

Kyoto Protocol

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Jump to: [navigation](#), [search](#)

The Kyoto Protocol to the United Nations Framework Convention on Climate Change is an international [treaty](#) on [climate change](#).



The Kyoto Protocol is an amendment to the [United Nations Framework Convention on Climate Change](#)

Kyoto Protocol	
Opened for signature	December 11, 1997 in Kyoto, Japan
Entered into force	February 16, 2005 .
Conditions for entry into force	55 parties and at least 55% CO₂ 1990 emissions by UNFCCC Annex I parties.
Parties	163 countries (as of April 2006)

Contents

[\[hide\]](#)

- [1 Description](#)
- [2 Objectives](#)
- [3 Status of the agreement](#)
- [4 Details of the agreement](#)
 - [4.1 Financial commitments](#)
 - [4.2 Emissions trading](#)
 - [4.3 Revisions](#)
- [5 Current positions of governments](#)
 - [5.1 Position of Russia](#)
 - [5.2 Position of the United Kingdom](#)
 - [5.3 Position of the European Union](#)
 - [5.4 Position of the United States](#)
 - [5.5 Position of Canada](#)
 - [5.6 Position of Australia](#)

- [5.7 Position of China](#)
- [5.8 Position of India](#)
- [6 Common but differentiated responsibility](#)
- [7 Support for Kyoto](#)
 - [7.1 Grassroots support in the US](#)
- [8 Opposition to Kyoto](#)
- [9 Cost-benefit analysis](#)
- [10 Asia Pacific Partnership on Clean Development and Climate](#)
- [11 See also](#)
- [12 References](#)
- [13 External links](#)
 - [13.1 Protocol](#)
 - [13.2 Implementation](#)

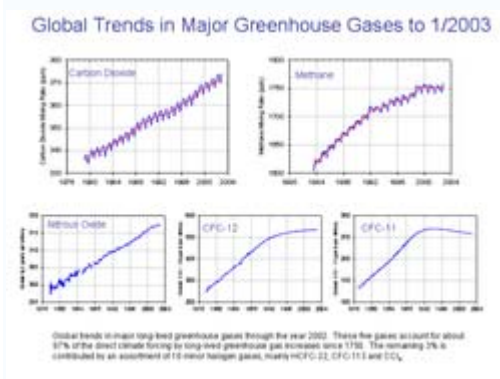
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Description

The Kyoto Protocol is an agreement made under the [United Nations Framework Convention on Climate Change \(UNFCCC\)](#). [Countries](#) that [ratify](#) this [protocol](#) commit to reduce their emissions of [carbon dioxide](#) and five other [greenhouse gases](#), or engage in [emissions trading](#) if they maintain or increase emissions of these gases.

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Objectives



Kyoto is intended to cut [global](#) emissions of [greenhouse gases](#).

The objective is the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" [UNFCCC-2](#).

The [Intergovernmental Panel on Climate Change](#) (IPCC) has predicted an average global rise in [temperature](#) of 1.4°C (2.5°F) to 5.8°C (10.4°F) between 1990 and 2100 ([see report](#)). Current estimates indicate that even if successfully and completely implemented, the Kyoto Protocol will reduce that increase by somewhere between 0.02°C and 0.28°C by the year 2050 (source: Nature, October 2003).

Proponents also note that Kyoto is a first step [Ucar.edu](#), as requirements to meet the UNFCCC will be modified until the objective is met, as required by UNFCCC Article 4.2(d).[UNFCCC-4](#)

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Status of the agreement



Participation in the Kyoto Protocol, where dark green indicates countries that have signed and ratified the treaty and yellow indicates states that have signed and hope to ratify the treaty. Notably, [Australia](#) and the [United States](#) have signed but, currently, decline to ratify it.

The treaty was negotiated in [Kyoto, Japan](#) in December [1997](#), opened for signature on [March 16, 1998](#), and closed on [March 15, 1999](#). The agreement came into force on [February 16, 2005](#) following ratification by [Russia](#) on [November 18, 2004](#). [As of April 2006](#), a total of 163 countries have ratified the agreement (representing over 61.6% of emissions from Annex I countries) [UNFCCC.int Duwe, Matthias](#). Notable exceptions include the [United States](#) and [Australia](#). Other countries, like [India](#) and [China](#), which have ratified the protocol, are not required to reduce carbon emissions under the present agreement.

