

The Kyoto Protocol and policies to reduce GHG emissions

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A history of Kyoto Protocol

- 1988 meeting in Toronto set target of 20% reduction in emissions from 1988 level by 2005.
- At Rio Earth Summit in 1992 150 countries signed the Framework Convention on Climate Change (FCCC), did not specify precise targets.
- FCCC began a process of annual meetings of Conference of Parties (COPs).
- Berlin meeting in 1995, many countries, including US agreed that industrialized countries should set emissions limits within specified period of time.

Country-specific targets

- Various countries announced individual targets, some of which were "accidentally" nearly achieved (Germany because of reunification and shutting down of East German industry, Britain because of privatization of coal and electric utilities, movement away from coal.)
- In 1997 US Senate voted 95 - 0 in favor a resolution stating that the US would not sign an agreement that 1) Required industrialized countries but not developing countries to reduce their emissions. 2) Harmed US economic interests.

Clinton and Bush, EC concessions

- Kyoto Protocol negotiated in 1997 imposed quantitative restrictions on industrialized countries only. Clinton knew he would not get Senate approval, so did not submit it for ratification, but he signed it.
- In 2001 Bush rejected the Kyoto protocol. At that time many issues were still unresolved, including questions of Joint Implementation and Clean Development Mechanism and banking (the "flexible mechanisms").
- Review efficiency arguments for these mechanisms.
- After US rejection, EU conceded on a number of points, allowing trade in emissions credits, and credits for "sinks" (absorption of CO₂ by forests and cropland).

More “hot air”?

- Japan given credits, lowering its required reduction from 6% to 1% relative to base year. Canada was allowed to increase its emissions by 5%. These credits would lower the price of emissions, harming Russia.
- As compensation, Russia was given large credits, adding to its "hot air".
- In 2005 Russia ratified Kyoto; reportedly the EU made ratification more attractive by softening the terms under which Russia would be admitted to the WTO (EU moderated its demand that Russia bring its domestic energy prices more in line with world prices.)

Current status of Kyoto

- The Kyoto agreement provides targets for emissions reductions 2008-2012.
- US and Australia are only industrial countries that have not ratified agreement.
- Emissions Trading Scheme (ETS) (trade in carbon permits) is active. Earlier in the year price of permits crashed – the quotas were not “very binding”.
- COP continuing discussions of sequel to Kyoto.

Participation of developing countries

- Developing countries can participate in Clean Development Mechanism (CDM).
- Necessary to guard against fraud in CDM.
- Should developing countries be required to adopt emissions limits? The danger is that their agreement would require giving them large quotas.
- Those large quotas would increase hot air, causing price of permits to fall, leading to reduced abatement efforts in developed countries.

Policies for reducing emissions

- "Best efforts approach". Encourage developed countries to undertake their best efforts to reduce emissions. This is worth doing because it is low cost, but it is not likely to lead to major reductions in emissions.
- "No regrets" reforms, e.g. liberalization of energy markets, cost savings standards. The efficacy of these is questionable. (Economists' skepticism of \$20 bill lying in the street.)

Taxes versus “cap-and-trade”

- They have different distributional effects.
- They produce the same level of output and emissions under cost certainty (and perfect competition).
- They produce different results under cost uncertainty. The tax enables policymaker to choose the marginal abatement cost (equal to the tax), but it leaves the amount of abatement (the amount of emissions) uncertain. The cap-and-trade has the opposite tradeoff.
- For climate change, tax is likely to be more efficient.

More on taxes vs. quotas

- Carbon tax politically unattractive. It is used in some European countries, but energy sectors are exempt.
- Concern about loss of competitiveness, carbon leakage. Attempts to use border taxes to offset tax differences across countries likely to violate WTO rules. (Same concerns arise with cap-and-trade.)
- Kyoto uses cap-and-trade. Difficult to monitor and to enforce.
- Kyoto does not have an automatic enforcement mechanism, but instead requires that signatories (individually) agree to penalties for exceeding quota.
- The success of US experiment with Clean Air Act difficult to repeat in global setting, because nations (unlike individual counties or states) are sovereign.

Other policies to reduce emissions

- A Hybrid scheme, cap and trade with price ceiling: nations allowed to issue new emissions license at set price. In principle this is more efficient than either taxes or quotas.
- Cooperative R&D to reduce costs of abatement.
- Actual US energy-related publicly funded and privately funded R&D has fallen over last 10 years. Better technology will not lead to abatement unless firms have an incentive to use it, and this requires some kind of government pressure.

Prospects for Kyoto Sequel

- It depends on what the US does.
- Democrat leadership has expressed a commitment to reducing US emissions.
- They don't have the votes to override a filibuster or a presidential veto.
- As pressure mounts within the US to reduce emissions, the opposition to these measures will also increase.