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## WILL LATIN'S SCHEME REPLACE FOSSIL FUELS MORE QUICKLY THAN EXISTING APPROACHES?

DAVID DRIESEN\*

Figuring out how to phase out fossil fuels as quickly as possible — Howard Latin's implicit and well-chosen goal — poses an enormous challenge.<sup>1</sup> Although I agree with much of what his book *Climate Change Policy Failures* has to say, I am not as confident as he is that his scheme will perform better than the “policy failures” he so vehemently criticizes. Latin reaches the conclusion that his scheme will lead more rapidly to a phase-out of carbon by comparing explicitly back-loaded reduction schemes to an abstract scheme combining a commission to direct subsidies at zero carbon technology, a carbon tax to fund the subsidies and encourage deployment, and use of technology-based regulation for very large polluters (along with emissions reporting).<sup>2</sup> Because his scheme's speed will depend upon the amount of the tax, the stringency of technology-based standards, and other variables that he does not discuss, it is very hard to tell whether his proposal will prove speedier than the alternatives he criticizes. Instead of discussing these determinants of near-term stringency, Latin turns to instrument choice recom-

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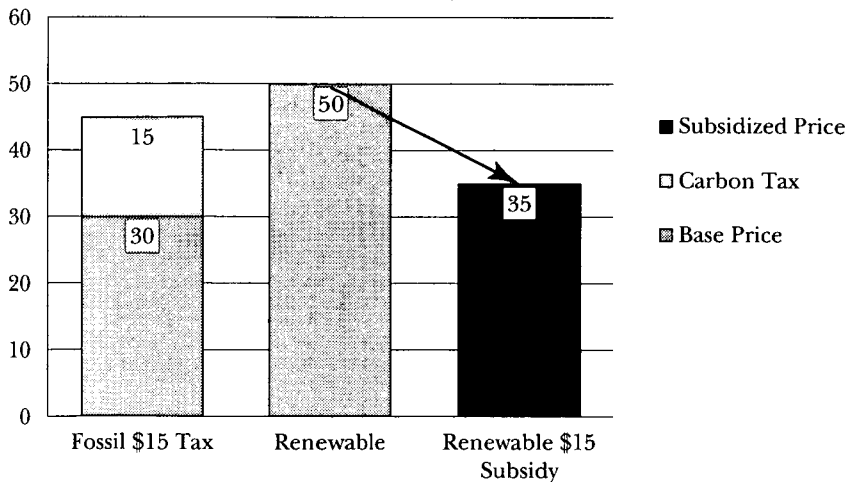
1. See HOWARD A. LATIN, *CLIMATE CHANGE POLICY FAILURES: WHY CONVENTIONAL MITIGATION APPROACHES CANNOT SUCCEED* 16 (2012) (discussing the need to eliminate greenhouse gas pollution “as soon as feasible”).

2. *Id.* at 152-89.

mendations to implement his vision of a rapid phase-out of fossil fuels.

That said, the literature on innovation supports the idea at the core of his proposal: using taxes to fund subsidies drives more innovation than either taxes or subsidies alone.<sup>3</sup> Mikeal Skou Anderson, one of the more thoughtful writers about economic incentive measures, cites examples like the French effluent tax that pays for wastewater treatment to illustrate this point.<sup>4</sup> More broadly, a scheme that taxes dirty technology and uses the proceeds to subsidize clean technology will bring the prices of clean technology below or at least near that of dirty technology more quickly than a taxing or subsidizing scheme alone, thereby facilitating adoption of cleaner technology. As Figure 1 shows, if one taxes carbon at twenty dollars a ton and a fossil fuel technology costs thirty dollars a ton less than a clean competitor, that tax will not induce a substitution (because the fossil fuel technology will still cost ten dollars more than the clean technology). But keeping that same twenty dollar tax in place and using that twenty dollars to fund the clean replacement technology has double the impact on the relative prices, making the clean technology ten dollars cheaper than the dirty and encouraging substitution.

