

Greenhouse gases

Paris via Montreal

The quickest way to cut greenhouse gases is to expand the Montreal protocol

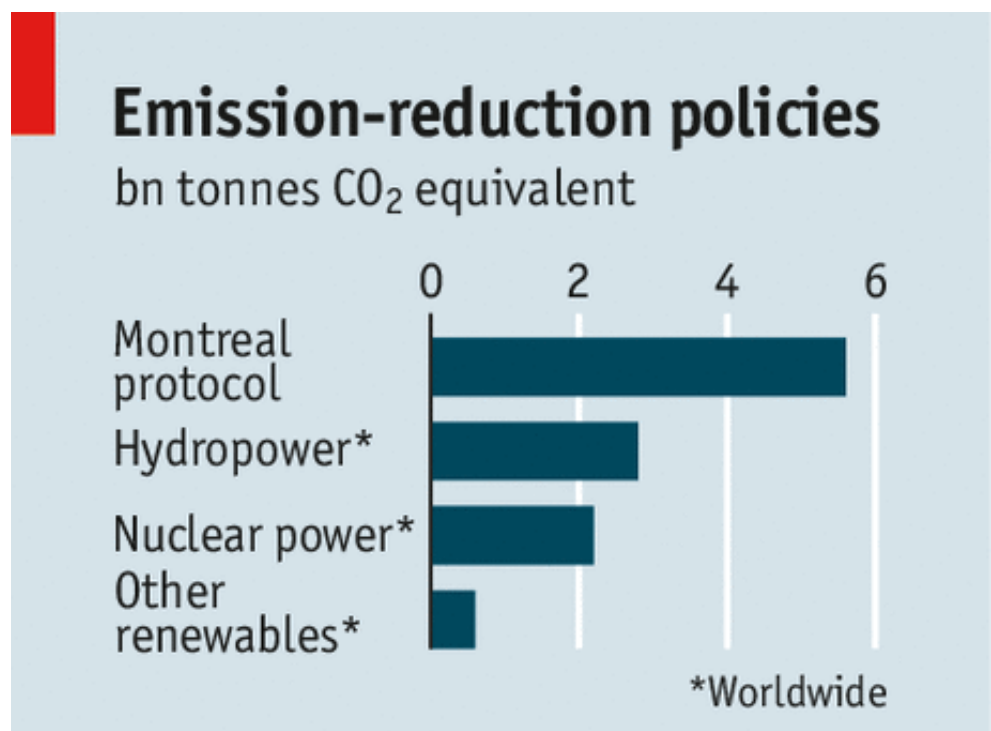
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IN 1974 two chemistry professors, Frank Rowland and Mario Molina, predicted that chlorofluorocarbons (CFCs), a set of chemicals used in refrigeration, would gradually decompose, release chlorine into the stratosphere and break down the ozone layer which

protects Earth from ultraviolet radiation. The chairman of DuPont, a chemical company, called their idea “a load of rubbish”.

Eleven years later, scientists discovered a hole in the ozone layer over Antarctica, and two years after that governments negotiated an agreement, the Montreal protocol, to phase out CFCs. Messrs Rowland and Molina now share a Nobel prize; the ozone layer has been preserved and, as a happy consequence, the climate as a whole has benefited. CFCs are powerful greenhouse gases and the Montreal protocol has reduced them by the equivalent of 135 billion tonnes of carbon dioxide (compared with doing nothing), making it by far the world’s most effective action to tackle climate change. We have reviewed the carbon-cutting records of 20 policies which rein in greenhouse-gas emissions (see [article](http://www.economist.com/news/briefing/21618680-our-guide-actions-have-done-most-slow-global-warming-deepest-cuts) (<http://www.economist.com/news/briefing/21618680-our-guide-actions-have-done-most-slow-global-warming-deepest-cuts>)). The protocol does almost as much as everything else on the list put together.

This little-known success deserves greater prominence in today’s efforts to tackle climate



change. On September 23rd the world's leaders gather for a climate summit in New York. Their meeting starts a year of talks aimed at producing a treaty on carbon emissions to be signed in Paris at the end of 2015. In designing the new treaty, politicians ought to learn from—and expand—the Montreal protocol.

The protocol won the backing of developing countries partly because they did not think its targets were being jammed down their throats, and partly because they were given plenty of money to comply with its measures. Even more important, it also won support from large chemical companies (including DuPont) which made money producing substitutes for CFCs. This widespread co-operation is a model to be copied. It will be harder with carbon, because regulating downstream emissions (which a carbon treaty must do) involves more parties than upstream production (which the protocol regulates). But the spirit—of generous financing and co-operation—is the same.

While learning from the Montreal protocol, the world's leaders should also expand it. The existing agreement does not cover a class of chemicals called hydrofluorocarbons (HFCs) which do not harm ozone but do act as greenhouse gases; they are among the fastest-growing such gases. If the protocol were amended to cover them, it could reduce greenhouse gases by the equivalent of another 130 billion tonnes of CO₂ by 2050, or roughly 4 billion tonnes a year. It would reduce greenhouse gases more than any other single climate-change action.

Worthwhile Canadian initiative

Expanding the Montreal protocol would not, by itself, keep the rise in global temperatures within safe bounds. That will require cutting carbon emissions by around 26 billion tonnes of CO₂ equivalent a year by 2030 (or almost halving the current rate of emissions). A broad carbon treaty will still be necessary; so will stopping deforestation, slashing subsidies to fossil fuels and much else (see [article](http://www.economist.com/news/briefing/21618681-2015-un-climate-agreement-possible-it-will-not-be-bold-shadow-copenhagen) (<http://www.economist.com/news/briefing/21618681-2015-un-climate-agreement-possible-it-will-not-be-bold-shadow-copenhagen>)). But expanding the Montreal protocol would get more than a tenth of the way towards what is needed. More important, it can be agreed, and implemented, quickly. The road to Paris should run through Montreal.

From the print edition: Leaders