

Defining the Challenge in Implementing Climate Change Policy

by Michael B. Gerrard

Michael B. Gerrard is Andrew Sabin Professor of Professional Practice, Columbia Law School and director of the Center for Climate Change Law. He is also Senior Counsel to Arnold & Porter LLP.

When Jonathan Cannon, Michael Vandenbergh, and I started planning this conference last summer, we planned to call it “Implementing Climate Change Legislation.” We assumed that by today a new law aimed at addressing climate change would be in place, or at least would be in the final polishing stage, in the United States. We even imagined that the federal agencies would be rolling up their sleeves to implement not only the new U.S. climate law but also our part of the comprehensive climate pact that the nations of the world had agreed to in Copenhagen.

What foolish optimists we were. The national and international situations today are much less settled than we thought they would be, and multiple possible pathways in the United States for addressing climate change lie ahead—some of them straight lines, some winding roads, and some with cliffs or tigers or brick walls along the way. Thus, we changed the program’s name to “Implementing Climate Change Policy,” which is still a bit rosy in its implication of a coherent “pol-

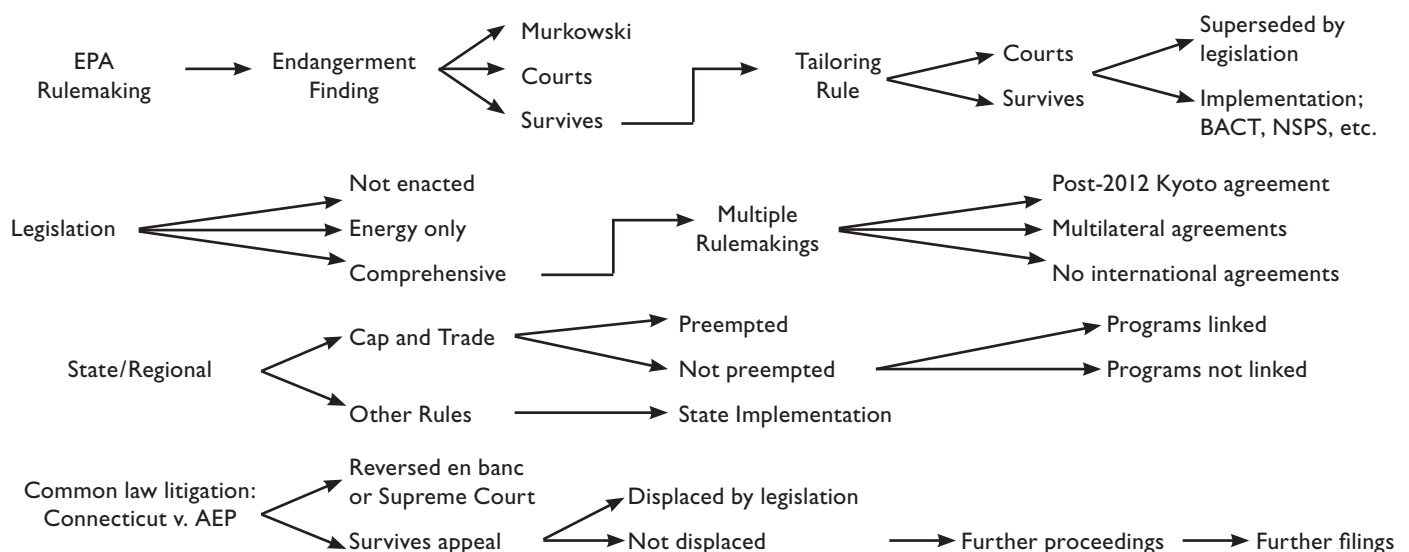
icy,” and we kept our original subheading, which is still valid: “Looking Forward to the Hard Part.”

During this conference, we are going to discuss the implementation challenges posed by several pathways to climate regulation. We will address what those challenges will be, and how they might be faced by a wide variety of actors—the White House, the agencies, the U.S. Congress, the courts, state governments, local governments, corporations, and individuals. We have assembled an impressive array of speakers from the governmental, academic, private, and nongovernmental organization sectors.

