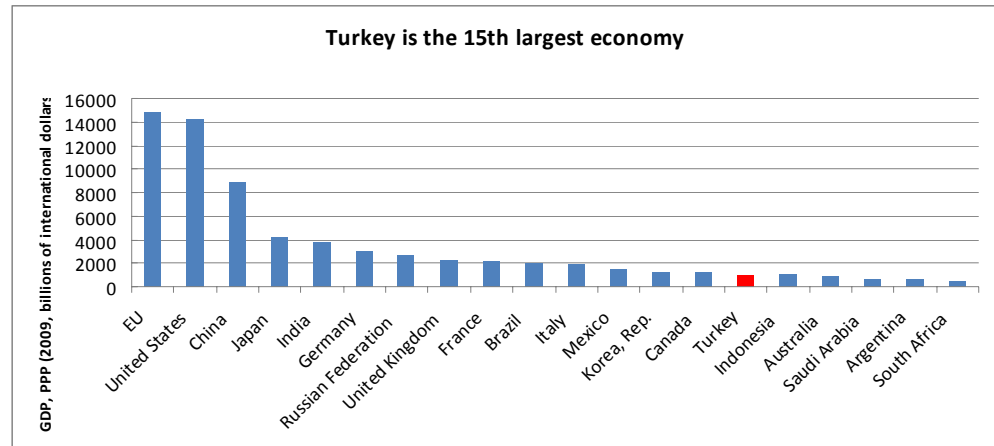
2. Low carbon transition

3. Strategic opportunities

Turkey is a major emerging economy with growing confidence internationally



- Member of G20 and currently the 15th biggest economy
 - An average of 6% annual GDP growth rate for the past seven years
 - GDP more than tripled between 2002 and 2008 to \$742 bn
 - Similarly, per capita income tripled to \$10,436
 - IMF forecasts Turkey will become 13th biggest economy by 2026



- Founding member of OECD, NATO and temporary seat at the UN Security Council
- Well integrated to the global economy; free trade agreements with:
 - Customs Union Agreement with the EU in effect since 1995
 - Albania, Bosnia Herzegovina, Croatia, EFTA member countries (Switzerland, Norway, Iceland and Liechtenstein), Egypt, Georgia, Israel, Macedonia, Montenegro, Morocco, Palestine, Tunisia, Syria
 - Exports have almost tripled between 2002 and 2009 reaching \$102 bn
- Strong financial structure resilient to the global financial crisis
- Institutionalized economy fueled by \$83 billion of FDI in the past eight years and ranked the 15th most attractive FDI destination for 2008-2010 (UNCTAD).

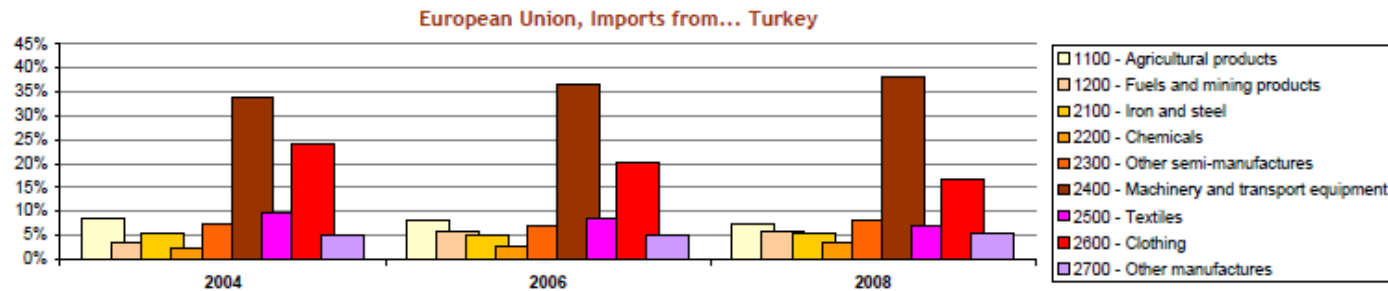
Turkey has a sound institutional and political structure