According to terms of the protocol, it enters into force "on the ninetieth day after the date on which not less than 55 Parties to the Convention, incorporating Parties included in Annex I which accounted in total for at least 55 per cent of the total carbon dioxide emissions for 1990 of the Parties included in Annex I, have deposited their instruments of ratification, acceptance, approval or accession." Of the two conditions, the "55 parties" clause was reached on [May 23, 2002](#) when [Iceland](#) ratified. The ratification by Russia on [18 November 2004](#) satisfied the "55 percent" clause and brought the treaty into force, effective [February 16, 2005](#).

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Details of the agreement

According to a press release from the [United Nations Environment Programme](#):

"The Kyoto Protocol is an agreement under which industrialized countries will reduce their collective emissions of [greenhouse gases](#) by 5.2% compared to the year 1990 (but note that, compared to the emissions levels that would be expected by 2010 without the Protocol, this target represents a 29% cut). The goal is to lower overall emissions of six greenhouse gases - [carbon dioxide](#), [methane](#), [nitrous oxide](#), [sulfur hexafluoride](#), [HFCs](#), and [PFCs](#) - calculated as an average over the five-year period of 2008-12. National targets range from 8% reductions for the European Union and some others to 7% for the US, 6% for Japan, 0% for Russia, and permitted increases of 8% for Australia and 10% for Iceland."

It is an agreement negotiated as an amendment to the [United Nations Framework Convention on Climate Change](#) (UNFCCC, which was adopted at the [Earth Summit](#) in [Rio de Janeiro](#) in 1992). All parties to the UNFCCC can sign or ratify the Kyoto Protocol, while non-parties to the UNFCCC cannot. The Kyoto Protocol was adopted at the third session of the Conference of Parties (COP) to the UNFCCC in 1997 in [Kyoto](#), [Japan](#).

Most provisions of the Kyoto Protocol apply to developed countries, listed in Annex I to the UNFCCC.

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Financial commitments

The Protocol also reaffirms the principle that developed countries have to pay, and supply technology to other countries for climate-related studies and projects. This was originally agreed in the [UNFCCC](#).

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Emissions trading

Main article: [Emissions trading](#)

Each ratifying Annex I country has agreed to limit emissions to the levels described in the protocol, but many countries have limits that are set above their current production. These "extra amounts" can be purchased by other countries on the open market. So, for instance, [Russia](#) currently easily meets its targets, and can sell off its *credits* for millions of dollars to countries that don't yet meet their targets, to Canada for instance. This rewards countries that meet their targets, and provides financial incentives to others to do so as soon as possible:

Countries also receive credits through various shared "clean energy" programs and "[carbon dioxide sinks](#)" in the form of forests and other systems that remove carbon dioxide from the atmosphere.

A Washington D.C.-based NGO, in the report pdf.wri.org "Getting It Right: Emerging Markets for Storing Carbon in Forests", assumes values of \$30-40/ton in the US and \$70-80/ton in Europe. On [18 April 2001](#), [The Netherlands](#) purchased credits for 4 megatons of [carbon dioxide](#) emissions from Poland, Romania, and the Czech Republic; this was part of the ERUPT procurement procedure. These purchase agreements however contained conditions precedent, e.g. referring to the financing of the underlying projects. Since several of these conditions have not been met, the amount of purchased credits has since then decreased.

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Revisions

The protocol left several issues open to be decided later by the [Conference of Parties](#) (COP). [COP6](#) attempted to resolve these issues at its meeting in [the Hague](#) in late 2000, but was unable to reach an agreement due to disputes between the European Union on the one hand (which favoured a tougher agreement) and the United States, Canada, Japan and Australia on the other (which wanted the agreement to be less demanding and more flexible).

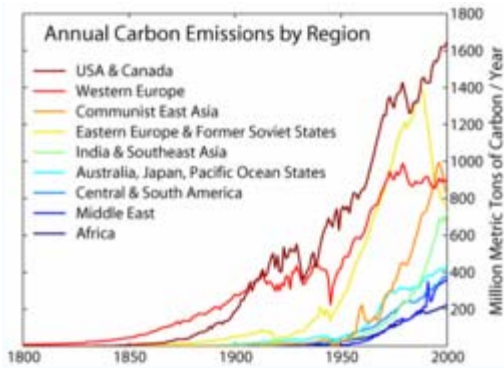
In 2001, a continuation of the previous meeting (COP6bis) was held in [Bonn](#) where the required decisions were adopted. After some concessions, the supporters of the protocol (led by the [European Union](#)) managed to get [Japan](#) and [Russia](#) in as well by allowing more use of [carbon dioxide sinks](#).

[COP7](#) was held from [29 October 2001](#) – [9 November 2001](#) in [Marrakech](#) to establish the final details of the protocol.

