Major Economies and Climate Change Research Group

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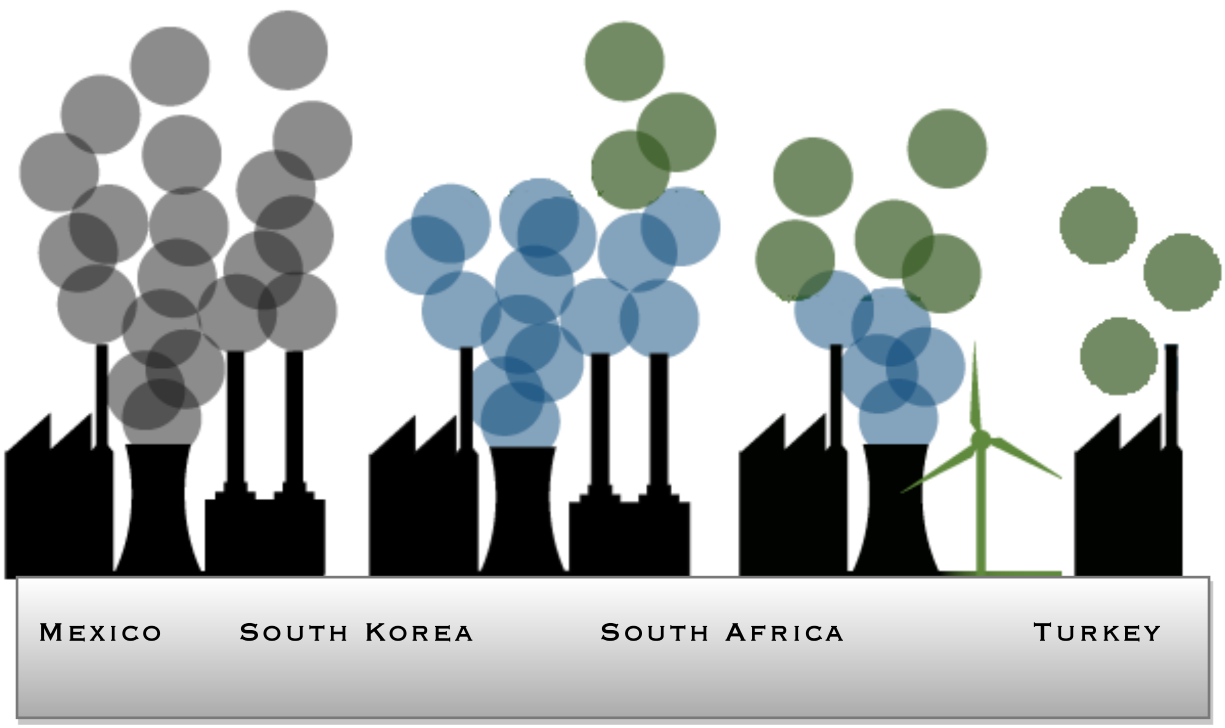

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EXECUTIVE SUMMARY

This report looks at four developing countries and their plans to reduce greenhouse gas emissions. Mexico, South Korea, South Africa, and Turkey are not individually large emitters; however, they are all in the top 20 largest emitters and cumulatively they account for 5.2% of global greenhouse gas emissions. Without a concerted effort from developing countries, such as these four that will continue to develop and emit an increasing number of greenhouse gas emissions under a business-as-usual scenario, it will be impossible for the world to meet its goal of preventing climate change from increasing global temperatures by more than 2 degrees Celsius. This report looks at industrial, political, and cultural barriers, among others, to mitigation potential and how to best overcome them.

Mexico

Mexico emitted 688.25 millions of tons of CO_2eq in 2010 and is the 11th largest global emitter. It is the largest emitter of the four countries looked at in this report.

Barriers

- 75-year, state-held a monopoly on oil, gas, and electricity ended in December 2013, and the market distribution in the future is unclear.
- Businesses are worried climate change law will stall growth.
- Potential wind development in indigenous lands faces strong local opposition.
- The carbon trading market is voluntary.

Recommendations

- Wind Energy needs to be developed in the Oaxaca, Baja California, Coahuila, Sonora & Yucatan regions - mitigation potential of 6.276 $MtCO_2$
- ETS cover at least 50% of Mexican industry and business GHG emissions
- Link ETS to China, South Korea and EU

South Korea

It is projected that in 2014 South Korea will emit 694 millions of tons of CO_2eq, making it the 12th largest greenhouse gas emitter in the world. As host of the Green Climate Fund, South Korea has ambitious goals to reduce emissions below business-as-usual by 30% by 2020. However, political changes and economic problems have made these goals harder to attain.

Barriers

- High costs from 2020 plan might result in loss of market share for industry.
- ETS could impose $5 billion cost on Korean industry.
- Most national plans are only funded until 2020.

Recommendations

- Extend national plans to 2030 and 2050

- Focus on Smart Grid project which can cut 230 $MtCO_2eq$ by 2030
- Link ETS to China and EU

South Africa

South Africa stands out among the rest of the African continent as one of the few countries with significant emissions. At 560 $MtCO_2e$/year, it ranks 14th in the world. Most of these emissions come from the use of coal in energy production. Therefore South Africa has set goals for reducing the use of coal and for improving energy efficiency.

Barriers

- The coal industry is a major player in the national economy.
- Government subsidies for industrial electricity reduce the incentive for efficiency.
- 34% emissions reduction pledges conditional on international support.

Recommendations

- Initiate a carbon tax as a further incentive for emissions reductions
- Improve the electricity grid, funded by increases on electricity prices for industry
- Require energy audits and labeling
- Quantify the emissions pledge in order to engage the sectors more fully

Turkey

Turkey's rapid growth and the ensuing increase in energy demands have also resulted in greater greenhouse gas emissions. As a result, it ranks 17th with 385 $MtCO_2e$/year. Turkey plans to simultaneously bolster national security and cut back on its emission by addressing energy efficiency and production.

Barriers

- The national climate in Turkey is strained, making attention to emissions unlikely.
- The policies currently in place are not sufficient to fully engage reductions.
- There is little funding for energy efficiency improvements.

Recommendations

- Establish a labeling system for buildings
- Create energy performance requirements
- Make financial mechanisms for accessible