- Turkey is a republic with a parliamentary democratic system:
 - **Legislature:** Unicameral Grand National Assembly of Turkey or TBMM (550 seats; members elected by popular vote to serve four-year terms)
 - **Judiciary:** Judicial power in Turkey is exercised by independent courts and high judicial organs functioning on behalf of the Turkish nation. The judicial section of the Constitution is based on the principle of the rule of law.
 - **Executive:** The executive branch in Turkey has a dual structure. It is composed of the President of the Republic and the Council of Ministers (Cabinet).
- Parliament has passed many constitutional amendments to make the 1982 Constitution more democratic and to expand democratic rights and freedoms in the country. These efforts gained significant momentum after the EU recognized Turkey as a candidate country in 1999 and later agreed to start full membership talks with Turkey in 2005.
- Last elections held in July 2007 (with centre-right AKP winning the overall majority for the second consecutive term) - next general elections to be held by **July 2011**.

EU remains Turkey's key trade partner, but also main driver for reform

- EU remains Turkey's main trade partner and Turkey EU's 7th:
 - Turkey is the 6th largest economy when compared with the EU countries (GDP PPP, 2009)



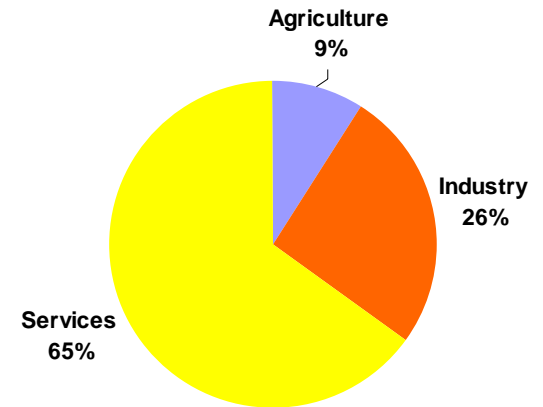
Turkey's main exports to the EU are machinery and transport equipment, and clothing

- EU negotiations formally started in 2005; since then the progress has been slow (out of 35 chapters, 12 have been opened to negotiations between 2006-2009):
 - The science and research chapter has been provisionally completed as the most successful chapter so far.
 - Free Movement of Capital; Company Law; IPR; Information Society And Media, Taxation, Statistics, Enterprise And Industrial Policy; Trans-European Networks; Consumer And Health Protection; Financial Control chapters opened
 - Environment chapter opened in December 2009
 - Negotiations on eight chapters, including some of the key areas (i.e. energy) are suspended over disagreement with Republic of Cyprus

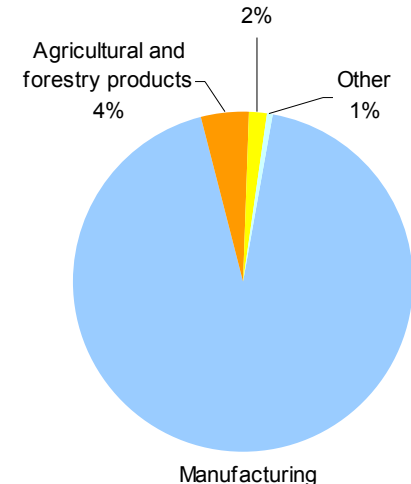
Current growth relies mainly on services, but industry remains key for export

- Compared to late 1990s, there has been substantial shift from agriculture towards services-based economy in relation to their share in GDP. Transport, tourism and construction are the main services sub-sectors.
- Future growth is expected to be driven through mainly services followed by exports and agriculture.
- Main export is from manufacturing industry. Key commodities are apparel, foodstuffs, textiles, metal manufactures, transport equipment
 - Germany 9.6%, France 6.1%, UK 5.8%, Italy 5.8%, Iraq 5% (2009 est.)
- Notably the automotive and electronics industries, are rising in importance and have surpassed textiles within Turkey's export mix. Turkey's automotive sector is the 5th largest among European countries and the 15th globally.
- Automotive accounted for 12% of export in 2009 (despite a 33% decrease from 2008 due to financial crisis). Steel/iron accounted for 7.5% of exports, following boiler/machinery equipment.
- SMEs make up 99% of the 3 million companies in Turkey, with 85% of these being companies with 9 employees or fewer. Most cement, iron/steel are owned by large or medium size companies.