FIGURE 1.  
Taxes Funding Subsidies



3. See DAVID M. DRIESEN, *THE ECONOMIC DYNAMICS OF ENVIRONMENTAL LAW* 152-53 (2003).

4. MIKAEL SKOU ANDERSEN, *GOVERNANCE BY GREEN TAXES: MAKING POLLUTION PREVENTION PAY* 27 (1994) (promoting taxes like the French effluent tax that raise funding for environmental programs).

Economists' optimality talk obscures this point. But the goal of fossil fuel replacement policies must include trying to make clean technology cheaper than dirty technology, which implies raising the cost of fossil fuels and lowering the price of clean fuels. The economic case for Latin's proposal gets a little muddied because he considers spending the subsidies mostly on research and development. Still, the fundamental economics of his structure is extremely sound.

His institutional choice, of having a commission control the deployment of subsidies, will garner support from people who distrust markets and opposition from people who distrust government experts.<sup>5</sup> His choice of institutional structure is not inevitable. I have, for example, proposed an environmental competition statute under which anybody lowering their emissions can claim a payment for their full costs plus a profit margin from anybody in their industry with higher emissions.<sup>6</sup> This subsidy claiming can be done with a fund created by a tax, thereby using the basic structure of Latin's proposal, but changing it institutionally to let market actors choose technologies. To the extent that the subsidies might flow to nuclear power, one might wonder whether the public must have some role in directing subsidies politically, in light of the public's justified concern for nuclear safety and waste disposal. But I hope readers will recognize the value of the tax-funds-subsidies approach, whether or not they like Latin's institutional choice.

Markets are pretty bad at considering risk/risk problems, so this might argue for the government choice Latin endorses.<sup>7</sup> But the history of ozone depletion technology reminds us of the value of tapping into producers' expertise and suggests an intriguing way of combining government steering with industry involvement. In that case, Ted Parson tells us, we created an advisory committee on technology consisting mostly of experts from industry.<sup>8</sup> Working together, they concluded that ozone depleting substitutes were

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5. See generally David M. Driesen, *Sustainable Development and Market Liberalism's Shotgun Wedding: Emissions Trading Under the Kyoto Protocol*, 83 IND. L.J. 21, 64 (2008) (noting that market liberalism advocates generally prefer to rely upon markets whilst sustainable development proponents generally prefer to rely on governments).

6. See David M. Driesen, *An Environmental Competition Statute*, 2 SAN DIEGO J. CLIMATE & ENERGY L. 199 (2010).

7. See David M. Driesen & Amy Sinden, *The Missing Instrument: Dirty Input Limits*, 33 HARV. ENVTL. L. REV. 65, 99-101 (2009).

8. See EDWARD A. PARSON, *PROTECTING THE OZONE LAYER: SCIENCE AND STRATEGY* 257-62 (2003) (discussing the role of a technology assessment committee that included industry experts).

much more viable than any individual company had thought.<sup>9</sup> That conclusion paved the way to more rapid phase-out of the chemicals.<sup>10</sup> The point is that there is a lot of valuable, albeit fragmented, information out there among companies, and it might be an error to think that academic and government experts know all they need to know to conduct useful technological assessment. I wish Latin had devoted more space to developing a structure that tapped private expertise without corrupting the process, rather than to bashing existing structures so vehemently.

Latin deserves credit for recognizing that a carbon tax that actually passes Congress will likely have many loopholes and complexities, much like those found in cap-and-trade bills that made substantial progress in Congress a few years back.<sup>11</sup> Many analysts make the mistake of comparing an idealized carbon tax with cap-and-trade bills that actually emerge from a political process, which surely biases instrument choice.<sup>12</sup> Latin taught us all decades ago that we ought not compare real world instruments to idealized versions of competing instruments.<sup>13</sup>

Latin still underestimates the problems of implementing a carbon tax. Either a tax or a cap-and-trade program can work well for carbon dioxide itself because we can reliably estimate the associated emissions. The other greenhouse gases, however, do not lend themselves well to either a tax or cap-and-trade structure because of measurement difficulties. Yet, Latin may be right that taxes can prove simpler to administer than a cap-and-trade scheme once in place because one need not police moving emission reductions.<sup>14</sup> But Congress could defeat even that advantage, for example, by blighting a tax bill with a tax credit for carbon sequestration projects.