Now, I will set the stage for the implementation challenges ahead.

There are four different paths forward for climate change regulation in the United States: U.S. Environmental Protection Agency (EPA) rulemaking; legislation; state and regional regulation; and litigation. They are shown in Figure 1.

Figure 1. U.S. Climate Regulation: Possible Paths Forward



Author's Note: The author thanks Bradford McCormick for his assistance in compiling the rulemaking database that is discussed in this Article.

I. Path 1: EPA Rulemaking

The first path, EPA rulemaking under the Clean Air Act (CAA),¹ is already underway. EPA has promulgated the Greenhouse Gas (GHG) Reporting Rule,² which went into effect on January 1, 2010. Under this rule, approximately 13,000 facilities are supposed to have begun monitoring their GHG emissions, and are required to report the monitoring results to EPA in March 2011. EPA has issued the endangerment finding³ called for in the U.S. Supreme Court's decision in *Massachusetts v. EPA*.⁴ Sen. Lisa Murkowski (R-Alaska) is leading an effort to annul this finding using the Congressional Review Act.⁵ Several companies and industry associations have filed petitions with the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit challenging the finding. But if the endangerment finding survives, then EPA will issue a number of regulations aimed at reducing GHG emissions.

EPA has already published in draft the Cars Rule,⁶ which sets motor vehicle emissions and fuel economy standards, and the Tailoring Rule,⁷ which adjusts upward the thresholds for stationary source permitting under the CAA's new source review (NSR) program. Both of these regulations are scheduled to be issued in final form in March 2010. The Cars Rule resulted from a settlement between the federal government and the automobile industry, and is not controversial. However, several industry groups have already indicated they intend to challenge the Tailoring Rule in court.

If the Tailoring Rule survives, EPA will next have to promulgate technology standards. The rule is not self-implementing. Certain kinds of entities will require NSR permits, but the technology standards to be incorporated in these permits are set on an industry-specific basis. The first technology standard will likely be for the Portland cement industry, because of a preexisting consent order.⁸ It will be followed by technology standards for electric power plants, petroleum refineries, and then other sectors. New Source Performance Standards (NSPS) will be promulgated by EPA on an industry-by-industry basis; Best Available Control Technology requirements will be issued by the states on a facility-specific basis, but will no doubt be informed by NSPS. These will be laborious processes.

II. Path 2: Legislation

The second path is legislation. Several possibilities present themselves. There may be no legislation. There may be a comprehensive bill that includes cap and trade and covers virtually the entire economy. There may be a less-than-comprehensive bill; for example, there are suggestions for bills with just energy provisions, or with cap-and-trade provisions that only cover one or a few sectors.

We do not know what legislation, if any, will pass, but just about any proposed legislation will lead to multiple rulemakings by a variety of federal agencies, as further discussed below. Additionally, any proposed legislation will have to feed into whatever international regulatory system emerges. There may be a comprehensive post-2012 Kyoto agreement, but it is hard to imagine the United States participating in that without domestic legislation. There may be bilateral or multilateral agreements that will not require domestic legislation. In Copenhagen, President Barack Obama pledged a 17% reduction in U.S. GHG emissions by 2020 compared to 2005 levels, the lower range of the objective in the Waxman-Markey Bill as passed by the U.S. House of Representatives in June 2009. It might be possible to achieve that reduction without legislation, such as under existing CAA authority, but it would be considerably easier to achieve with legislation.

III. Path 3: State and Regional Regulation

The third path is state and regional regulation. Almost every state has adopted some kind of program to deal with climate change; some merely involve planning efforts, while others—most prominently California's—involve extensive regulatory controls.⁹ These programs are likely to continue whether or not there is federal legislation, unless there is explicit congressional preemption.