GDP by sector (2009)

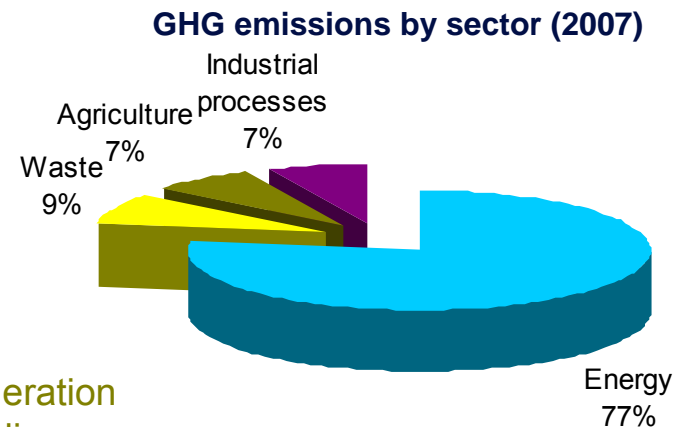
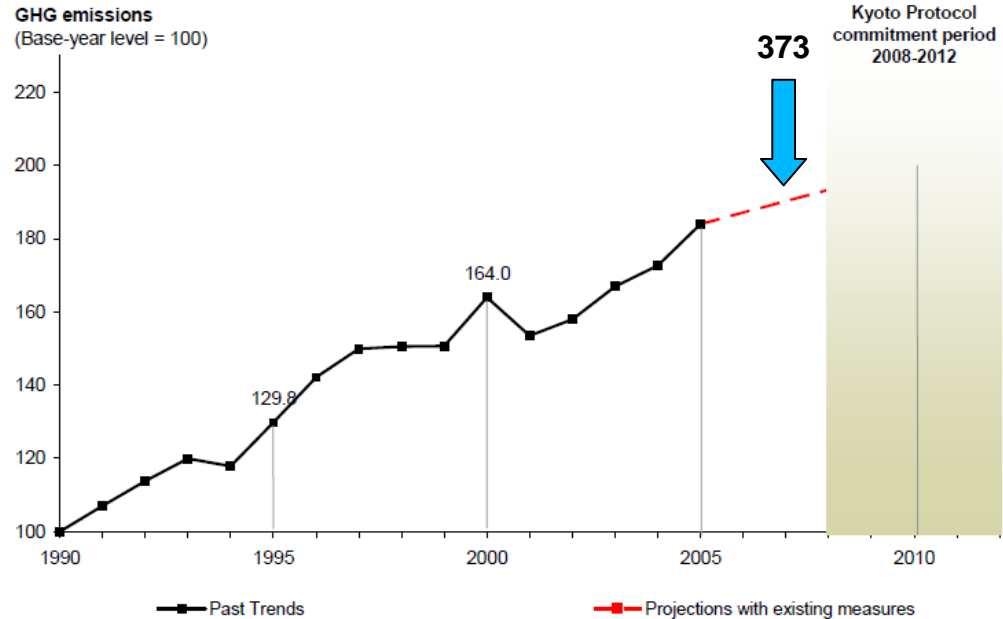


Exports by sector (2009)



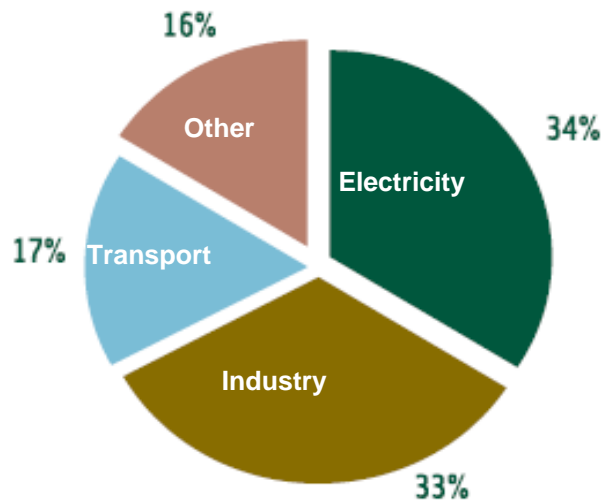
Turkey has the world's highest emissions growth rate between 1990-2007

