

Nuclear/Ottawa

In more than 30 years of writing about public matters, I have not observed an issue rise as rapidly in public concern as climate change. Others have risen rapidly, but faded. This one bids fair to remain a matter of considerable public interest, in large part because the issue itself – the warming of the planet and its attendant consequences, will not go away; in fact, all signs point to its worsening.

I honestly am not entirely sure why the issue achieved this traction. Of course people read or heard about the issue, but then they hear and read about a lot of issues. I think in addition that in certain parts of our own country, the effects of climate change – the tangible effects – incrementally began to be seen and felt and wondered about.

In the Arctic, which is more in the minds of Canadians than the reality, there has been a 4-degree increases in the western part and a 2-3 degree warming elsewhere since the early 1950s, with geographical consequences that many “southern” Canadians have at least seen on television or read about in the newspapers.

In B.C. and Alberta, the mountain pine beetle has killed more than half of B.C.’s lodgepole pine. The insect is moving further east, across the

Rockies. A recent study of the problem concluded that among the most important explanatory factors for the beetle was the lack of cold winters for some years now.

Glaciers are receding faster; prairie rivers that depend on glacier melt are shallower. Certain soils are drier. Increased temperatures in urban areas contribute to more smog.

Canadians talk about the weather. It's in the country's DNA, and why not? So people in many parts of Canada looked around in recent years and asked themselves: What's going on?

Insert list

There are climate change deniers. I hear from them: boy do I hear from them. But the intellectual parade has passed them by, because the overwhelming world-wide scientific consensus says definitely that they are wrong.

But there are three other arguments I hear for not doing much about the problem here in Canada.

First, that we are responsible for only about 2 per cent of world emissions. Second that China, India and others are contributing more than

we do, if not now then in the future. And, finally, that since the U.S. national government isn't doing much, why should we, given our economic integration with that country.

On the first point, we have never used the 2 per cent argument, not in war or peace. On China, India and the others, yes, this is a serious problem that can only be dealt with over time. Third, George W. Bush will be in office for only about 11 months; all the serious candidates for his high office pledge serious action on greenhouse gas emissions. Also, more than 20 states are already taking serious action, as are dozens and dozens of U.S. states. (Mention cap-a-trade, North American style.)

Canada's record under the Kyoto Protocol was the worst of any signatory. Our GHG record is the worst, apart from Spain, among major industrial countries. Even U.S, emissions grew slightly less slowly than ours. We pledged to reduce our emissions by 6 per cent from 1990 levels by 2008-2012. Instead our emissions have risen sharply. We not only missed the bullseye, we missed the entire dart board.

We did, however, lead the world in plans. We had more plans than any other country. We've had seven of them since the Green Plan of 1990. Seven plans in about 18 years; a new plan therefore about every two and a-half years. And each year, with each plan, we moved further and further

away from our Kyoto commitment. With each plan our emissions rose. With each plan, the hot air gap between what we said we would do and what we were actually doing grew wider.

The world, by the way, is on to us. They've seen right through this gap between rhetoric and reality. Our negotiators, frankly, when they sit at climate change tables are naked at newts. Canadians love lecturing the world. Remember the Chapter's slogan: The World Needs More Canada. Well, on this file, the world has been getting more Canada – more of its emissions and more of its sanctimony. It just hasn't been getting any action.

Where do most of our emissions come from? Geographically from Alberta, the largest per capita emitting province; and from Ontario, the most populous province. Transport, oil and gas, electricity generation, industry, residential and agriculture are the main economic sectors, in that order.

We are challenged, it must be said, on the climate change file in ways other industrial countries are not. I mention these factors, no to excuse the Canadian effort, but to mention in the interest of honesty that we have challenges that other countries do not face. Our population has been and continues to grow, as, say, Germany's does not. So does our economy, faster than any in the G8 except that of the U.S. these last ten years. Take a look outside: Our climate is more severe than anybody else's. Our distances are

vast. It's a lot more energy-intensive no matter how you travel from Calgary to Montreal or Toronto than Gotenberg to Stockholm, Munich to Berlin or London to Glasgow. We are a major fossil fuel producer, as Britain and Norway are, but as France, Japan and Sweden are not. And we are a federation which, as we have seen throughout policy-making on climate change, has been a serious impediment to national decisions. I repeat: No other country faces all these challenges. They are real, and indeed unavoidable. And they complicate matters. Let's be honest about this.