States are acting alone and also as part of regional groups. The Regional Greenhouse Gas Initiative (RGGI) is already operating a cap-and-trade program for carbon dioxide emissions from electric-generating facilities in 10 northeastern and Mid-Atlantic states. Midwestern and western state regional cap-and-trade programs are being developed. Just last week, the 10 RGGI states, plus Pennsylvania, launched an effort to adopt renewable fuel standards. There is talk of merging these three cap-and-trade programs, which include Canadian provinces and Mexican states, so there might be a partial North American cap-and-trade program in the absence of federal legislation. With federal legislation, there may well be preemption of these regional programs.

IV. Path 4: Litigation

The final path to U.S. climate regulation is through common-law litigation. Recently, the U.S. Court of Appeals for the Second Circuit ruled for the plaintiffs in *Connecticut v.*

1. 42 U.S.C. §§7401-7671q, ELR STAT. CAA §§101-618.

2. 40 C.F.R. §§86, 87, 89, 90, 94, 98, 1033, 1039, 1042, 1045, 1048, 1051, 1054, 1065 (2010).

3. Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66496 (Dec. 15, 2009) (to be codified at 40 C.F.R. ch. 1).

4. *Massachusetts v. EPA*, 549 U.S. 497, 534-35, 37 ELR 20075 (2007).

5. S.J. Res. 26, 111th Cong. (2010).

6. Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 74 Fed. Reg. 49454 (Sept. 28, 2009) (to be codified at 40 C.F.R. pts. 86, 600; 49 C.F.R. pts. 531, 533, 537, 538).

7. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 74 Fed. Reg. 55292 (Oct. 27, 2009) (to be codified at 40 C.F.R. pts. 51, 52, 70, 71).

8. *Portland Cement Assoc. v. EPA*, No. 07-1046 (consent decree), available at http://www.earthjustice.org/library/legal_docs/cement-kiln-settlement-agreement.pdf.

9. AB 32 (Cal. 2006).

American Electric Power.¹⁰ The plaintiffs asked the court to issue an injunction against five major power companies to reduce emissions from their generating facilities. The Second Circuit denied defendants' petition for en banc rehearing, and a petition to the Supreme Court for a grant of certiorari is widely expected. Two other appeals are now pending on suits seeking money damages rather than injunctive relief for GHG emissions under common-law nuisance theories.¹¹ An en banc rehearing is pending before the U.S. Court of Appeals for the Fifth Circuit in *Comer v. Murphy Oil*, and an appeal to the U.S. Court of Appeals for the Ninth Circuit of the district court's dismissal of *Native Village of Kivalina v. ExxonMobil* is anticipated soon. One or more of these cases may well reach the Supreme Court. If the plaintiffs prevail in any of these cases, and if the cases are not displaced by legislative or regulatory action, then the surviving case(s) will go to the district court for further proceedings. All three of these cases are based on common-law nuisance. If *Connecticut* survives, the district court will be asked to issue emissions limitations on defendants' power plants. If any of these cases survives further appeals, it is easy to foresee more lawsuits under the same theory against other industrial sectors.

V. The Pathways Combined

If the comprehensive legislation path is followed, it will have a profound effect on the other three paths. It will almost certainly wipe out most of the current EPA rulemaking path and set up a much larger new road; it may well preempt state and regional cap and trade, but leave intact other state and local regulation; and it could well displace the litigation under the federal common law of nuisance. But if comprehensive legislation is not enacted, or until it is, the other three paths will move forward. And without comprehensive U.S. legislation, and perhaps even with it, the international situation will remain unsettled.

There has been a great deal of talk about designing an architecture of climate change regulation. What we are seeing emerge is a favela of climate change regulation—a shantytown of little houses, each serving a purpose, perched on a steep hill, and subject to being washed away. It is not the kind of place where any of us really wants to live, but it is where we *will* live until something more solid comes along.