- Turkey accounts for 0.76% of the global emissions
- Per capita emissions are relatively low – 5.3tCO₂eq compared to OECD
- Turkey ranks as 7th highest GHG emitter compared to EU-27 countries
- Overall emissions have grown 119% since 1990. 77% of total GHG emissions in 2007 was from the energy sector.
- Fossil fuels account for about 90% of energy consumption in 2006. Industry accounts for almost half of CO₂ emissions from final energy consumption.
- Energy-related emissions are expected to double by 2020

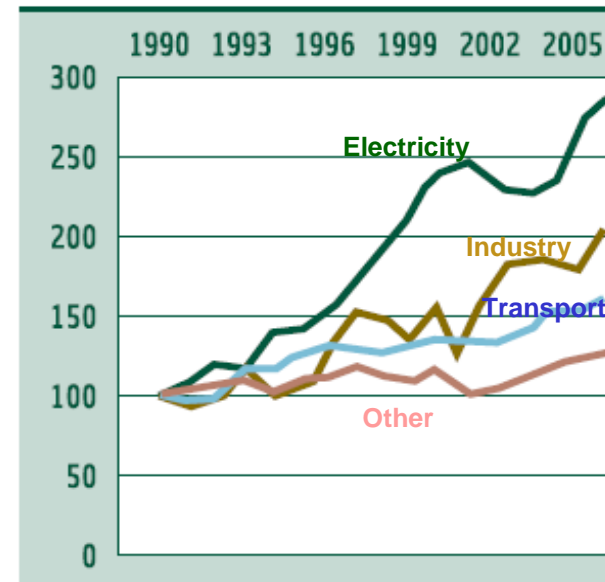


Electricity and industry account for two-thirds of energy related CO2 emissions

CO2 emissions by sector from primary energy consumption (2006)



CO2 emissions trends by sector from primary energy consumption (2006)



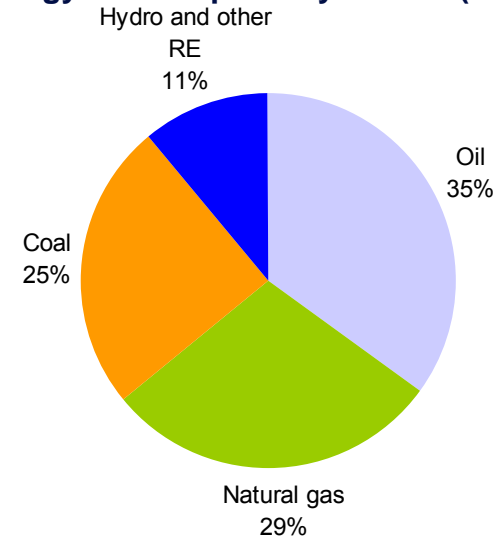
- Electricity and industry are the top CO2 emitter sectors of primary energy use.

- CO2 emissions from electricity generation have increased by 181% since 1990. This is mainly due to growth of electricity generation and increased (x3) share of thermal power plants in generation.

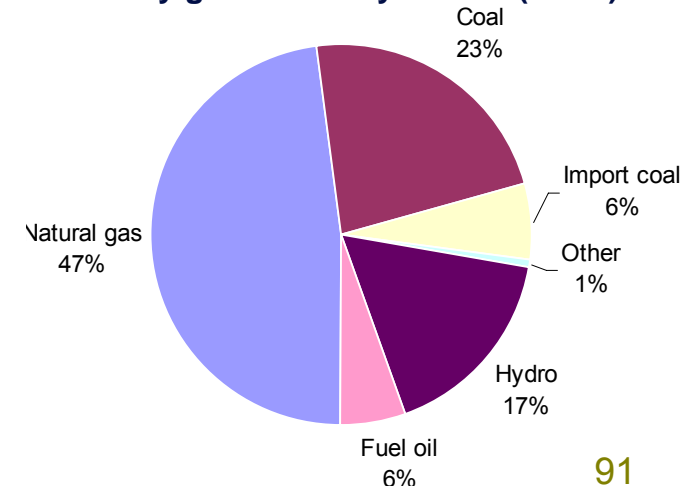
Turkey is largely dependent on imported energy from its Eastern neighbours

