Court Limitations on 'Cap and Trade' Regulation: Administrative Law Decisions applicable to the Mechanism of the Kyoto Protocol, E.U.-ETS, and U.S. Regulation

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Abstract

‘Cap-and-trade’ regulation is the regulatory 21st century tool used in environmental law and climate change regulation. It is a key mechanism employed under the U.S. Clean Air Act, integral to the Clean Development Mechanism of the Kyoto Protocol for greenhouse gas control, and the regulatory foundation of carbon control legislation in every U.S. state which regulates carbon. This modern ‘cap-and-trade’ mechanism for environmental regulation has been challenged in recent litigation in the U.S. The D.C. Circuit Court of Appeals in every one of five recent legal challenges has held EPA’s use of ‘cap-and-trade’ to be illegal. In only one case, the U.S. Supreme Court in 2014 reversed the Circuit Court. ‘Cap-and-trade’ regulation to mitigate climate change is now under similar challenge. Judicial review of the legality of regulation is established in various common law (including the U.S., England, Australia, Canada, India, Singapore, Pakistan, and South Africa) and civil law countries. In the U.S., a significant portion of the E.P.A. federal ‘cap-and-trade’ environmental regulation has been ruled illegal by the U.S. federal courts, as has some of the state of California’s ‘cap-and-trade’ regulation of carbon emissions and climate change. This article examines the administrative law, legislative enactments, and judicial interpretation of U.S. ‘cap-and-trade’ regulation and California’s carbon ‘cap-and-trade’ regulation as a viable legal mechanism. The lessons for legislative and administrative law apply to many world countries, and to carbon and global warming ‘cap-and-trade’ regulation is now moving forward in several countries toward a sustainable future.

Keywords: Cap-and-Trade, Kyoto Protocol Clean Development Mechanism, Administrative Law, Legislation, Regulation, E.U.-ETS, Regional Greenhouse Gas Initiative, common law countries, civil law countries

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Ⅰ. How 'Cap and Trade' Regulation is Used

'Cap-and-trade' is the new 21st century administrative choice in environmental law. The traditional model of environmental regulation of individual sources of emissions to the environment has been supplanted by setting a regional cap on emissions, allocating parties allowances to emit, and letting entities buy and sell the allowances which are a license to emit pollutants: "Cap-and-trade."[1] In recent years, 'cap-and-trade' has become the preferred tool for regulation of carbon dioxide under the Clean Air Act.[2] The Regional Greenhouse Gas Initiative, (RGGI)[3] and California's A.B. 32 carbon regulation program[4] both adopted 'cap-and-trade' programs. It is the mechanism for the Kyoto Protocol on international climate change.[5] Economists endorse the emissions trading market created by 'cap-and-trade' regulation.

'Cap-and-trade' is an important regulatory mechanism of modern administrative law. Judicial review of the legality of regulation is established in various common law and civil law countries. In common law countries, including the

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1. *Cap and Trade: Basic Information*, U.S. EPA, http://www.epa.gov/captrade/basicinfo.html ("Cap and trade is a market-based policy tool for protecting human health and the environment by controlling large amounts of emissions from a group of sources. A cap and trade program first sets an aggressive cap, or maximum limit, on emissions. Sources covered by the program then receive authorizations to emit in the form of emissions allowances, with the total amount of allowances limited by the cap. Each source can design its own compliance strategy to meet the overall reduction requirement, including the sale or purchase of allowances, installation of pollution controls, and implementation of efficiency measures, among other options. Individual control requirements are not specified under a cap and trade program, but each emission source must surrender allowances equal to its actual emissions in order to comply. Sources must also completely and accurately measure and report all emissions in a timely manner to guarantee that the overall cap is achieved.").
2. Steven Ferrey, Environmental Law: Examples & Explanations 184, tbl. 5.1 (6th ed. 2013) (list of the criteria pollutants) [hereinafter Ferrey(a)]; *Id*. at 246-50 (carbon control mechanisms in the U.S., E.U., and internationally).
3. Reg'l Greenhouse Gas Initiative, Memorandum of Understanding (2005), *available at* http://www.rggi.org/docs/mou_12_20_05.pdf.
4. Health & Safety Code § 38501 (2006).
5. *See* Steven Ferrey, Unlocking the Global Warming Toolbox 51-54 (2010) [hereinafter Ferrey(b)].

U.S., England, Australia, Canada, India, Singapore, Pakistan, and South Africa, courts review executive branch regulations. In the U.S., the federal Administrative Procedure Act[6] limits executive branch regulations, including 'cap-and-trade' regulation, and most of the fifty U.S. states have similar state administrative procedure acts which allow state court review of state regulations.[7] The majority of civil law countries has specialized courts to deal with administrative cases regarding procedural administrative rules.[8] The European Union has some administrative requirements for its multi-national regulations, which include its EU-ETS 'cap-and-trade' system.[9]

In the U.S., a significant portion of the E.P.A. federal 'cap-and-trade' environmental regulation has been ruled illegal by the U.S. federal courts, as has some of the state of California's 'cap-and-trade' regulation of carbon emissions and climate change. This article examines the administrative law legislative enactments, and judicial interpretation of U.S. 'cap-and-trade' regulation and California's carbon 'cap-and-trade' regulation. The lessons for legislative and administrative law apply to many world countries, and to carbon and global warming 'cap-and-trade' regulation now moving forward in several countries. This article examines where 'cap-and-trade' regulation is employed, its key role in addressing environmental and climate change issues, and why challenges to this new mode of regulation have succeeded.