The first Meeting of the Parties to the Kyoto Protocol (MOP1) was held in [Montreal](#) from [November 28](#) to [December 9, 2005](#), along with the 11th conference of the Parties to the UNFCCC (COP11). See [United Nations Climate Change Conference](#).

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Current positions of governments



Carbon emissions from various global regions during the period 1800-2000 AD

See also: [List of Kyoto Protocol signatories](#)

[\[edit\]](#)

Position of Russia

[Vladimir Putin](#) approved the treaty on [November 4, 2004](#) and Russia officially notified the United Nations of its ratification on [November 18, 2004](#). With that, the Russian ratification is complete. The issue of Russian ratification was particularly closely watched in the international community, as the accord was brought into force 90 days after Russian ratification ([February 19, 2005](#)).

President Putin had earlier decided in favour of the protocol in September [2004](#), along with the Russian cabinet [Mosnews.com](#). As anticipated after this, ratification by the lower ([22 October 2004](#)) and upper house of parliament did not encounter any obstacles.

The Kyoto Protocol limits emissions to a percentage increase or decrease from their 1990 levels. Since 1990 the economies of most countries in the former [Soviet Union](#) have collapsed, as have their greenhouse gas emissions. Because of this, Russia should have no problem meeting its commitments under Kyoto, as its current emission levels are substantially below its targets

It is debatable whether Russia will benefit from selling emissions credits to other countries in the Kyoto Protocol [\[1\]](#).

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Position of the United Kingdom

The [energy policy of the United Kingdom](#) fully endorses goals for [carbon dioxide emissions](#) reduction and has committed to proportionate reduction in national emissions on a phased basis. The United Kingdom is a signatory to the Kyoto Protocol.

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Position of the European Union

On [May 31, 2002](#), all fifteen then-members of the [European Union](#) deposited the relevant ratification paperwork at the UN. The EU produces around 22% of global greenhouse gas emissions, and has agreed to a cut, on average, by 8% from [1990](#) emission levels. The EU has consistently been one of the major supporters of the Kyoto Protocol, negotiating hard to get wavering countries on board.

In December, [2002](#), the EU created a system of emissions trading in an effort to meet these tough targets. Quotas were introduced in six key industries: energy, steel, cement, glass, brick making, and paper/cardboard. There are also fines for member nations that fail to meet their obligations, starting at €40/ton of carbon dioxide in [2005](#), and rising to €100/ton in [2008](#). Current EU projections suggest that by 2008 the EU will be at 4.7% below 1990 levels.

The position of the EU is not without controversy in Protocol negotiations, however. One criticism is that, rather than reducing 8 percent, the EU should cut 15 percent as they said they would during the negotiation. Also, emission levels of former [Warsaw Pact](#) countries who now are members of the EU have already been reduced as a result of their economic restructuring. This may mean that the region's [1990](#) baseline level is inflated compared to that of other developed countries, thus giving European economies a potential competitive advantage over the U.S.

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Position of the United States

The [United States of America](#) (USA), although a signatory to the protocol, has neither ratified nor withdrawn from the protocol. The signature alone is mostly symbolic, as the protocol is non-binding over the United States unless ratified.

On [July 25, 1997](#), before the Kyoto Protocol was to be negotiated, the U.S. Senate unanimously passed by a 95–0 vote the Byrd-Hagel Resolution (S. Res. 98)[\[2\]](#), which stated the sense of the Senate was that the United States should not be a signatory to any protocol that did not include binding targets and timetables for developing as well as industrialized nations or "would result in serious harm to the economy of the United States". On [November 12, 1998](#), Vice President [Al Gore](#) symbolically signed the protocol. Both Gore and Senator Joseph Lieberman indicated that the protocol would not be acted upon in the Senate until there was participation by the developing nations [CNN](#). The Clinton Administration never submitted the protocol to the Senate for ratification.

The Clinton Administration released an economic analysis in July [1998](#), prepared by the [Council of Economic Advisors](#), which concluded that with emissions trading among the Annex B/Annex I countries, and participation of key developing countries in the "[Clean Development Mechanism](#)" — which grants the latter business-as-usual emissions rates through [2012](#) — the costs of implementing the Kyoto Protocol could be reduced as much

as 60% from many estimates. Other economic analyses, however, prepared by the [Congressional Budget Office](#) and the [Department of Energy Energy Information Administration](#) (EIA), and others, demonstrated a potentially large decline in GDP from implementing the Protocol.