Let's be honest, too, about the oil sands and Alberta. If, as is projected, oil sands production quadruples, the Alberta government's chosen way of dealing with emissions – intensity improvements – will mean more, many more, emissions, not fewer. In fact, nothing better illustrates the poverty of thinking in Alberta than the provincial government's own long-term targets – for a 14 per cent reduction in absolute emissions by 2050, a period when other fossil fuel producers such as Norway and Britain are calling for at least a 50-80 per cent reduction (in Britain's case from 1990 levels), and even the Harperites in Ottawa are talking about 50 per cent. It is so disappointing; and it is so un-Albertans, because I have always thought of Albertans as Big Sky people who want to be leaders, and always felt the “east” or “Central Canada” or the “Liberals” or some combination of the

above was holding the province back; and yet now no one is holding Alberta back but Albertans, or rather the provincial government and the oil and gas sector, so that rather than being the “best,” which is what Alberta should be aspiring to become, the provincial government is advertising, and even bragging about, shooting to become the “worst.”

Canada, as I said, has had the worst national record. Part of the explanation, in all fairness, lies in those challenges that I mentioned above that are not faced by other industrial countries. But we also failed for lack of political will, a lack that was based on a belief that the public was not ready for serious measures. It became a political tautology: the politicians believed the public was not ready for serious measures, so it wasted no time in proposing and explaining serious measures. Some environmentalists did not help either, with their cataclysmic rhetoric that few people believed and their naïve belief that we were going to give up our advanced industrial lives and all move to Salt Spring Island and grow our own food. Business, of course, was consistently unhelpful with its long list of warnings and complaints about economic doom.

Under these circumstances, all those plans that I spoke about were based on false assumptions; namely that serious action could be centred on subsidies, exhortation and voluntarism. This trinity of policies – subsidies,

exhortation and voluntarism – were politically cost-free and substantively useless. We tried this approach, and it failed, as it did elsewhere. We know this now, if we didn't before. So if you see a political actor any time in the future proposing to deal with climate change using this trilogy of failed policies, you will know that he or she is taking you for a sheep, and a not very intelligent one at that.

The most important argument to remember in thinking seriously about climate change is this: The Atmosphere can no longer be considered as a free receptacle into which we can dump for free greenhouse gas emissions. We know now that these emissions have a price – global warming. So we need to put a price on them to prevent them from putting a price on the atmosphere.

At the same time – and this is another argument vitally important to remember – we do not have an energy problem, we have an emissions problem. We are not running out of energy. We might be finding less oil than is needed to replace what we are consuming, but that is only one part of the energy mix. If we are willing to price energy, there is lots of it. The question is: Which energy, at what price to the atmosphere and to citizens. There is the nub of most energy issues.

The bottom line is that a price has to be placed on emissions, and this pricing has to be backed up with economic and regulatory policies, of the kind we use throughout our economy. In recommending a price for carbon, through a tax and cap-and-trade, and regulations, we are recommending tools that are familiar to us all as citizens, consumers and producers of products and services.

The suite of economic policies is now well-known, although obviously the devil is often in the details. They are a carbon tax, market-oriented regulations, renewable portfolio standards, carbon management standards (as in vehicle emission standards), building and production standards, carbon capture and storage.

With this as backdrop, I want to give the Harper government some credit. Remember where they started – two sentences in Stand Up for Canada. Now they have accepted a cap-and-trade system, vehicle emission standards, certain market-oriented regulations. There are holes in each of their statement. We await the detailed regulations. They seem to abandoned any hope of even trying for national policies. But given the point from which they started, they have moved. It's just that they have to move much further. I know of no one who isn't a paid spokesperson for the Harper government who actually believes what the government has proposed will meet the

government's professed target of a 20 per cent reduction from 2006 levels by 2020. And remember, that by using 2006 as the starting point, the government conveniently forget about all those emissions from 1990 to 2006. I guess they figured these were Liberal emissions, although to the best of my knowledge, the atmosphere itself doesn't engage in politics or watch Canada's Question Period. So the government's policy , as it stands, is certainly better than it appeared things might be when first election, but a long way from where it must be to achieve the very targets it has set.