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6. Administrative Procedures Act, 5 U.S.C. § 500 (2006).
7. *See*, *e.g.*, Cal. Gov. Code § 11340 (2009). There is a Model State Administrative Procedure Act drafted by the National Conference of Commissioners on Uniform State Laws. *See* National Conference of Commissioners on Uniform State Laws, Revised Model State Administrative Procedure Act (2010), *available at* http://www.uniformlaws.org/shared/docs/state%20administrative%20procedure/msapa_final_10.pdf.
8. Civil law countries with such rules include France, Germany, the Netherlands, Sweden, Brazil, Chile, and Ukraine. Administrative Law, Wikipedia, http://en.wikipedia.org/wiki/Administrative_law.
9. Legal basis for a regulation that covers all EU institutions, *see* Treaty of Lisbon Amending the Treaty on European Union and the Treaty Establishing the European Communities art. 298, Dec. 13, 2007, 2007 O.J. (C 306) 1. *See also* European Added Value Assessment, Law of Administrative Procedure of the European Union (2012), *available at* http://www.europarl.europa.eu/meetdocs/2009_2014/documents/juri/dv/eav_lawofadminprocedure_/EAV_LawofAdminprocedure_EN.pdf.

A. The CO_2 Emission Challenge and Energy Regulation

Within a century, if all nations of the world do not limit their greenhouse gas emissions, "the average global temperature will climb anywhere from 1.4° to 5.8° Celsius" (or 2.5° to 10° Fahrenheit).[10] This will require a sharp reduction of emissions over the next generation, and to "near zero by 2100."[11] This will only be possible if we "can demonstrate that a modern society can function without reliance on technologies that release carbon dioxide ⋯."[12] An official with the Intergovernmental Panel on Climate Change (IPCC) concluded that developed nations will need to slash CO_2 emissions almost entirely by eighty to ninety percent by 2050 to hold GHGs to 450 ppm in the atmosphere.[13] Complicating this, CO_2 lingers in the atmosphere, thus causing concentrations to hold steady for decades,[14] perhaps even hundreds of years.[15]

Global CO_2 emissions are rising at the rate of approximately ten percent per year.[16] The thirty richest nations (members of the Organization for Economic Cooperation and Development, or "OECD") produce a small majority of the world CO_2 emissions—currently estimated at about twenty-five gigatons (Gt) annu-

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10. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change 45, tbl. 3.1 (Martin Parry et al. eds., 2007). The IPCC 4th Assessment Report, talks of temperature increases of a range of increasing 2.4-6.4 degrees C. This would yield a 0.26–0.59meter rise in sea levels during the 21st century, a wide range. *Id*.
11. *See* Michael MacCracken, *Prospects for Future Climate Change and the Reasons for Early Action*, 58 J. Air & Waste Mgmt. Ass'n. 735, 735 (2008); *see also* Tony Blair, Breaking the Climate Deadlock: A Global Deal for our Low-Carbon Future 9 (2008).
12. *Id*.
13. Steven Ferrey, *The Failure of International Global Warming Regulation to Promote Needed Renewable Energy*, 37 B.C. Envt'l. Aff. L. Rev. 67, 72 (2010) (citing Rick Mitchell, *IPCC Official Says Industrialized Nations Must Cut Emissions up to 95 Percent*, 39 Env't Rep. 1917 (2008)).
14. Nat. Acad. of Sci. et al., Understanding and Responding to Climate Change 16 (2006).
15. *See* Susan Soloman et al., *Irreversible Climate Change Due to Carbon Dioxide Emissions*, 106 P. Nat. Acad. Sci. 1704 (2009) (CO_2 warming impact could last 1,000 years or more).
16. *See* Ray Purdy, *The Legal Implications of Carbon Capture and Storage under the Sea*, 7 Sustainable Dev. L. & Pol'y 22, 23, tbl. 1 (2006).

ally—compared to developing countries.[17] The crossover point is projected to be no later than 2020, when OECD countries and developing countries each are projected to emit roughly comparable amounts of CO_2 into the atmosphere. By 2030, the position of developed and developing nations will have reversed, with developing countries providing the dominant share of CO_2 emissions, and increasing over time into the foreseeable future.[18]

The United States Energy Information Administration (EIA) forecasts a fifty percent worldwide increase of carbon emissions between 2005 and 2030 as the most likely scenario.[19] The International Energy Agency forecasts a twenty-five to ninety percent increase over the same period.[20] The International Energy Agency concluded that absent a major policy change, CO_2 emissions could increase 130 percent by 2050.[21]

More than one-third of CO_2 emissions are attributable to the electric power sector.[22] Ninety-eight percent of anthropogenic CO_2 emissions are from combustion of fossil fuels.[23] Fossil fuel generation results in sixty-four percent of total human-made atmospheric CO_2. The International Energy Agency's forecast that by 2030, world demand for energy will grow by fifty-nine percent and fossil fuel sources will still (as of now) supply eighty-two percent of the total, while non-carbon renewable energy sources supply only six percent of the total.[24] At current rates of energy development, energy-related CO_2 emissions in 2050 would be 250 percent of their current levels under the existent pattern.[25]