The current President, [George W. Bush](#), has indicated that he does not intend to submit the treaty for ratification, not because he does not support the general idea, but because of the strain he believes the treaty would put on the economy he emphasizes the uncertainties he asserts are present in the climate change issue [Corn, David \(2001\)](#). Furthermore, he is not happy with the details of the treaty. For example, he does not support the split between Annex I countries and others. Bush said of the treaty:

This is a challenge that requires a 100 percent effort; ours, and the rest of the world's. The world's second-largest emitter of greenhouse gases is [China](#). Yet, China was entirely exempted from the requirements of the Kyoto Protocol. India and Germany are among the top emitters. Yet, India was also exempt from Kyoto. . . . America's unwillingness to embrace a flawed treaty should not be read by our friends and allies as any abdication of responsibility. To the contrary, my administration is committed to a leadership role on the issue of climate change. . . . Our approach must be consistent with the long-term goal of stabilizing greenhouse gas concentrations in the atmosphere. [Whitehouse.gov](#) President Bush Discusses Global Climate Change

According to the information from the [U.S. EIA](#), in 2003 Chinese energy-related usage produced an estimated 3.541 billion metric tons of CO₂, while the U.S. produced an estimated 5.802 billion metric tons. [DOE China](#), [DOE USA](#) However, on a per capita basis the Chinese emit 1/10th the CO₂ that Americans do and Americans emit more than twice the CO₂ as their counterparts in similarly developed countries like Germany, France, and the United Kingdom that have ratified the treaty and agreed to further reduce emissions. [UN Statistics Division](#)

In June 2002, the American [Environmental Protection Agency](#) (EPA) released the "Climate Action Report 2002". Some observers have interpreted this report as being supportive of the protocol, although the report itself does not explicitly endorse the protocol. Later that year, Congressional researchers who examined the legal status of the Protocol advised that signature of the UNFCCC imposes an obligation to refrain from undermining the Protocol's object and purpose, and that while the President probably cannot implement the Protocol alone, Congress can create compatible laws on its own initiative. [Opencrs.com](#)

The White House has come under criticism for downplaying reports that link human activity and greenhouse gas emissions to climate change and that a White House official and former oil industry advocate, Philip Cooney, adjusted descriptions of climate research that had already been approved by government scientists. The White House has denied that Philip Cooney watered down reports. [BBC \(2005\)](#) In June 2005, State Department papers showed the administration thanking [Exxon](#) executives for the

company's "active involvement" in helping to determine climate change policy, including the US stance on Kyoto. Input from the business lobby group [Global Climate Coalition](#) was also a factor. [Guardian](#)

At the [G-8](#) meeting in June 2005 administration officials expressed a desire for "practical commitments industrialized countries can meet without damaging their economies". According to those same officials, the United States is on track to fulfill its pledge to reduce its [carbon intensity](#) 18 percent by 2012. [Washington Post](#) Paul Krugman notes that the use of "carbon intensity" means the target reduction of 18 percent is still actually an increase in overall emissions. [NY Times](#)

The position Bush has taken on climate change has shifted with a gradual increasing acceptance that global warming is a problem, and that it is partly caused by human activity. The United States has signed the [Asia Pacific Partnership on Clean Development and Climate](#), a pact that allows those countries to set their goals for reducing greenhouse gas emissions individually, but with no enforcement mechanism. Supporters of the pact see it as complementing the Kyoto Protocol while being more flexible, but critics have said the pact will be ineffective without any enforcement measures. Nine north-eastern states and in California, Governor [Arnold Schwarzenegger](#), along with 187 mayors from US towns and cities, have pledged to adopt Kyoto style legal limits on greenhouse gas emissions. [Steve Hounslow, Roger Harrabin \(2005\)](#)

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Position of Canada

On [December 17, 2002](#), [Canada](#) ratified the treaty. While numerous polls have shown support for the Kyoto protocol around 70% [IPSOS-NA Graves, Boucher \(2002\) \(pdf\)](#), there is still some opposition, particularly by some business groups, non-governmental climate scientists and energy concerns, using arguments similar to those being used in the US. There is also a fear that since US companies will not be affected by the Kyoto Protocol that Canadian companies will be at a disadvantage in terms of trade.

In 2005, the result was limited to an ongoing "war of words", primarily between the government of [Alberta](#) (Canada's primary oil and gas producer) and the federal government. There are even fears that Kyoto [could threaten national unity, especially in Alberta](#).

After January 2006, the Liberal Party government was replaced by a Conservative Party minority government under [Stephen Harper](#), who previously has expressed opposition to Kyoto. During the election campaign, Harper stated he wanted to move beyond the Kyoto debate by establishing different environmental controls. [Rona Ambrose](#), who considers the emission trading concept to be flawed, replaced [Stephane Dion](#) as the environment minister and the chief overseer of the protocol in the [United Nations](#).