The comprehensive legislation pathway is the path favored by the president, a majority of the House (at least back in June), and the Democratic leadership of the U.S. Senate. Whether, when, and in what form such legislation gets 60 votes in the Senate, emerges from conference, and achieves enactment is a subject of much speculation. But to make my presentation concrete, I focus on the Waxman-Markey Bill as it passed the House last June, since it is the only

comprehensive climate bill that has ever passed either chamber of Congress.¹²

My colleague at Columbia, Brad McCormick, created a database of the rulemakings that would be required by the Waxman-Markey Bill, which we posted on the website of the Center for Climate Change Law.¹³ The database shows that Waxman-Markey would require a total of 145 different rulemakings. Figure 2 divides them by agency.

Figure 2. Number of Rulemakings by Agency Required by Waxman-Markey

Agency	Number of rulemakings
EPA	59
DOE	37
HUD	16
FERC	7
USDA	6
HHS	5
AS/FFIEC*	2
CFTC	2
Commerce	2
Interior	1
Labor	1
State	1
Transportation	1
FTC	1
GAO	1
OMB	1
"Federal banking agencies"	1
"Financial institutions regulatory agencies"	1

*Appraisal Subcommittee of the Federal Financial Institutions Examination Council

Congress might pass elements of Waxman-Markey but not cap and trade. To give a sense of the implementation challenges in that version, Figure 3 breaks down the rulemakings by title.

10. *Connecticut v. Am. Elec. Power Co., Inc.*, 582 F.3d 309, 39 ELR 20215 (2d Cir. 2009).

11. See *Comer v. Murphy Oil USA*, 585 F.3d 855, 39 ELR 20237 (5th Cir. 2009), *en banc reh'g granted*, Feb. 26, 2010; *Native Village of Kivalina v. ExxonMobil Corp.*, 663 F. Supp. 2d 863, 39 ELR 20236 (N.D. Cal. 2009).

12. American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009) (authored by Reps. Henry A. Waxman (D-Cal.) and Edward J. Markey (D-Mass.) and known as Waxman-Markey).

13. Center for Climate Change Law, www.columbiaclimatelaw.com.

Figure 3. Number of Agency Rulemakings by Title of Waxman-Markey

Title	Title Name	Number of Rules by Agency			Total
		EPA	DOE	Other Agencies	
I.	Clean Energy	8	11	6	25
II.	Energy Efficiency	11	25	25	61
III.	Reducing Global Warming Pollution	33	1	5	39
IV.	Transitioning to a Clean Energy Economy	4	0	8	12
V.	Agricultural and Forestry Related Offsets	3	0	5	8
	Totals:	59	37	49	145

The cap-and-trade provisions are found in Title III, which accounts for 39 of the 145 rulemakings. Title V, Agricultural and Forestry Related Offsets, is intimately linked to cap and trade, because its chief purpose is to provide utility and industrial sources with some relief from the allowance requirements of cap and trade. Some of Title III and Title V might survive an elimination of cap and trade, but please bear with me in the simplifying assumption that they will be omitted entirely.

That would leave Titles I, II, and IV if cap and trade is cut from Waxman-Markey. Title I, Clean Energy, includes provisions on a nationwide efficiency and renewables standard; carbon capture and sequestration; electric cars and other clean vehicles; the smart grid; transmission planning; energy efficiency research; and nuclear and advanced technologies. Title II, Energy Efficiency, contains the programs for energy efficiency in buildings, lighting, and appliances; energy efficiency in the transportation and industrial sectors and public institutions; and the new HUD program on energy-efficient neighborhoods. Title IV, Transitioning to a Clean Energy Economy, deals with green jobs, worker adjustment assistance, and domestic and international programs to adapt to climate change. Each of these titles has other items, but this is the big picture. So, if we just see something along the lines of Titles I, II, and IV, that is still 98 rulemakings.