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17. *Id*. OECD and developing countries collectively constitute more than 90% of all CO_2 emissions and are projected to continue this percentage over time.
18. *Id*.
19. Energy Info. Admin., International Energy Outlook (2008), *available at* http://www.tulane.edu/~bfleury/envirobio/readings/International%20Energy%20Outlook%2008.pdf.
20. International Panel on Climate Change, Fourth Assessment Report: Climate Change 2007 (Rajendra K. Pachauri et al. eds., 2007).
21. *Energy Estimates Show Rise in CO_2 Emissions, Offer Mitigation Options*, Inside EPA's Clean Energy Rep. (June 26, 2008), http://cleanenergyreport.com/2008062699158/Carbon-Control-Daily-News/News/energy-estimates-show-rise-in-Co_2-emissions-offer-mitigation-options/menu-id-202.html.
22. *See* U.S. Energy Info. Admin., Emission of Greenhouse Gases in the United State 2005 (2007), *available at* http://www.eia.gov/oiaf/1605/ggrpt/summary/carbon.html.
23. U.S. Energy Info. Admin., Emission of Greenhouse Gases in the United States 1998 (1999).
24. Int'l Energy Agency, World Energy Outlook 2004 (2004), *available at* http://www.worldenergyoutlook.org/media/weowebsite/2008-1994/weo2004.pdf.
25. Int'l Energy Agency, Energy-Technology Perspectives: Scenarios and Strategies to 2050 (2006).

B. Kyoto and European 'Cap and Trade'

1. CDM as the international 'Cap and Trade' Mechanism

The United Nations Framework Convention on Climate Change (UNFCCC) is the parent treaty which generated the 1997 Kyoto Protocol, which has, to date, 192 member parties.[26] Under the Protocol, thirty-seven states, consisting of industrialized countries and the European community, have imposed greenhouse gas (GHG) emission limitation and reduction commitments, while the remaining 155 developing countries among the 192 signatories, including the largest GHG emitter among all nations, have non-binding generic undertakings to limit emissions.[27] The Doha Amendments to extend the Protocol for the period 2013-2020 has not yet been ratified.

There are forty-one designated "Annex I" countries (including twenty-seven members of the European Union, plus eight other non-European Union nations in Europe including Belarus, Iceland, Kazakhstan, Liechtenstein, Norway, Switzerland, and Ukraine, and Australia, Canada, Japan, New Zealand, and Turkey),[28] which are the only countries subject to carbon emission reduction amounts. The United States is an Annex I country which has not ratified the Protocol; Canada has recently withdrawn;[29] Belarus, Kazakhstan and Ukraine stated that they may withdraw from the Protocol. While all U.N. members except Andorra and South Sudan are signatories, Japan, New Zealand, and Russia, which all participated in Kyoto's first-round through 2012, have not agreed to new targets in the current second commitment period. The net thirty-seven covered Annex I countries subject to Kyoto Protocol carbon emission reductions represent approximately twenty percent of world countries and less than fourty percent of world carbon

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26. *Status of Ratification of the Kyoto Protocol*, U.N. Framework Convention on Climate Change, http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php
27. *Kyoto Protocol*, U.N. Framework Convention on Climate Change, http://unfccc.int/kyoto_protocol/items/2830.php.
28. *See List of Annex: Parties to the Convention*, U.N. Framework Convention on Climate Change, http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php.
29. *Canada Pulls Out of Kyoto Protocol on Climate Change*, USA Today (Dec. 12, 2011, 6:32 PM), http://usatoday30.usatoday.com/news/world/story/2011-12-12/canada-climate-change/51842930/1.

sources.[30]

The April 2008 Bangkok talks following the 2007 United Nations Climate Change conference in Bali, concluded that a post-2012 international carbon scheme should look much like the pre-2012 Kyoto regime, including capping and trading of allowances and the creation of additional credits or 'offsets' through the existing Joint Implementation (JI) and Kyoto Clean Development Mechanism ("CDM").[31] The CDM allows projects which reduce greenhouse gases in developing nations to earn CERs for each ton of CO_2-equivalent of GHG reduced.[32] Those CERs are then traded or sold to activities in Annex I developed countries which increases those countries' emission cap allocated in the Protocol.[33] Credits generate value for a maximum of seven years with two renewals (twenty-one total years), or a maximum of ten years with no renewal.[34]

CDM projects may only be pursued by registration of the credit through Annex 1 countries.[35] The CDM first project was registered on 16 February 2005; by 2013, the CDM had approved 5,000 offset projects, with another several thousand

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30. *See GHG Data from UNFCCC*, U.N. Framework Convention on Climate Change, http://unfccc.int/ghg_data/ghg_data_unfccc/items/4146.php. There are 196 recognized countries in the world. *See* Matt Rosenberg, *The Number of Countries in the World*, Geography, http://geography.about.com/cs/countries/a/numbercountries.htm. Not recognized as independent countries are Taiwan, Puerto Rico, Bermuda, Greenland, Palestine. *Id*. If these were recognized, they would bring the total number of countries to more than 200.

31. Eric J. Lyman, *"Progress" of Bangkok Talks Shows Much Still to be Done for 2009 Global Agreement*, 39 Env't Rep. 704 (2008). For discussion of Joint Implementation (JI), *see Joint Implementation*, U.N. Framework Convention on Climate Change, http://unfccc.int/kyoto_protocol/mechanisms/joint_implementation/items/1674.php; U.N. Framework Convention on Climate Change, http://cdm.unfccc.int/index.html.