On [April 25, 2006](#), Ambrose announced that Canada would have no chance of meeting its targets under Kyoto, and would instead look to participate in U.S. sponsored Asia Pacific Partnership on Clean Development and Climate. "We've been looking at the Asia-Pacific Partnership for a number of months now because the key principles around [it] are very much in line with where our government wants to go," Ambrose told reporters [\[3\]](#). On [May 2, 2006](#), it was reported that environmental funding designed to meet the Kyoto standards has been cut, while the Harper administration develops a new plan to take its place [\[4\]](#).

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Position of Australia

Despite the fact that Australia was at the time of the negotiation already one of the biggest emitters on per capita basis, the country was granted an easy target of 8 percent increase. This is because Australia used its relative smallness as a negotiation tool while other big players were negotiating. The result of the negotiation was reported in the Australian media as being to Australia's advantage.

Nonetheless, the Australian Prime Minister, [John Howard](#), has refused to sign the Agreement and has argued that the protocol would cost Australians jobs, and that Australia is already doing enough to cut emissions. This is despite the fact that the Australian government is keen to reduce Greenhouse gas emissions and has pledged \$300 million over the next three years. The Federal Opposition, the [Australian Labor Party](#), is in full support of the protocol and it is currently a heavily debated issue within the political establishment. The opposition claims signing the protocol is a "risk free" prospect as they claim Australia would already be meeting the obligations the protocol would impose. [As of 2005](#), Australia was the world's largest emitter per capita of greenhouse gases.

The Australian government, along with the United States, agreed to sign the [Asia Pacific Partnership on Clean Development and Climate](#) at the [ASEAN](#) regional forum on [28 July 2005](#).

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Position of China

China insists that the emissions level of any given country is a multiplication of its per capita emission and its population. Because China has replaced population control measures while maintaining low emissions per capita, it should therefore in both the above aspects be considered a contributor to the world environment. China considers the criticism of its energy policy unjust.

Further, China shows its frustration against the accusation of population control, saying that if China cannot control its population and at the same time has to cut its emission,

Chinese people will remain poor forever. Chinese says that at 1990 level, Chinese must live a poor life, on the other hand people in developed countries can live a comfortable life. ^{[[citation needed](#)]}

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Position of India

[India](#) signed and ratified the Protocol in August, [2002](#). Since India is exempted from the framework of the treaty, it is expected to gain from the protocol in terms of transfer of technology and related foreign investments. At the [G-8](#) meeting in June 2005, Indian Prime Minister [Manmohan Singh](#) pointed out that the per-capita emission rates of the developing countries are a tiny fraction of those in the developed world. Following the principle of *common but differentiated responsibility*, India maintains that the major responsibility of curbing emission rests with the developed countries, which have accumulated emissions over a long period of time.

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Common but differentiated responsibility

The position of some industrialized nations on developing countries has often been criticized in the developing world. For example, the United Nations Framework Convention on Climate Change agreed to a set of a "common but differentiated responsibilities." The parties agreed that

1. The largest share of historical and current global emissions of greenhouse gases has originated in developed countries;
2. Per capita emissions in developing countries are still relatively low;
3. The share of global emissions originating in developing countries will grow to meet their social and development needs.. [UNFCCC background](#)

In other words, China, India, and other developing countries were exempt from the requirements of the Kyoto Protocol because they were not the main contributors to the greenhouse gas emissions during the industrialization period that is believed to be causing today's climate change.

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Support for Kyoto

Further information: [Global warming](#)

Advocates of the Kyoto Protocol claim that reducing these emissions is crucially important; [carbon dioxide](#), they believe, is causing the earth's atmosphere to heat up. This is supported by [attribution analysis](#).

The governments of all of the countries whose parliaments have ratified the Protocol are supporting it. Most prominent among advocates of Kyoto have been the European Union and many [environmentalist](#) organizations. The United Nations and some individual nations' scientific advisory bodies (including the [G8](#) national science academies) have also issued reports favoring the Kyoto Protocol.

An international day of action was planned for [3 December 2005](#), to coincide with the Meeting of the Parties in Montreal. The planned demonstrations were endorsed by the Assembly of Movements of the [World Social Forum](#). [campaigncc.org](#)

A group of major Canadian corporations also called for urgent action regarding climate change, and have suggested that Kyoto is only a first step. [CBC](#)

On [3 January 2006](#), after the Montreal accords a group of people assembled a petition with the goal to reach 50 million signatures supporting Kyoto Protocol and its goal by January [2008](#) - the starting date set by the Kyoto Protocol to show average 5% reduction in emissions. This petition was set out to give civil support and ratification to the international fight against Global Warming on a base of world wide active cooperation. Many US and Australian citizens are signing the petition and thus criticise their leaders' choices on this matter. [People of the World ratifying Kyoto Protocol](#)

[People of Earth Group](#)

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Grassroots support in the US

In the US, there is at least one student group [Kyoto Now!](#) which aims to use student interest to support pressure towards reducing emissions as targeted by the Kyoto Protocol compliance.