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9. *Id.* at 259-60 (discussing how the committee supported technological change).

10. *See id.* at 260 (describing steps taken to reduce chemical use once the committee reached consensus).

11. LATIN, *supra* note 1, at 97 (suggesting that lobbying would likely distort a carbon tax through “giveaways, windfalls, and loopholes” much as it has impaired cap-and-trade programs).

12. *See, e.g., id.* at 95-99 (criticizing analyst Jim Hansen for minimizing the complexity of a carbon tax).

13. *See* Howard Latin, *Ideal Versus Real Regulatory Efficiency: Implementation of Uniform Standards and ‘Fine-Tuning’ Regulatory Reforms*, 37 STAN. L. REV. 1267 (1985) (warning against comparing real environmental policies with idealized ones).

14. *Cf.* David M. Driesen, *Is Emissions Trading an Economic Incentive Program?: Replacing the Command and Control/Economic Incentive Dichotomy*, 55 WASH. & LEE L. REV. 289, 310 n.100 (1998) (explaining that agencies enforcing an emissions trading program must frequently monitor pollution levels at two sources to verify that one required emission reduction has occurred).

More importantly to the overall argument, Latin calls for increasing the carbon tax over time.<sup>15</sup> This may be a wise approach, but this sounds an awful lot like the back-ended emissions trading schemes that ratchet up caps over time, which he excoriates.<sup>16</sup> Furthermore, a tax, especially one that starts on the low end, will encourage precisely the kind of optimization of existing technology that Latin decries.

One wonders why Latin does not call for immediate implementation of the high tax rates necessary to make fossil fuels more expensive than existing zero carbon alternatives like nuclear power or solar energy. Could it be that concerns about political feasibility or the cost of an immediate phase-out of fossil fuels influence Latin's proposals as they have influenced the alternatives actually implemented?

The proposal for regulations based on best available control technology (BACT) for the most important polluters likewise seems to invite the same criticisms that Latin levels at existing efforts.<sup>17</sup> His BACT idea seems like an example of proposals to waste resources by "doing something now" that Latin decries. Indeed, BACT has typically focused on end-of-the-pipe technologies. But if the goal is to shut down coal-fired power plants and replace them all with nuclear and renewable energy in short order, isn't end-of-the-pipe technology a complete waste of resources? Perhaps though, Latin has something different in mind, like demanding a shift of coal-fired power plants to natural gas. But the careful reader of *Climate Change Policy Failures* sees that Latin disapproves of this type of move as an example of the sort of thing that would build resistance to further moves to zero carbon down the road.<sup>18</sup> I do not see how he can vehemently decry taking interim steps that reduce emissions without going to zero emissions and simultaneously favor BACT regulations.

Using negative economic incentives to fund positive economic incentives delivers a much-needed extra bang for the buck. Some

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15. LATIN, *supra* note 1, at 93-94 (endorsing a "progressively increasing carbon tax").

16. *See id.* at 42 (criticizing "back-loaded" reduction plans).

17. *See id.* at 182 (discussing use of BACT technology). Latin recommends "impos[ing] BACT technology-based standards on large and mid-sized [greenhouse gas] polluters in a limited number of industries that in the aggregate represent a substantial majority of the annual [greenhouse gas] discharges from US sources." *Id.*

18. *See id.* at 158-59 (criticizing "initial or interim investments" – such as "conversion from coal to natural gas" – for strengthening inertia that resists real change).

use of BACT is necessary as an interim measure as we ramp up the technology selection and replacement project he envisions. I hope, whatever one makes of the book's specific proposals, that the policy community will embrace his call to move as rapidly as possible toward the phase-out of fossil fuels and recognize the value of using negative economic incentives to fund positive economic incentives.

#### CONCLUSION

On balance, *Climate Change Policy Failures* provides a great service. It calls attention to the urgency of the climate disruption problem in an important and somewhat novel way, and it proposes solutions that in spite of some problems have great merit. But in light of the difficulties with any solutions one can come up with in this field, including this book's very welcome proposals, I wish Latin had adopted a less harsh tone toward the modest halting efforts governments around the world have made thus far, however inadequate they may have been.