32. Kyoto Protocol to the United Nations Framework Convention on Climate Change art. 12(3)(a), Dec. 11, 1997, 2303 U.N.T.S. 148 (1998), http://unfccc.int/resource/docs/convkp/kpeng.pdf [hereinafter Kyoto Protocol]; U.N. Conference on Climate Change, Marrakesh, Oc. 29 – Nov. 10, 2001, *Part Two: Action Taken by the Conference of the Parties (Volume II)*, U.N. Doc. FCCC/CP/2001/13/Add.2 at dec. 17/CP.7, annex, para. 1(b) (Jan. 21, 2002), http://unfccc.int/resource/docs/cop7/13a02.pdf [hereinafter Marrakesh Accords],.

33. Kyoto Protocol, *supra* note 32, art. 12(3)(b). Two and one half percent of ERUs and CERs were eligible to be carried over to the second phase of implementation after 2012. Marrakesh Accords, *supra* note 32, dec. 19/CP.7, annex, paras. 15(a)-(b).

34. *See* Kyoto Protocol, *supra* note 32, art. 12.

35. *Id*.; Marrakech Accords, *supra* note 32.

awaiting approval.[36] The Clean Development Mechanism (CDM) allows projects in non-Annex 1 countries that reduce greenhouse gases in developing nations to create and earn Certified Emission Reductions (CERs) for each ton of CO_2-equivalent of GHGs reduced.[37] All emissions reduction CERs certified under the CDM are required by the Protocol to be voluntary, real, and additional to any that would occur in the absence of the CDM credit system.[38] Renewable energy projects account for twenty-eight percent of CDM CERs; methane capture and flaring projects producing no electricity, mostly located at large landfills, coal mines, and Concentrated Animal Feeding Operations, account for nineteen percent of CERs.[39]

The other mechanism for compliance is Joint Implementation ("JI"), where developed nation signatory parties can implement projects domestically or in other Annex I nations that remove GHGs or create additional carbon sinks, which are then quantified as an ERU.[40] JI projects are undertaken by Annex I countries.[41] Unlike a CDM CER, which creates an additional emission unit added to the cap, a JI project transfers a credit under the existing cap from one nation to another nation, as a zero-sum transaction.[42] However, JI projects have less burdensome transaction costs than CDM projects, as the former are approved and administered by the parties involved rather than the U.N. Kyoto Executive Board and JI projects are not subject to detailed periodic monitoring.[43]

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36. *CDM Insights*, United Nations Framework Convention On Climate Change, http://cdm.unfccc.int/Statistics/Public/CDMinsights/index.html.
37. *See* Kyoto Protocol, *supra* note 32, art. 12.
38. *Id*. at art. 12(5)(a)-(c).
39. Michael Wara, *Measuring the Clean Development Mechanism's Performance and Potential*, 55 UCLA L. Rev. 1759, 1779 (2008).
40. Kyoto Protocol, *supra* note 32, art. 6(1); *Joint Implementation*, *supra* note 31.
41. Guideline for the Implementation of Article 6 of the Kyoto Protocol, Annex, ¶ 21, https://unfccc.int/files/meetings/cop_11/application/pdf/cmp1_15_guidelines_for_implementation_of_art6.pdf.
42. *Compare* Kyoto Protocol, *supra* note 32, at art. 6(1)(d) *with* art. 12 (5)(c). Whereas the CDM process creates additional room in the envelope of permissible carbon emissions by developed nations, the Joint Implementation process transfers a static quantity of existing allocated credits under the cap from one developed nation to another. Thus, the emission cap of any country includes assigned Kyoto credit units plus removal units (RMUs) from forestation projects that remove CO_2 from the atmosphere, plus JI ERUs and CDM CERs.
43. John McMorris, *Running a Carbon Project*, *in* Climate Change: A Guide to Carbon Law and Practice 57 (2008).

2. EU-ETS 'Cap and Trade Regulation'

The EU-ETS embodies eighty-five percent of world countries now subject to binding regulation on carbon emissions. The European Union Greenhouse Gas Emission Trading System ("EU-ETS") carbon regulation was implemented effective in 2005 as a parallel CO_2 regulatory system with an earlier start for the now twenty-seven EU-member countries and three other participating European countries (Norway, Iceland, and Liechtenstein) that also are covered by the Kyoto Protocol.[44] The EU-ETS covers CO_2 emissions at approximately 5,000 companies at 12,000 industrial sites, unlike the Kyoto Protocol which covers all GHGs.[45] The EU-ETS utilizes National Allocation Plans for the initially free distribution of carbon emission allowances.[46] The quantity of allowances a nation can issue is governed by eleven EU-ETS criteria, but otherwise national discretion is not explicitly proscribed by the EU.[47]

In April 2009, the European Union Council adopted legislative amendments to the Directive of the European Parliament and EU Council in 2003, to extend the GHG allowance-trading scheme of the EU-ETS.[48] Many of these provisions adopt similar provisions that the RGGI Program in the U.S. adopted and implemented in 2009 for the EU-ETS Phase III period, beginning in 2013. These include the auction of carbon emission allowances, increasing from twenty percent auction-allocated in 2013 to seventy percent auction-allocated in 2020, and total auction-

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44. The EU-ETS entered into force on 25 October 2003. Council Directive 2003/87, 2003 O.J. (L275) 32 (EC), http://eur-lex.europa.eu/LexUriServ/LexUriServ.do? uri=OJ:L:2003:275:0032:0046:EN:PDF [hereinafter Council Directive 2003/87].