- Around 70% of the total energy demand in Turkey is met through imports. Russia accounts for two-thirds of energy supply.
- Coal is the only energy source with significant domestic availability, leaving the country increasingly import-dependent
- Domestic energy demand expected to increase 140% by 2020. Energy demand is increasing at 8% per year on average – the second fastest rate of growth behind China. The total amount of investments to be made to meet the energy demand in Turkey until 2023 is estimated around \$130 billion.
- Electricity accounts for the highest share of final energy consumption by energy source (24,34%), followed by natural gas 17,15%, and diesel oil 10,12% (2005)
- The highest percentage of the final energy consumption for the reference period of 2005 was realized in manufacturing industry by 72,82%.

Energy consumption by source (BTU, 2006)



Electricity generation by source (2008)



Growing energy independence narrative and energy needs suggest a shift to coal is very likely in the future energy mix

Turkey is a strategic energy transit country between Asia and Europe



- Turkey's energy strategy has three main pillars: to ensure diversified, reliable, and cost-effective supplies for domestic consumption; to liberalize the energy market; and to become a key transit country and energy hub.
- Turkey holds a strategic role in natural gas between Europe and the substantial gas reserves of the Caspian Basin and the Middle East:
 - Oil began to flow through the Baku-Tbilisi-Ceyhan pipeline in May 2006, marking a major milestone that will bring up to 1 million barrels per day from the Caspian to market.
 - Nabucco gas pipeline is also being planned to help move Central Asian gas to Europe via Turkey. This is a flagship project for EU common energy and foreign policy – received €200 m from EU fiscal stimulus budget
 - Turkey, Greece and Italy signed a MoU in June 2010 for The Interconnector Turkey-Greece-Italy (ITGI) Project which will carry Azeri gas to European markets. There is already a gas interconnector between Turkey and Greece.
- Supplying electricity to Middle East and Caucasus, and potentially to the EU
 - Turkey sells electricity to Georgia, Iraq, and Nakhchivan as part of exchange agreements, and to Syria as part of export agreements.
 - In order to establish a common energy market with the EU, Turkey plans to interconnect its energy system with UCTE (Union for the Coordination of Transmission of Electricity) grid. Turkey is currently undergoing a one-year trial synchronisation of its grid with the continental ENTSO-E grid.

Rapid urbanisation, wealth disparity, and population growth are key challenges



- Large population (74 million) and highest population growth rate among developed countries and OECD (Turkey: 1,24; OECD: 0,68 in 2007)
- Income disparity remains high:
 - the richest 20% of the population account for almost half of GNI, whereas the poorest 20% for 5.8% of GNI. Regional differences in income and poverty levels remain a serious problem for Turkey.
 - 17.11% (2008) population below poverty line
- Rapid urbanisation rate – between 1950 and 2010, 180% increase in share of urban population; currently 69% of the population live in the cities (i.e. 51.6 m)
- Despite relatively small impact from global financial crisis, recession increased unemployment significantly - 4th highest unemployment rate in OECD (13%). The unemployment rate will rise further in the coming years, to 14.9 percent this year and increasing further to 15.9 percent in 2011.
- Despite progress, corruption is still a major issue (61st among 180 countries – just above Italy in Corruption Perceptions Index 2009). Also, Turkey, in 27th place, is nearly at the bottom of the BPI (Bribe Payers Index)
- OECD projected the recovery to remain strong for a prolonged time. However, the recovery may be weaker “if pre-electoral or macroeconomic uncertainties undermine confidence or if the competitiveness of the business sector falters.”
 - Electricity price, can potentially become an election issue alongside unemployment - the highest consumer energy price among OECD countries in 2009

Turkey is very vulnerable to climate impacts



Domestic impacts

- 2-3°C increase predicted by 2100. In the western half of the country, summer temperatures expected to increase by up to 6°C.
- Natural disasters such as droughts, floods and landslides are also likely to increase in frequency
- Higher temperatures and reduced rainfall will also markedly reduce livestock carrying capacity.
- Infrastructure and agricultural land vulnerable to sea level rise, which is occurring at 4-8 mm per year