As of [November 15, 2004](#), nine Northeastern US states are involved in the [Regional Greenhouse Gas Initiative](#) (RGGI) [RGGI](#), which is a state level emissions capping and trading program. It is believed that the state-level program will indirectly apply pressure on the federal government by demonstrating that reductions can be achieved without being a signatory of the Kyoto Protocol.

- **Participating states:** [Maine](#), [Massachusetts](#), [New Hampshire](#), [Vermont](#), [Rhode Island](#), [Connecticut](#), [New York](#), [New Jersey](#), [Delaware](#).
- **Observer states and regions:** [Pennsylvania](#), [Maryland](#), [District of Columbia](#), [Eastern Canadian Provinces](#).

As of [December 2, 2005](#), 192 US cities representing more than 40 million Americans support Kyoto after Mayor [Greg Nickels](#) of [Seattle](#) started a nationwide effort to get cities to agree to the protocol.

- **Large participating cities:** [Seattle](#), [New York City](#), [Los Angeles](#), [Chicago](#), [San Francisco](#), [Boston](#), [Denver](#), [New Orleans](#), [Minneapolis](#), [Austin](#), [Portland](#), [Providence](#), [Tacoma](#), [San Jose](#), [Salt Lake City](#), [Little Rock](#), [West Palm Beach](#), [Annapolis](#)
- **Full list of cities and mayors:** [US Climate Protection Agreement Home Page](#)

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Opposition to Kyoto

The two major countries currently opposed to the treaty are the United States and Australia. Some public policy experts who are skeptical of [global warming](#) see Kyoto as a scheme to either retard the growth of the world's industrial democracies or to transfer wealth to the [third world](#) in what they claim is a global [socialism](#) initiative. Others argue the protocol does not go far enough to curb greenhouse emissions ([Niue](#), The [Cook Islands](#), and [Nauru](#) added notes to this effect when signing the protocol [UNFCCC kpstats PDF](#)).

Many [environmental economists](#) have been critical of the Kyoto Protocol. [\[5\]](#) [\[6\]](#). Many see the costs of the Kyoto Protocol as outweighing the benefits, some believing the standards which Kyoto sets to be too optimistic, others seeing a highly inequitable and inefficient agreement which would do little to curb greenhouse gas emissions (<http://www.straightdope.com/columns/060407.html>). It should be noted, however, that this opposition is not unanimous, and that the inclusion of emissions trading has led some environmental economists to embrace the treaty.

Further, there is a controversy to use 1990 as a base year, or not to use a per capita emission as a basis. Countries had different achievements in energy efficiency in 1990. For example, the former Soviet Union and eastern European countries did little to tackle the problem and their energy efficiency was at their worst level in 1990 as the year was just before their structural change, on the other hand Japan as a big importer of natural resources had to improve their efficiency after the [1973 oil crisis](#) and their emission level in 1990 was better than most developed countries. However, such efforts were set aside, and the inactivity of the former Soviet was overlooked and could even generate big income due to the emission trade. There is an argument that the use of per capita emission as a basis in the following Kyoto-type treaties can reduce the inequality feelings among the developed and developing countries alike as it can reveal inactivities and responsibilities among countries.

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Cost-benefit analysis

Economists have been trying to analyse the overall net benefit of Kyoto Protocol through [cost-benefit analysis](#). Just as in the case of climatology, there is disagreement due to large uncertainties in economic variables. Still, the estimates so far generally indicate either that observing the Kyoto Protocol is more expensive than the not observing the Kyoto Protocol or that the Kyoto Protocol has a marginal net benefit which exceeds the cost of simply adjusting to global warming. The recent [Copenhagen consensus](#) project found that the Kyoto Protocol would slow down the process of global warming, but have a superficial overall benefit.

A study in [Nature](#) found that *accounting only for local external costs, together with production costs, to identify energy strategies, compliance with the Kyoto Protocol would imply lower, not higher, overall costs.*

Most current economic analyses indicate that the Kyoto protocol is more costly than potential alternative policies. Many environmental economists advocate use of [carbon tax](#) or [emission trading](#) because most analyses suggest that they are considerably more economically [efficient](#) methods of emissions abatement. For this reason, some economists advocate the Kyoto protocol as proxy policy for achieving such an aim.