45. *Compare* Alex Scott, *EU Carbon Emission Trading Scheme in Freefall*, Chemical & Engineering News (Feb. 18, 2013), http://cen.acs.org/articles/91/i7/EU-Carbon-Emissions-Trading-Scheme.html, *with* Kyoto Protocol to the United Nations Framework Convention on Climate Change art. 3, Dec. 11 1997, 2303 U.N.T.S. 148 , *available at* http://unfccc.int/resource/docs/convkp/kpeng.pdf.

46. Council Directive 2003/87, *supra* note 44, arts. 9-11.

47. Communication from the Commission on Guidance to Assist Member States in the Implementation of the Criteria Listed in Annex III to Directive 2003/87/EC Establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Council Directive 96/61/EC, and on the Circumstances under which Force Majeure is Demonstrated, COM (2003) 830 (Jan. 7, 2004), http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2003:0830:FIN: en:PDF.

48. Council Directive 2009/29, 2009 O.J. (L140) 63 (EC) (amending Council Directive 2003/87/EC, 2003 OJ (L275) 32 (EC)), http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0063:0087:en:PDF.

allocated by 2027.[49] Starting in 2013 in the E.U., a renewable energy portfolio requirement will mandate each country to achieve a certain percentage of renewable power production and use in years going forward. The EU-ETS provides different target percentages for different countries, placing less pressure on those countries that had not previously promoted renewable power measures.[50]

C. U.S. Cap and Trade Regulation

The U.S. is a major player in climate change, alone approaching the carbon emissions of the twenty-seven European Union members regulated by the Kyoto Protocol.[51] The Obama administration and U.S. Energy Secretary Chu have also endorsed a 'cap-and-trade' carbon scheme.[52]

1. RGGI

Ten Northeastern states formed the Regional Greenhouse Gas Initiative (RGGI) to develop a multi-state 'cap-and-trade' system for CO_2. Today, nine of the ten Northeastern states are voluntarily implementing a 'cap-and-trade' regulation for CO_2. Governor Christie in 2011 moved through executive action to pull New Jersey out of RGGI. NRDC sued the state for taking this action without public notice and rulemaking. The New Jersey withdrawal was successful. Those nine states emit almost ten percent of U.S. CO_2 and collectively are the fifth highest emitter of CO_2 in the world. In these nine states are 758 fossil fuel-fired electricity-generating units with a name plate capacity of twenty-five Mw or more each.[53]

RGGI is the first system in the world to auction all carbon emissions.[54] RGGI

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49. *Id*. ¶¶ 11, 21.
50. *Id*. ¶¶ 18, 28.
51. Greenhouse Gas Inventory Data – Detailed by Party, U.N. Framework Convention on Climate Change, http://unfccc.int/di/DetailedByParty/Event.do?event=go (for information on the European Union, select "European Union (27)," "All Years," "Totals," "Aggregate GHGs, then press "Go." For information on the United States, select "United States of America" instead of "European Union (27)").
52. *New DOE Secretary Backs Cap-and-Trade*, Carbon Control News, Jan. 13, 2008.
53. Peter Fontaine, *A New World Order*, Pub. Util. Fort, Feb. 2005, at 6, 27.
54. *See* Steven Ferrey, *Goblets of Fire: Potential Constitutional Impediments to the Regulation of Global Warming*, 35 Ecology L.Q. 835, 844 (2009); Steven Ferrey, *Carbon and the Constitution*, Pub. Util. Fort., Apr. 2009, at 40.

in its first year of operation in 2009, sold carbon allowances for an auctioned price of almost $500 million. One hundred parties bid for allowances. Every $10 per ton of CO_2 increases the cost of electricity by one cent per kilowatt hour, and increases the cost of gasoline by 10 cents per gallon. RGGI allowances are auctioned by the states, and are tradable among market participants. Regardless of when issued, an unused allowance is bankable.[55] Allowances may be 'banked' either by an investor or a CO_2 larger power plant source that requires them for compliance.

If a project is located outside of a participating RGGI state, the sponsor of the offset project can pick any RGGI state in which to file its credits. The RGGI program depreciates any savings from forestation by twenty percent to account for the possibility of future catastrophic forest losses. Forestation projects must be maintained under a permanent legal conservation easement.

As long as offset credits for carbon under the RGGI scheme are selling for less than $7/ton, carbon reductions created outside the participating RGGI states are discounted by fifty percentto determine their credit value. In other words, two tons of such external carbon reductions create only a single ton of offset credit. Once offsets are trading in the market at greater than $7/ton over a one-year period, credits created from anywhere in North America are valued at full value without any discount, and up to five percent of compliance (as opposed to 3.3 percent normally) can be satisfied by the purchase and trading of offset credits. Once the market price of offsets increases for a year above $10/ton, offsets can be obtained from anywhere in the world without any discount, and up to twenty percent of an entity's emissions in year four of the program and after can be obtained utilizing offsets. The purpose of this is to increase the number of available offsets if prices for them rise because of a lack of adequate supply. The California carbon market will be linked to the RGGI carbon market.

2. California's 'Cap and Trade' Carbon Control

California is the twelfth largest greenhouse gas ("GHG") producer in the world.[56] California's carbon emissions are greater than each of two-thirds of the Annex I developed nations regulated under the Kyoto Protocol. GWSA requires

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55. *See* 06-096 Me. Code R. §156(7)(D) (2013).