Regional impacts (e.g. Euphrates-Tigris)

- Euphrates-Tigris basin is approaching physical limit and will experience physical water scarcity in 2025
- By 2020 the region is expected to see an increased temperature of slightly over 1C. Precipitation expected to decrease between 3-8% in winter and spring, and increase 5-18% in summer and fall
- Current water sharing arrangements are not flexible for changing weather patterns and not resilient to climate shocks; tripartite ministerial meetings are promising
- Both Turkey and Syria are planning large scale dams which will affect water availability downstream, especially Iraq
- Increased water vulnerability with inadequate resource governance might jeopardise development and have security implications in the region

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Turkey is at a crossroads between low carbon transition and high carbon lock-in



- Turkey is in a unique position, which led to its marginalisation at the international negotiations:
 - It is in the Annex I of the UNFCCC; therefore expected of a mitigation target similar to developed countries
 - However, it still is an economy in transition facing development challenges and carbon lock-in
- Turkey signed the Kyoto Protocol in 2009, but currently doesn't have any obligations. Marrakesh Accords of the UNFCCC recognised Turkey's special conditions within Annex I as an economy in transition, hence, excluded from technology transfer and finance obligations of developed countries. Nevertheless, there is growing awareness of the risk of being imposed developed country targets post-2012.
- First National Climate Strategy launched before Copenhagen was approved by the High Planning Commission (also known as 'Economic Cabinet') earlier this year as a promising first step in the right direction by one of the highest decision-making platforms in Turkey.
- There are a number of initiatives planned or underway across the government:
 - National Action Plan underway and mitigation actions will be prepared following the Action Plan
 - Industry Technology Needs Assessment (TNA) planned
 - Sectoral cost analysis of mitigation scenarios underway
 - 2nd National Communication to UNFCCC underway
 - 10th five-year development plan is likely to incorporate some key elements of low carbon development

Growing low carbon energy sector needs to be scaled up to replace BAU high carbon investment



- Energy efficiency and renewables are seen as part of the energy security agenda, alongside development of nuclear and domestic coal (particularly carbon intensive lignite) resources. However, tendency of seeing renewables as a small component of the energy security supply agenda remains.
- Legislative structure on energy efficiency and renewable energy is evolving:
 - Energy Efficiency law was enacted in 2007 – suggested that it will lead to 13.5% reductions in energy consumption in 2020 from BAU.
 - A new legislation proposing differentiated feed-in tariffs for technologies building on Renewable Energy Law 2005 has been stuck in the parliament for a year; however, some tariffs are likely to be agreed before the parliamentary holidays.
- Turkey has ambitious electricity targets for 2023. However, there is low expectation that these targets will be met, particularly the wind target.
 - 30% of electricity from renewables (up from 20-23% at present)
 - Total utilisation of hydro resources (only 35% of the capacity at present)
 - 20,000MW wind energy (up from 1300MW)
 - 600MW solar (probably CSP)
 - Decrease the proportion of gas to under 30% (compared to 50% at present).

Turkey needs to diversify its energy mix with renewables through policy and funding support, build the right infrastructure for new technologies, and establish regional clean energy partnerships

International investors recognise Turkey's potential for low carbon energy transition



- Private investment in clean energy increased by 178% in the past five years, reaching \$1.6bn in 2009 (13th among G20 countries).
- Turkey received \$400 million of **World Bank CTF** financing (out of \$3.85 bn overall financing needs). \$1.9 bn in multilateral support and \$1.55 bn from Turkey to be leveraged. CTF will support:
 - **Renewable electricity generation:** promotion of private sector investment in all renewable energy development, including wind, biomass, geothermal and solar (PV and CSP), as well as small-scale hydro
 - **SmartGrid for Improved Wind Power Management:** Helping TEİAŞ (the state transmission company) define and start the implementation of its SmartGrid, under the forthcoming WB supported TEİAŞ Transmission Project.
 - **Energy Efficiency:** promotion of the efficient use of energy, electricity in particular:
 - Residential: fluorescent bulbs, enforcement of appliance standards (in particular refrigerators) and insulation
 - Commercial and public sector: lighting, improved efficiency of heating and cooling/air-conditioning systems, and insulation
 - Industry (inc. iron and steel, cement, textiles, chemicals): process technology switch-over, replacement of generic equipment
- **EIB** and **EBRD** are also key players supporting a number of EE and RE projects:
 - For example, EBRD has recently launched credit-line for sustainable energy worth €200 m
 - EIB announced in December 2009 €718 million support for rail transport, electricity distribution as well as energy efficiency and renewable energy in Turkey.
- In July 2010, **World Bank** approved a US\$700 million Second Environmental Sustainability and Energy Sector Development Policy Loan.