Last week, the government of British Columbia established the gold standard for how to deal with the carbon challenge. I'm not going to take you through all of the measures. You can read them on-line and I urge you to do so. But there are some salient points.

So if you believe, as I do, that Canada should be making much greater strides towards lowering out carbon footprint, where does nuclear fit into the solution, if at all? As I look around the world, and try to understand the

future of energy consumption/production, and the greenhouse gas challenge, I am driven to conclude that nuclear is part of the future. I don't say this, obviously, because I'm in the nuclear industry. If I thought the contrary I would relish telling you, since as a columnist telling people what they don't want to hear kind of makes my day. It's one of the few virtues of this trade. No, I didn't come to this conclusion with any pre-conceived notions; if anything I was against nuclear energy having been a long-time resident of Ontario where the botch of the province's energy policy over many decades, central to which was nuclear policy, soured me on the energy source. Indeed, I am still wary and scarred by these experiences.

However

The International Energy Agency's World Energy Outlook, 2007 report, offered three scenarios for greenhouse gas emissions: a business-as-usual one, a standard reference model, and an Alternative Policy Scenario or Stabilization case. The Stabilization case is the one we ought to aim for, because it would see GHG stabilizing at 450 parts per million by 2030. This is the most ambitious scenario proposed by the Intergovernmental Panel on Climate Change. It sees emissions increasing until 2012, and then being steadily and aggressively reduced thereafter.

The IEA says this Alternative Policy scenario can be achieved by savings of 13 per cent in lower electricity demand, biofuels 4 per cent, renewables 19 per cent, capture and storage 21 per cent, energy efficiency improvements 25 per cent and nuclear power 16 per cent. Under this scenario nuclear is a necessary but by no means sufficient means of reducing greenhouse gas emissions. It also shows that renewables AND nuclear are required; not one without the other. This is a useful, important point to remember because some advocates of renewable energy believe, wrongly in my view, that more weight can be borne by renewables than is realistic either from the point of view of cost or volume.

Today, it is estimated that about 15 per cent of the world's electricity is supplied by nuclear, or something in the range of 370 gigawatts. That might increase to 520GWs by 2030, but if the world worked towards the Alternative Policy scenario, that figure could rise to 800-plus GWs. For this to happen – indeed for any serious, major reduction in GHGs to occur, as I said before – there must be a price on carbon emissions, in which case the nuclear option looks even better.

Some of you might already know, but for those of you who do not it is worth noting, that the British government recently released an energy policy

paper that accorded an important role to nuclear in the country's future, as it has played in the past.

There were many objections to nuclear – the same ones as found here, really – in the public discussions that followed the release of an energy white paper. These included: a greater focus on saving energy, the view that nuclear investments will “crowd out” those in renewables, the waste-management, -transportation and -storage dangers, the risks of cost overruns, release of radioactivity, terrorism.

The U.K. government considered these objections, all of which should be taken seriously by the way, and concluded that” new nuclear power stations should have a role to play in this country's energy future mix alongside other low-carbon sources; that it would be in the public interest to allow energy companies the option of investing in new nuclear power stations; and that the government should take active steps to facilitate this.”

The U.K. government has been among the most active in the world in promoting the need for serious action against climate change. The government's target for the U.K. is to reduce GHG emissions by 60 per cent (from 1990 levels!) by 2050, a much more aggressive long-term target than Canada's. The energy policy essentially concluded that the country's energy needs and climate change ambitions could not be achieved without some

recourse to nuclear. At the moment, nuclear provides about 19 per cent of the U.K.'s electricity, and 7.5 per cent of total power supplies. The energy policy did not stipulate that these figures should be in the future. This will presumably depend on the interest of companies. Nor did it specify which technologies should be used. But it was unmistakably clear that nuclear energy will be an important party of the U.K.'s energy future.