Now assume again that the full bill passes, including cap and trade. A total of 59 rulemakings would be required of EPA alone; that is the focus below. Waxman-Markey contains numerous deadlines. Some of these deadlines are given in days, months, and years from enactment, ranging from six months to four years. Some are specific dates, from 2010 to 2025. Adding these up, assuming a May 1, 2010, enactment (just to pick a date), EPA would have to complete 19 rulemakings in 2011 and 18 more in 2012.

Figure 4. Timeline 1: EPA Deadlines Given in Days/Months/Years From Enactment

Deadline	Number of Rules
No date given	10
Six months	2
One year	11
15 months	1
18 months	4
Two years	16
Three years	2
Four years	2

Figure 5. Timeline 2: EPA Deadlines Given in Dates

Deadline	Number of Rules
Dec. 31, 2010	1
June 30, 2011	2
Sept. 30, 2011	1
Sept. 30, 2012	1
Dec. 31, 2012	1
Jan. 1, 2014	1
Mar. 31, 2014	1
Feb. 1, 2017	1
2025	1

Figure 6. Timeline 3: All EPA Deadlines, Combined; Assumes Enactment on May 1, 2010

Deadline	Number of Rules
No date given	10
Nov. 1, 2010	2
Dec. 31, 2010	1
May 1, 2011	11
June 30, 2011	2
Aug. 1, 2011	1
Sept. 30, 2011	1
Nov. 1, 2011	4
May 1, 2012	16
Sept. 30, 2012	1
Dec. 31, 2012	1
May 1, 2013	2
Jan. 1, 2014	1
Mar. 31, 2014	1
May 1, 2014	2
Feb. 1, 2017	1
2025	1

**Figure 7. Summary Timeline
for EPA Rulemaking—Assumes
Enactment on May 2, 2010**

Year	Number of Rules
2010	3
2011	19
2012	18
2013	2
2014	4

In a typical year, EPA promulgates five to 10 major regulations, and its resources are stretched in doing so; many of these processes resemble giving birth to a hippopotamus. I do not know precisely how many of the Waxman-Markey rulemakings would fit within the definition of “major regulation,” but many of them would. Thus, this would constitute a huge increase in the amount of rulemaking activity at EPA.

What are these rulemakings about? Figure 8 organizes Waxman-Markey’s required rulemakings by category. There are more categories, but Figure 8 shows only those with six or more rulemakings. The most rulemakings would be in adaptation (32), energy efficiency (27), GHG regulation (22), buildings (18), offsets (14), and carbon capture and sequestration (10).

**Figure 8. Waxman-Markey Agency
Mandates by Category**

Rulemaking Category	Number of Rules
Adaptation to Climate Change	32
Energy Efficiency	27
GHG Emissions Regulation	22
Buildings	18
Offsets	14
Carbon Capture and Sequestration	10
Appliances	9
Financial Market Oversight	9
Technology Deployment Support	9
International Reserve Allowance Program	8
Lighting	8
Renewable Biomass Fuels	8
Vehicles – Emission Standards	8
Hydrofluorocarbons	7
Home Lending and Appraisals	6
State/Indian Tribe/Island Renewable Energy and Energy Efficiency	6
Transmission Planning	6

This rulemaking will not only be a lot of work for the agencies, but also a lot of work for the courts. One analysis found that of the “significant” rules published by EPA between 2001 and 2005, 41.5% were challenged.¹⁴ This is

using a fairly broad definition of significant. Of the economically significant rules, 75% were challenged in court.¹⁵ Thus, by any reckoning, numerous lawsuits will result from the rulemaking activity required by Waxman-Markey.

What are the biggest decisions that EPA will have to make as part of all this rulemaking? Below is a listing, organized according to when the regulation is due.