Monitoring deployment of international financing is crucial in order to assess whether these resources are deployed towards transformative projects

Carbon intensive industry and electricity pose threat to low carbon development

Need to tackle carbon leakage from the EU

- European energy intensive industries have a strong base in Turkey; this is likely to grow in the near future:
 - Turkey is the leading cement producer in Europe (21% of European cement production) and world's 5th largest. Due to its proximity/higher productivity, very competitive; most export is bound for Europe.
 - Energy intensity of manufacturing is one of the highest in OECD

A diversified low carbon electricity portfolio

- Despite ambitious targets for renewables, energy policy supports lignite, gas and nuclear as main components of Turkish electricity future
- Incentives for low carbon electricity inadequate and scaling up diffusion faces many barriers:
 - A long-awaited revision to the Feed In Tariff has been repeatedly delayed (potentially new FIT will be presented for CSP and wind before parliamentary holidays)
 - Problems in connecting to the grid and accessing electricity markets
 - No real criteria for granting licenses for wind, which invites speculators
 - Most international finance likely to go to cost-competitive hydro not alternative RE

Turkey needs to proactively engage with the EU and address carbon leakage through international cooperation in key sectors

Turkey needs to build resilience to mitigate against future climate impacts



- There is growing awareness among decision-makers on the need for resilience planning and adaptation:
 - National Climate Change Adaptation Strategy underway led by UNDP in partnership with key ministries (expected by end of 2010). In addition, legislative changes will be proposed to mainstream climate change risks into development and regional planning.
 - Pilot project in Seyhan River Basin led by UNDP carried out through a grant programme for local governments, NGOs, academic communities and other related groups
- NGOs are also increasingly working on adaptation issues mainly from watershed management, agriculture and biodiversity conservation perspectives.
 - E.g. Pilot project by WWF in Konya basin on watershed management and agricultural choices based on climate modelling

NGO engagement will grow dramatically in the years ahead, but will need funding



- Signing Kyoto Protocol provided significant domestic momentum and is likely to trigger more openness towards civil society and private sector engagement. Yet, in the short term, there is a risk that Turkish NGOs will struggle to raise funds in post-Copenhagen era, especially since Turkey is not yet within the group of 'progressives' and not a major emitter.
- There are already signs that this is happening :
 - Regional Environmental Centre (REC) climate partnership with main business association (TUSIAD)
 - UNDP works closely with key line ministries, particularly with Ministry of Environment and Forestry on the preparation of the National Climate Action Plan, and capacity building
 - International NGOs increasingly visible in Turkey
 - Carbon Disclosure Project was launched in Istanbul with Nick Stern's participation
 - WBCSD branch was established
 - Embarq (WRI) Istanbul works on sustainable transport in key cities
 - Burgeoning domestic alternative energy related associations
- Strong NGO capacity for biodiversity issues; but energy issues still new for most; therefore need support to draw in expertise.

This provides a crucial opportunity to strengthen participatory decision-making but also build capacity among key stakeholders including NGOs

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Three opportunities with medium to high potential of quick wins (2010-2012)



Opportunity 1: Delivering transformational finance

- Domestic public support for renewables is targeted beyond BAU
- International financing is deployed for low carbon options

Opportunity 2: Mainstreaming 'low carbon opportunities' framing

- Strengthening the positive agenda for low carbon development
- Factor in the risk of further carbon leakage into longer term growth strategies

Opportunity 3: A comprehensive climate resilience and security agenda

- Scale up existing civil society work on water management both nationally and cross-boundary
- Support development of decision-making tools and use of evidence base