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The wrong kind of carbon cut

The repeal of Australia's carbon-pricing scheme — the first time a nation has reversed action on climate change — sets a worrying example for other countries mulling steps to reduce emissions.

Climate politics tends to frustrate those convinced that action is needed to halt global warming, but 2014 has seen the stirrings of optimism once again. The European Union (EU) and the United States have both announced concrete plans to curb emissions beyond 2020, and China has signalled a growing willingness to tackle pollution seriously at home and find ways to take part in a binding international climate agreement scheduled to be signed in Paris next year.

So how much does Australia's decision to scrap its carbon-pricing scheme after just two years matter? As we report on page 392, the move was expected and may not directly affect the odds of reaching a meaningful international agreement in 2015 — but it does threaten to undermine the political momentum that has been building up and that must be sustained if the world is to get its act together on the key environmental issue of our time.

A growing body of research indicates that parts of Australia, already plagued by frequent heat, drought and floods, are excessively vulnerable to climate change and its effect on extreme weather. But the nation has also gained symbolic significance in the global debate (and dispute) over the policy and economics of climate change. Climate issues tend to have an enormous influence on domestic policy-making in Australia — from the 1997 Kyoto Protocol (Australia's late signature helped to push it into effect) and the ill-fated 2009 Copenhagen climate summit, to the ongoing debate over cap-and-trade and carbon pricing. Discourse and political battles Down Under can serve as a preview of what is coming up in the greater climate-policy arena.

So are carbon taxes and emissions-trading schemes doomed? Certainly not. Economists have consistently recommended carbon pricing as the most effective way to tackle climate change. And the market-based mechanisms that have been established in Europe, North America and, increasingly, Asia, have by and large helped to control emissions and to stimulate innovation of clean-energy technologies.

Some schemes certainly function better than others. The EU's mandatory emissions-trading system for about 12,000 large industrial emitters is hampered by loopholes and market failures that prevent it from being more efficient. But with reforms under way — emissions allowances are increasingly being auctioned rather than allocated free of charge — the system will remain the cornerstone of EU climate policy.

Australia's scheme, which involved a mere 350 companies, also proved relatively effective in reducing emissions during its short life. Its repeal, and the political circumstances that spurred the move, might seem a bizarre tale of missed opportunity.

Champions of carbon taxes tend to ignore that although people in democratic societies are willing to pay for environmental policies, they are willing to pay only so much. Prime Minister Tony Abbott has politically capitalized on that iron law, rather than taking a risk on telling voters that the modest price they did pay for the scheme is a much-needed investment in the future of their children. But politics is not rational, and

future generations are not today's voters. Australia's decision highlights the crude reality that political decision-making does not necessarily follow the logics of science and economics. Politics tends to follow short-term consumer preferences that are all too easily influenced and confused by the power and money of carbon producers. Australia, one of the world's richest countries and a leading per capita carbon emitter, must do more to reassure the rest of the world that it is ready to join

“Political decision-making does not necessarily follow the logics of science and economics.”

global efforts to tackle climate change. If it does not, it would send a devastating signal to rising economies such as China that will play a key part in negotiations leading up to an international climate agreement. These nations must be involved in global climate action, but they will hardly be persuaded to sign up if an industrial power the size of Australia falters.

The opportunity for the Australian government to prove its determination is not far off: by April 2015, some nations including Australia are supposed to lay on the negotiating table their offers for the climate conference in Paris in December next year, so that others have enough time to scrutinize the numbers. Australia's current emissions-reduction goal — 5% below 2000 levels by 2020 — is not just modest, it is an affront.

Abbott has won a political battle at home — but to be taken seriously abroad, he must show that he wants to serve his nation more than he wants to appease the fossil-fuel industry. ■

Fusion furore

Soaring construction costs for ITER are jeopardizing alternative fusion projects.

Fusion energy promises to combine the benefits of renewable resources — clean, carbon-free electric power — with the best qualities of fossil fuels: power day and night, without regard for the vagaries of weather.

The reality is much messier. Fusion power demands heating certain isotopes of hydrogen or other light elements to hundreds of millions of kelvin until they form ionized plasma. The plasma is contained by magnetic fields in a toroidal (doughnut-shaped) chamber until the nuclei fuse and convert mass into energy.

Physicists have struggled to harness fusion for more than six decades. Only in 2006 did an international consortium sign an agreement to start work on ITER, the first reactor designed to 'ignite' fusion plasma such that it will be able to sustain its burn and generate