Elsewhere in Europe ... France, as you know, is already the European country most heavily committed to nuclear energy, and that commitment will grow so that France expects to use nuclear for the generation of more than 80 per cent of its electricity. It already has 59 reactors delivering 78 per cent of the country's electricity. I note that although Sweden is committed to phasing out its nuclear facilities, the glacial speed with which this is being done suggests the lack of a plausible alternative, at least in the short term.

I have often observed that the world's most successful country is Finland, for reasons of governance, health, education levels, productivity, competitiveness, international open-mindedness, and environmental concern. The Finns sit on a piece of geography similar to our Canadian Shield, and their environmental awareness eclipses ours, believe me.

It is therefore of significance that the Finns who already have nuclear plants, are building another, Olkiluoto 3 built by a French-German

consortium using French nuclear technology. The waste will be buried deep, deep in the shield. My view, without being an expert, is that if Finland can deal with the waste issue, given the geography it has, we ought to be able to do likewise, given that we have a vast additional amount of essentially the same geography.

There are, however, two points to note. First, geopolitics is also behind this Finnish decision. The Finns live beside the Russian bear, with which the Finns have often had a difficult relationship. The Finns therefore do not want to be dependent on the Russians for energy, so that a nuclear plants makes sense from that geopolitical perspective. Second, this project is two years behind schedule and over budget – something that will resonate with Ontarians who are reminded of this province's deeply troubled and hugely expensive relationship with nuclear every time they look at their electricity bills. There's no avoiding that skeptical reaction in Ontario, and frankly it is completely justified.

In the United States, as you all know, nuclear energy has been in the doghouse for many, many years, in part as a response to Three-Mile Island, in part because of severe cost overruns at some projects in the past, in part because climate change was not taken seriously there until every recently, in part because of ongoing arguments about the disposal of waste. (Yucca

Mountain has been held up for years by environmentalists and Nevada national politicians), and in part because the economics of nuclear compared to oil- and gas-fired and coal-fired plants seemed sufficiently shaky that banks were reluctant to lend. As a result, since 1978, no new nuclear plants have been ordered. Moreover, nearly a dozen plants closed in the 1980s because of poor economics of continuing to run them. As economics and other factors changed in nuclear's favor in more recent years, 48 plants have received 20-year licence extensions, with almost 40 others set to apply for extensions.

Now, however, a host of projects are about to be forwarded to the Nuclear Regulatory Commission which, it is said, has streamlined the approval process. About this, we can only stand and wait, because this new procedure has not been tested in the real world. But Americans are coming back to nuclear as their demand for power rises, prices for oil and natural gas jump, concern over climate change rises, and worry about increasing reliance on foreign sources for energy rises. Perhaps what will influence nuclear's future more than other factors in the States is when and how a price is put on carbon emissions through a cap-and-trade system.

Those of us who want action on climate change are guardedly optimistic about the broad direction of politics in the United States. All three

serious presidential candidates – John McCain, Hillary Clinton and Barack Obama – are on record as believing climate change to be a serious problem that requires action by the U.S. national government in the form of a) full engagement in international negotiations, b) a cap-and-trade carbon system in the U.S. I said “guardedly” because anyone who understands American government appreciates that, as Yogi Berra once quipped, “It ain’t over ‘til it’s over and then it ain’t over.” A president proposes; Congress disposes. And whenever serious climate change proposals reach Congress, representative of the car industry, electrical power generating industry, coal, and petroleum will be lobbying furiously for the least effective measures possible. But everything suggests that the U.S. by 2010-2011 will have a trading system in place, with that system setting a price – and we in Canada, by the way, will have to decide whether we want to join in a North American system or not.

I mention these developments in the United States because for many years those who opposed action in Canada on climate change warned that we could not, and should not, take serious measures because they would hurt our economy, integrated as it is with that of the United States. Various terrible scenarios were painted – they are a matter of public record if you doubt it – that the Canadian dollar would fall, that investment would flee,

jobs would be lost in huge numbers, growth curtailed. Of course, many American states and municipalities did not wait for the Bush administration; they moved aggressively on a range of measures. And after the next election, the entire United States will be moving, thereby removing the last crutch for Canadians who wanted no serious action taken. Indeed, as has often been the case, we are going to be trailing the Americans, or at least having to synchronize and/harmonize our efforts with theirs.