Defenders of the Kyoto Protocol argue, however, that while the initial greenhouse gas cuts may have little effect, they set the political precedent for bigger (and more effective) cuts in the future, [\[7\]](#). They also advocate commitment to the [precautionary principle](#). Critics point out that additional higher curb on carbon emission is likely to cause significantly higher increase in cost, making such defence moot. Moreover, the precautionary principle could apply to any political, social, economic or environmental consequence, which might have equally devastating effect in terms of poverty and environment, making the precautionary argument irrelevant.

One problem in attempting to measure the "absolute" costs and benefits of different policies to global warming is choosing a proper [discount rate](#). Over a long time horizon such as that in which benefits accrue under Kyoto, small changes in the discount rate create very large discrepancies between net benefits in various studies. However, this difficulty is generally not applicable to "relative" comparison of alternative policies under a long time horizon. This is because changes in discount rate tend to equally adjust the net cost/benefit of different policies unless there are significant discrepancies of cost and benefit over time horizon.

While it has been difficult to arrive at a scenario under which the net benefits of Kyoto are positive using traditional discounting methods such as the Shadow Price of Capital approach [\[8\]](#), some have argued that a much lower discount rate should be utilized; arguing that high rates are biased toward the current generation. In part this is philosophical value judgement which is outside the realm of economics.

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Asia Pacific Partnership on Clean Development and Climate

See also: [Asia Pacific Partnership on Clean Development and Climate](#)

The Asia Pacific Partnership on Clean Development and Climate is an agreement between six [Asia-Pacific](#) nations: [Australia](#), the [People's Republic of China](#), [India](#), [Japan](#), [South Korea](#), and the [United States](#). It was introduced at the [Association of Southeast Asian Nations](#) (ASEAN), regional forum on [July 28, 2005](#). The pact allows those countries to set their goals for reducing greenhouse gas emissions individually, but with no enforcement mechanism. Supporters of the pact see it as complementing the Kyoto Protocol whilst being more flexible while critics have said the pact will be ineffective without any enforcement measures.

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- [List of countries by carbon dioxide emissions](#)
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References

- American Council for Capital Formation (ACCF) [The Impact of the Kyoto Protocol on U.S. Economic Growth and Projected Budget Surpluses](#). Retrieved on [November 15, 2005](#).
- Corn, David (2001) [AlterNet: George W. Bush: The Un-science Guy](#). Retrieved on [November 15, 2005](#).
- BBC (2005) "[Bush aide 'edited climate papers'](#)", *BBC*, [November 15, 2005](#).
- Steve Hounslow, Roger Harrabin (2005) "['Gas muzzlers' challenge Bush](#)", *BBC*, [November 15, 2005](#).
- CBC (2005) "[Business leaders call for climate change action](#)", *CBC*, [17 November 2005](#).
- Duwe, Matthias [CAN Europe: Ratification Calendar - up-to-date score on ratification of the Kyoto Protocol, time-table and dates of events and decisions up until the WSSD Johannesburg summit and beyond](#). Retrieved on [November 15, 2005](#).
- DOE "[Economic Effects of a Complex Agreement Depend on Many Assumptions](#)". Retrieved on [November 15, 2005](#).
- DOE China [China Country Analysis Brief](#). Retrieved on [November 15, 2005](#).
- DOE USA [United States Country Analysis Brief](#). Retrieved on [November 15, 2005](#).
- Graves, Boucher (2002)[Public Attitudes Towards the Kyoto Protocol](#). Retrieved on [November 15, 2005](#).
- Grida.no [Executive Summary. Chapter 9: Projections of Future Climate Change. Climate Change 2001: The Scientific Basis](#). Retrieved on [November 15, 2005](#).
- Guardian [Special reports: Revealed: how oil giant influenced Bush](#). Retrieved on [November 15, 2005](#).
- IPSOS-NA [Support \(74%\) Remains High for Kyoto Protocol . . .](#) Retrieved on [November 15, 2005](#).
- Mosnews.com [Russian Government Approves Kyoto Protocol Ratification - MONEY - MOSNEWS.COM](#). Retrieved on [November 15, 2005](#).
- Nature 413, 478-479 (4 October 2001) | doi: 10.1038/35097156 *Carbon emissions: The economic benefits of the Kyoto Protocol* Giulio A. De Leo, Luca Rizzi, Andrea Caizzi and Marino Gatto
- NY Times Krugman, Paul. [Ersatz Climate Policy](#). Retrieved on [November 15, 2005](#).