56. Michael Peevey, Cal. Energy Comm'n & Cal. Pub. Util. Comm'n, Proposed Final Opinion Summary on Greenhouse Gas Regulatory Strategies (2008), *available at* http://www.climatechange.ca.gov/eaac/documents/state_reports/CPUC-CEC_Summary_of_Draft_Final_Recommendations.pdf.

the California Air Resources Board ("CARB") to develop a comprehensive plan to reduce GHG emissions in the state to its historic 1990 levels by the year 2020.[57] This would require an estimated twenty-five to twenty-nine percent reduction in GHG emission levels within the next six years.[58] In order to meet this goal, the GWSA set a statewide emissions reduction target to 427 million metric tons of carbon dioxide equivalent ("$MMTCO_2E$") of GHGs by the year 2020, and highlighted reduction measures adopted in 2011.[59] California's goal is based on projections that it will emit 507 million or more $MMTCO_2E$ by 2020.[60]

CARB is the state agency which monitors and regulates sources of emission of GHGs that cause global warming.[61] To meet its goal, CARB chose to implement a Cap-and-Trade Program[62] for GHGs, as opposed to other regulatory systems such as a carbon fee or carbon tax. The Cap-and-Trade Program seeks to reduce GHG emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while using market mechanisms to achieve the emission-reduction goals.[63] Each covered entity will be required to surrender one permit to emit for each ton of GHG emissions they emit.[64] California's comprehensive Cap-and-Trade Program was supposed to commence in 2012, but lawsuits delayed its implementation by a year.

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57. Assemb. B. 32, 2006 Legis. (Cal. 2006).
58. Peevey, *supra* note 56, at 1.
59. *Id*.; Cal. Envtl. Prot. Agency, Status of Scoping Plan Recommended Measures (2011), *available at* http://www.arb.ca.gov/cc/scopingplan/status_of_scoping_plan_measures.pdf.
60. Assemb. B. 32, 2006 Legis. (Cal. 2006).
61. Cal. Health & Safety Code § 38550 (2006).
62. The Cap-and Trade Program relies on data collected through the Mandatory Reporting of Greenhouse Gas Emissions Regulation ("MRR") to identify major sources of greenhouse gas emissions in California. The MRR require facilities, fuel, and carbon dioxide supplies—as well as electric power entities—to report their annual GHG emissions in 2009 and every year thereafter. *Regulatory Guidance Document*, Cal. Envtl. Prot. Agency Air Res. Bd. (July 29, 2014), http://www.arb.ca.gov/cc/capandtrade/guidance/guidance.htm.
63. Cal. Envtl. Prot. Agency Air Res. Bd., ARB Emissions Trading Program Overview (2011), *available at* http://www.arb.ca.gov/cc/factsheets/emissions_trading_program.pdf [hereinafter CARB(2011)].
64. *Id*.

The scope of California's Cap-and-Trade Program is broad.[65] California regulates GHG emissions from all aspects of its economy, not just from power generators.[66] The carbon regulation covers all electric load-serving entities ("LSEs"), including municipal LSEs.[67] The Cap-and-Trade Program establishes a limit on approximately eighty-five percent of the state's total GHG emissions, with the annual limit declining over time to reach its goal.[68] 'Covered sources' must surrender compliance instruments to CARB that are equal to their GHG emissions.[69] Covered entities, the most major sources, can acquire allowances or purchase them. There are three compliance periods,[70] which are time frames during which the compliance obligations are calculated:[71] (1) from 2013 to 2014; (2) from 2015 to 2017; and (3) from 2018 to 2020.

Regulatory industry coverage varies by compliance period. The program covers about 350 businesses with 600 facilities.[72] During the first compliance period, covered sectors include stationary combustion for electricity.[73] The second[74] and third periods[75] regulate more industries where a covered emitter in these sectors releases at least 25,000 $MMTCO_2E$ annually. The entity must retire compliance

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65. *See* CAL. CODE REGS. tit. 17, § 95802 (2012). "Emissions" means the release of greenhouse gases into the atmosphere from sources and processes in a facility, including from the combustion of transportation fuels such as natural gas, petroleum products, and natural gas liquids. In the context of offsets, "emissions" means the release of greenhouse gases into the atmosphere from sources and processes within an offset project boundary. *Id.*
66. Assemb. B. 32, 2006 Legis. (Cal. 2006).
67. Seth Hilton, *The Impact of California's Global Warming Legislation on the Electric Utility Industry*, 19 ELEC. J. 10, 13-14 (2006).
68. *Regulatory Guidance Document*, *supra* note 62.
69. *Id.*
70. CAL. CODE REGS. tit. 17, § 95840 (2011).
71. *Id.*
72. *Regulatory Guidance Document*, *supra* note 62.
73. *Id.* Also included is petroleum refineries, crude petroleum and natural gas extraction, cement manufacturing, iron and steel, mineral mining and lime manufacturing, pulp and paper manufacturing, food manufacturing, canning operations, self-generation of electricity. *Id.*
74. Distributors of transportation fuels and natural gas are added in the second period. *Id.*
75. *Id.*

credits or instruments equal to thirty percent of its annual emissions by November 1 of the following year, with the balance of seventy percent "trued-up" for a multi-year compliance period.[76]

The Cap-and-Trade Program has two basic components to effectuate compliance: allowances[77] and offset credit.[78] Allowances give the holder the right to emit one ton of carbon and offset credits are the equivalent to a GHG reduction or GHG removal enhancement of one metric ton of CO_2E, which are valid for up to eight years from the date of issuance.[79] One can obtain allowance allocation from CARB, purchase allowances at auction, or purchase them from miscellaneous dealers legally on the secondary market.[80]