From my observations thus far, I presume you know that I believe, among other things, that climate change requires serious action, by Canada and internationally; and that nuclear energy must be a part, but by no means, the only part of coming to grips with the problem. There are in the so-called “environmental” movement many who do not agree with conflating those two statements. They believe the climate change battle could – indeed, must – be won without additional recourse to nuclear energy. I am not among them. I do not believe that renewables and energy efficiency can get the job done. We in Canada, to say nothing of the world, are going to need more energy, not less, even if we find efficiencies, as we must. Moreover, in relations to the oil sands, I have never understand why we are using large quantities of “relatively” clean natural gas to secure more “relatively” dirty

oil, when some of that gas could be used for other purposes. Which is why I have always favored an open mind towards nuclear energy going forward in that area.

Having said all of this in favor of nuclear energy, I want to add some important caveats. In my view, Ontario or any other Canadian jurisdiction that investigates nuclear energy should do so strictly on the basis of price, reliability, deliverability, safety and other necessary considerations. I do not favor nationalism entering into the decision. If a Canadian product, objectively speaking is demonstrated to be superior to others on offers; fine, proceed. But if, objectively speaking, it does not; then buy another product and negotiate the best offsets possible. I note that according to the IEAE, there are 433 nuclear units in the world operating in 40 countries. I note in the AECL annual report that there are 29 CANDU units operating in 7 countries, including Canada. So obviously the vast majority of nuclear units in the world in the largest number of countries are there because some government or agency or whomever preferred, for whatever reason, another technology, price, terms and conditions etc. Under those circumstances, it would seem counter-productive for Canada to let nationalism determine the ultimate outcome of whatever decisions are made here. I have seen too many “industrial policy” decisions made in my journalistic career in which

governments were pressured by lobbying to “buy Canadian” at great cost to the taxpayer. I am immune to the argument that if Canadians don’t buy a certain product, especially one into which the Canadian taxpayer has funneled large sums of money over the years, then how can we expect other countries to buy it. To me, this is an opened-ended argument for subsidies, bad economics, poor design and foolish nationalism. I have never quite gotten over one week in Cape Breton in 1985, writing columns and getting to know that corner of the country, and visiting the then-mothballed heavy-water facility that, as you might remember, was kept operating as a regional development project by Allan J. MacEachen, the Liberal cabinet minister and kingpin, long after an enormous surplus of heavy water had been accumulated. I don’t want to go there again. I loved my country, but not to the point of doing foolish things. Understand me well, I am not again buying Canadian, nor am I axiomatically for it. There ought to be an open, fact-based process culminating in a decision in the best interests of consumers and taxpayers.

There are other caveats, too. Everyone who lives in Ontario, and who pays hydro bills in Ontario, has been seared by the province’s experience with nuclear energy. This is not the time or place to review the history of Ontario Hydro, as it once was, the nuclear decisions it made, and the

subsequent developments. Suffice it to say that in my lifetime, the evolution of energy policy in Ontario, of which nuclear was a part, is one of the most depressing public policy stories. So when it comes to price, reliability, deliverability, the government and the industry, whether they like it or not, whether they want to point fingers at others for past difficulties, are going to face a skeptical public. I think nuclear is the way to go, for reasons I discussed earlier as a necessary but not sufficient response to the province's energy and climate change imperatives, but the path ahead might not be easy, and for understandable reasons. Elsewhere, the path should be easier, because history has been different. As for overseas, and the Canadian chances in being successful there, I can only hope for Canada's sake that the future will be better than the recent past, for the international markets speak their own language, make their own evaluations, and send their own signals.

So here is my summary: Climate change is a real and pressing problem. Our country's record has been abysmal. Progress is being made, but too slowly. As more progress is made, nuclear will be part of that progress. But not at any price, nor in every place, nor necessarily with Canadian technology. There: some of you will be apoplectic; others annoyed; a few heartened, but, given how long I have spoken, everyone will want this to end. I thank you for your attention, and patience.

@et