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Technology, not carbon caps, will reduce emissions

From Prof Roger Pielke, Jr. on June 5, 2014

Sir, Your article "China climate adviser urges emissions cap" (June 3) fails to go into detail on what a "carbon cap" actually implies.

Carbon emissions are the product of growth in gross domestic product and of the technologies of energy consumption and production. More precisely, this relationship is called the Kaya Identity – after Yoichi Kaya, the Japanese scientist who first proposed it in the 1980s.

Thus, by definition, a "carbon cap" necessarily means that a government is committing to either a cessation of economic growth or to the systematic advancement of technological innovation in energy systems on a predictable schedule, such that economic growth is not constrained. Because halting economic growth is not an option, in China or anywhere else, and because technological innovation does not occur via fiat, there is in practice no such thing as a carbon cap.

Where carbon caps have been attempted, such as in the European Trading Scheme, clever legislators have used gimmicks, such as carbon offsets, or set caps unrealistically high so that negative effects on GDP do not result and the unpredictability of energy innovation does not become an issue.

It should thus not come as a surprise that carbon caps have not led to emissions reductions or even limitations anywhere. China will be no different. The sooner that we realise that advances in technology are what will reduce emissions, not arbitrary targets and timetables for reductions, the sooner we can focus our attention on the serious business of energy innovation.

Roger Pielke Jr., University of Colorado, Boulder, CO, US