- Opencrs.com Ackerman, David M.. [Global Climate Change: Selected Legal Questions About the Kyoto Protocol](#). Retrieved on [November 15, 2005](#).
- Pdf.wri.org "[Getting It Right: Emerging Markets for Storing Carbon in Forests](#)". Retrieved on [November 15, 2005](#).
- Planetark [Planet Ark : Kyoto pact could see weak NZ economic growth - NBNZ](#). Retrieved on [November 15, 2005](#).
- RGGI [Regional Greenhouse Gas Initiative \(RGGI\)](#). Retrieved on [November 15, 2005](#).
- Ucar.edu [On the Record - NCAR/UCAR/UOP](#). Retrieved on [November 15, 2005](#).
- UNFCCC-2 [FULL TEXT OF THE CONVENTION, ARTICLE 2](#). *The United Nations Framework Convention on Climate Change*. Retrieved on [November 15, 2005](#).
- UNFCCC-4 [FULL TEXT OF THE CONVENTION, ARTICLE 4](#). *The United Nations Framework Convention on Climate Change*. Retrieved on [November 15, 2005](#).
- UNFCCC background [FULL TEXT OF THE CONVENTION](#). *The United Nations Framework Convention on Climate Change*. Retrieved on [November 15, 2005](#).
- UNFCCC.int [UNFCCC Status of Ratification](#). Retrieved on [November 15, 2005](#).
- UNFCCC kpstats [Kyoto Protocol > Status of Ratification](#). Retrieved on [November 15, 2005](#).
- UoGuelph [Submission to the Joint Standing Committee on Treaties](#). (PDF) Retrieved on [November 15, 2005](#).
- Washington Post Eilperin, Juliet. [Climate Plan Splits U.S. and Europe](#). Retrieved on [November 15, 2005](#).
- Wigley, T.M.L. [The Kyoto Protocol: CO₂, CH₄, and climate, Geophys. Res. Lett. Vol. 25 , No. 13 , p. 2285 implications](#). Retrieved on [March 4, 2006](#).
- Whitehouse.gov [President Bush Discusses Global Climate Change](#). Retrieved on [November 15, 2005](#).

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Protocol

- [Full text of the Kyoto Protocol \(HTML version\)](#), [\(PDF version\)](#)
- [Kyoto Protocol to the United Nations Framework Convention on Climate Change at Law-Ref.org](#) - fully indexed and crosslinked with other documents
- [List of countries who have ratified, accepted, approved, or accessed the Kyoto Protocol](#)

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Implementation

- Prof. [Adil Najam](#) of The [Fletcher School of Law and Diplomacy](#) looks at what a [Post-Kyoto Climate regime](#) might look like.
- [Second Analysis Confirms Greenhouse Gas Reductions in China](#). Source from the [Natural Resource Defense Council](#). Comprehensive analysis of China's recent economic development and its effects on Chinese emissions.
- [China Approves Kyoto Protocol](#)
- ["Global Tragedy of the Commons at COP 6"](#)
- [Ode to Kyoto: The energy industry's stealth campaign to confuse the public and stop Kyoto](#) - Broadcast [23 January 2004](#) on [PBS' NOW with Bill Moyers](#) ([RealVideo](#) format).
- [Happy Kyoto Day](#) - Article by Jamais Cascio on the Kyoto Protocol
- [Kyoto Count Up](#) - junkscience.com's Kyoto Protocol implementation cost claims, with counting clock.
- [TerraPass](#) - a method for private individuals in the US to voluntarily participate in a methodology similar in spirit to the cap-and-trade component of the Kyoto Protocol, while omitting components requiring bulk payments to developing countries.
- [DriveNeutral](#) - tool for individuals to take direct action on their own carbon footprint, grassroots effort to stimulate large scale emissions reductions, a non-profit approach for individuals interested in making a personal difference, associated with Presidio School of Management's Sustainable Management MBA program.
- [SinksWatch](#) - An initiative to track and scrutinize carbon sink projects
- [Michael Grubb](#) of the Carbon Trust and Imperial College London on implementing the Kyoto Protocol
- [Climate Justice and Equity](#) - Article by Anup Shah from [globalissues.org](#) explains why developing and industrialized countries are not subject to similar targets
- [Environmental Finance magazine](#)
- [Carbon Finance news service](#)
- [Minneapolis Exceeds Kyoto Protocol in Measurable Pollutants](#)
- [The Byrd-Hagel Resolution](#) "Expressing the sense of the Senate regarding the conditions for the United States becoming a signatory to any international agreement on greenhouse gas emissions under the United Nations"

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