One Year

- Propose national transportation-related GHG emission reduction goals (with the U.S. Department of Transportation)—finalize within 18 months of enactment
- Promulgate regulations governing State Energy and Environmental Development (SEED) accounts
- Determine GHG equivalencies and develop requirements for petitioning to designate new GHGs and methods and standards for setting equivalencies

Eighteen Months

- Propose black carbon regulations under existing CAA authorities, to be finalized within two years of enactment

Two Years

- Establish international offset credit program (with the U.S. Department of State, the U.S. Agency for International Development (USAID), and the Offsets Integrity Advisory Board)
- Establish international deforestation allowance set-aside program (with the USAID)
- Promulgate regulations providing for distribution of allowances for commercial deployment of carbon capture and storage technology in both electric power generation and industry
- Promulgate regulations governing auction of allowances from the Strategic Reserve

regulatory action, as defined by Executive Order No. 12866, is:

action likely to result in a rule that may: (1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy or some sector, region, or industry thereof; (2) Create a serious inconsistency or interfere with an action taken or planned by another agency; (3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligations of their recipients; or (4) Raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in this Executive Order.

Exec. Order No. 12866, 58 Fed. Reg. 51735, 51738 (Sept. 30, 1993). Those rules that meet the definition of “significant” by the \$100-million economic effect category are considered “economically significant,” and are subject to additional regulatory review requirements. *Id.* at 776. Of the economically significant rules published by EPA between 2001 and 2005, 75% (12 of 16) were challenged in court. *Id.* at 785.

14. Stephen M. Johnson, *Ossification’s Demise? An Empirical Analysis of EPA Rulemaking From 2001-2005*, 38 ENVTL. L. 767, 785 n.116 (2008). “Significant”

15. *Id.* at 785. Thus, by any reckoning, numerous lawsuits will result from the rulemaking activity required by Waxman-Markey.

Three Years

- Establish a formula for distributing allowance rebates to U.S. petroleum refineries to reward energy efficiency and GHG emission reductions (with the Energy Information Administration)

No Time Line

- Establish an International Reserve Allowance Program to place tariffs/adjustments on products in sensitive industries imported from countries without carbon cap (with help of Commissioner of U.S. Customs and Border Patrol)
- Develop standards for the Retrofit for Energy and Environmental Performance (REEP) Program for residential and nonresidential buildings (with the U.S. Department of Energy)

This is a very long list of very difficult rulemaking challenges EPA will face. One of the biggest challenges is establishing the international offset credit program, as required in Year Two above. Waxman-Markey and most other federal formulations of cap-and-trade regulation rely heavily on international offsets in order to reduce the cost of allowances and thereby keep electricity prices down. However, establishing an international offset credit program involves extremely difficult challenges in designating eligible activities; specifying how they are to be monitored, reported, and verified; and devising the necessary procedures.

Waxman-Markey also mandates the creation of several new government entities:

Independent U.S.-Owned Corporations

- Clean Energy Deployment Administration
- Energy Technology Advisory Council

Independent Advisory Boards

- Offsets Integrity Advisory Board

Agency Advisory Boards

- Commodity Futures Trading Commission Position Limit Energy Advisory Group
- Health and Human Services Climate Change Health Effects Science Advisory Board
- National Oceanic and Atmospheric Administration/ U.S. Geological Survey Adaptation Science Advisory Board
- U.S. Department of Agriculture Agricultural Emission Reduction and Sequestration Advisory Committee

Inter-Agency Commissions and Task Forces

- Geologic Sequestration Task Force
- Housing and Urban Development Commission to Develop Energy- and Location-Efficient Mortgage Products and Underwriting Guidelines
- Interagency Carbon Market Oversight Working Group
- Interagency Clean Technology Export Working Group
- Interagency Climate Change Data Management Working Group
- Interagency Committee for Global Change Research
- Natural Resources Climate Change Adaptation Panel

All the implementation challenges become even more complicated if the United States joins an international regime of emissions trading, and especially something along the lines of the Kyoto Protocol's Clean Development Mechanism, if that survives. One of the many lasting impressions of those of us who were in Copenhagen in December is how remarkably complicated the international climate change mechanisms have become, and there are few signs that they are getting any simpler.

The unmistakable conclusion from the above discussion is that whatever climate policy is adopted, implementing it will be the hard part.