In the first compliance period, approximately ninety percent of allowances are allocated without charge to regulated entities.[81] Throughout the various compliance periods, the allowance amount is determined by an industry sector-specific assistance factor that declines in amount over time.[82] The assistance factor starts at one hundred percent for all industries, but the amount by which it decreases varies by industry.[83] For example, sectors such as pharmaceutical and medicine manufacturing and aircraft manufacturing ratchet down to thirty percent of the original amount in the third compliance period.[84] Other industries, such as crude petroleum and natural gas extraction, mineral mining, and certain types of manu-

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76. *See* CAL. AIR RES. BD., CAP-AND-TRADE WORKSHOP: COMPLIANCE & INFORMATION REQUIREMENTS (2013), *available at* http://www.arb.ca.gov/cc/capandtrade/meetings/062513/arb-cr-mrr-present.pdf; CAL. CODE REGS. tit. 17, §§ 95855 (2011), 95856, 95891 (2012).

77. *Regulatory Guidance Document*, *supra* note 62. Allowances issued by CARB deliver the right to emit one ton of carbon.

78. *Id*.

79. *Id*. Offsets can be valid for up to eight years from the date of issuance. CLIMATE ACTION RESERVE, INTRODUCTION TO THE CLIMATE ACTION RESERVE AND CALIFORNIA OFFSETS 33 (2011), *available at* http://www.climateactionreserve.org/wp-content/uploads/2011/11/Introduction-to-the-Reserve-and-California-Offsets-110311.pdf.

80. *Regulatory Guidance Document*, *supra* note 62.

81. CAL. AIR RES. BD., APPENDIX J: ALLOWANCE ALLOCATION (2010), *available at* http://www.arb.ca.gov/regact/2010/capandtrade10/capv4appj.pdf [hereinafter CARB(2010)].

82. *See* CAL. CODE REGS. tit. 17, § 95891 (2012).

83. *Id*. § 95870(e), tbl. 8-1.

84. *See id*. § 95891.

facturing deemed particularly susceptible to 'leakage', remain at one hundred percent throughout the program. The adjustment factor is a percentage by which the number of allocated allowances is adjusted downward annually to reflect the overall declining emissions cap.[85] For most industries, the adjustment factor declined from 0.981 in 2013 to 0.851 in 2020.[86]

The program also provides for CARB allowance auctions[87] and secondary market trades as other ways to procure allowances. Utilities are required to auction their allocated allowances, obtain revenues, and then rebate them to provide financial rate relief to their customers.[88] The auctions have certain floor prices,[89] which are controlled by specific mechanisms to restrain escalated allowance prices.[90] Specifically, CARB sets a reserve price for each auction below which no al-

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85. *Id.*

86. *Id*. § 95891(d), tbl. 9-2.

87. Covered entities may opt to trade allocated allowances by consigning allowances to CARB for sale through auction. Cal. Envtl. Prot. Agency Air Res. Bd., Additional Auction 1 and 2 Summary Statistics (2013), *available at* http://www.arb.ca.gov/cc/capandtrade/auction/additionalauction1and2summarystatistics.pdf [hereinafter CARB(2013)]. Auctions are open to covered entities, as well as a wide variety of other stakeholders, including opt-in covered entities (entities in a covered sector but which emit less than 25,000 $MTCO_2e$) and so-called "voluntary associated entities," such as brokers and derivatives clearing organizations. The price of allowances is managed by a limited price-collar mechanism, which includes an escalating auction reserve price ("floor") and a price containment procedure. *See id*.

88. tit. 17, § 95892 (d)(3) (2012) ("Auction proceeds and allowance value obtained by an electrical distribution utility shall be used exclusively for the benefit of retail ratepayers of each electrical distribution utility, consistent with the goals of A.B. 32, and may not be used for the benefit of entities or persons other than such ratepayers.").

89. CARB(2013), *supra* note 87 (the floor is called the "reserve price").

90. Of the total allowances available, CARB will reserve one percent of the allowances from budget years 2013–2014, four percent of the allowances from 2015–2017, and seven percent of the allowances from 2018–2020 for purposes of relieving rising prices should they occur. Cal. Code Regs. tit. 17, § 95870(a) (2012). This reserve will total 121.8 million $MTCO_2e$ over the length of the program. The price of reserve allowance will increase annually at "five percent plus the rate of inflation." *Id.* § 95913(e)(4) (2012). Allowances from future budget years are not placed in the reserve until the relevant year begins. However, all allowances currently in the reserve are available at each reserve sale. *See id.* § 95913(e). A percentage of the reserve allowances are made available as allowance prices reach certain thresholds.

lowances may be sold.[91]

To contain prices on the upper end, CARB sets aside a pool of allowances, which will be offered if prices exceed certain thresholds.[92] Whereas an allowance is a "tradable permit to emit one metric ton of a [CO_2E] greenhouse gas emission," an offset credit is "equivalent to a GHG reduction or GHG removal enhancement of one metric ton of CO_2E."[93] Offsets are reductions of carbon produced by projects that are not otherwise subject to the Cap-and-Trade Program, whether in California or another relevant state.[94] Offsets are tradable,[95] regulated entities that can be sold as eligible carbon emissions and used for compliance. Covered emitters look to purchase these offsets at a lower price than they could by acquiring allowances at auction or by reducing emissions by physical means at their covered emission sources.

In California, offsets can satisfy up to eight percent of any individual covered source's emissions.[96] Though these eight percent offsets are coming from projects located in either the lower forty-eight states, Canada, or Mexico,[97] they are enforceable for compliance.[98] CARB identified four ways to create offset credits: forestry projects, urban forestry projects, farming projects designed to manage manure and methane, and projects removing existing stock of ozone-depleting substances projects.[99]

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91. The reserve price in 2013 was $10.71 per allowance, which value will scale each ear with inflation. CARB(2013), *supra* note 87.

92. tit. 17, § 95870 (2012). The percentage of allowances reserved to be set aside escalates from 1% to as much as 7% in 2020. Id. Prices for reserve allowances are provided by statute. *See Id*. § 95913(e)(3) (2011).

93. *Regulatory Guidance Document*, *supra* note 62.

94. tit. 17, § 95892(d)(3) (2012). *See also* CARB(2010), *supra* note 81.

95. tit. 17, § 95892(d)(3).

96. *Id*.; *Regulatory Guidance Document*, *supra* note 62, at 12, ch. 2.

97. tit. 17, § 95973(a)(3) (2011); *Regulatory Guidance Document*, *supra* note 62, at 8, ch. 6. ("Section 95973(a)(3) of the Cap-and-Trade Regulation establishes that offset projects must be located in the United States and its Territories, Canada, or Mexico.").

98. An offset represents a one metric ton of CO_2E reduction from a project in an uncapped sector and CARB requires that offsets be "real, additional, quantifiable, permanent, verifiable, and enforceable." tit. 17, § 95802(a)(12).

99. *Id*. § 95973(a)(2)(C); CARB(2011), *supra* note 63; *Compliance Offset Program*, CAL. ENVTL. PROT. AGENCY AIR RES. BD., http://www.arb.ca.gov/cc/capandtrade/offsets/offsets.htm.

California and the RGGI states, for the first time in history,[100] have reconfigured this environmental regulation to generate significant revenues for their states through 'cap-and-trade' with credits auctioned rather than freely distributed. This auction is justified to prevent windfalls to participating emitters.[101] The ten Northeast RGGI states raised approximately USD $1 billion of RGGI auction proceeds realized from their auctions in 2009-2011.[102] The California Chamber of Commerce claims that CARB itself projected to raise a total of $70 million dollars in California. Offsets are a key element of most carbon control, 'cap-and-trade' programs, as well as several air control regulations. The majority of energy and power generation expansion will occur just in Asia over the next decades.[103] Approximately sixty percent of all new power generation capacity financed in developing countries will be in Asia. Some projections estimate that by 2030, Asia alone will emit sixty percent of the world's carbon emissions.[104]

Ⅱ. 'Cap and Trade' Illegality at the U.S. Federal Level

A recent barrage of litigation challenging its legality at both the federal and state levels has resulted in an almost unbroken string of federal court decisions finding the Environmental Protection Agency's various 'cap-and-trade' air regulations to be illegal in various iterations year after year. State 'cap-and-trade' environmental regulation has been implemented recently in a few states to mitigate climate change, and suits involving California, Massachusetts, and New York 'cap-and-trade' regulation have set back environmental climate control programs in each of these states.

'Cap-and-trade' as an environmental regulatory mechanism was initiated in Title IV of the Clean Air Act amendments of 1990, for sulfur dioxide emissions in a national allowance trading program.[105] Sulfur[106] was the first criteria pollut-

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100. Steven Ferrey, Unlocking the Global Warming Toolbox 82-83 (2010).

101. *Id*. at 191.

102. *Id*. As determined individually by each state, 52% of RGGI funds were used for energy efficiency, 11% for renewable energy, 14% to reduce consumer rates, and 1% for other programs.

103. Int'l Energy Agency, *supra* note 24, at 39.

104. *See generally* Deborah E. Cooper, *The Kyoto Protocol and China: Global Warming's Sleeping Giant*, 11 Geo. Int'l Envtl. L. Rev. 401, 405 (1999).

105. Clean Air Act, 42 U.S.C §§ 7651-7661f (2006).

106. Steven Ferrey(a), *supra* note 2, at 184, tbl. 5.1.

ants[107] so regulated, with nitrogen[108] following: 'Cap-and-trade' was employed for the Ozone Transport Commission to control cross-border ozone pollution in Northeast states through a NOx trading program.[109] This evolved into the larger 22-state region of the Ozone Transport Assessment Group (OTAG) NOx Budget Trading Program, including the NOx SIP call requiring states to revise their State Implementation Plans to take account of cross-border NOx pollution, allowing banking and cap-and-trading of credits.[110]

Nitrogen and sulfur remained the primary targets of 'cap-and-trade' regulation. In 2005, EPA promulgated the CAIR 'cap-and-trade' regulation to cover sulfur dioxide and nitrogen oxides.[111] This was followed by the CSAPR 'cap-and-trade' regulation.[112] California also promulgated a 'cap-and-trade' program in southern California's air control management district.[113]

These 'cap-and-trade' regulatory mechanisms, employed by the environmental agencies of both the federal and state governments have been the subject of consistent challenges, typically raising ultra vires, abuse of administrative process, or claims that the regulatory choice is arbitrary and capricious. There have been typically two, but at least one, new 'cap-and-trade' environmental regulatory program legally stricken by the federal courts in each of the past half dozen years; which includes most of the limited number of 'cap-and-trade' programs which exist:

- 2008: Challenged by states and stricken by the D.C. Circuit Court of Appeals was EPA's mercury rule, in which the court characterized EPA's rationale as "the logic of the Queen of Hearts, substituting EPA desires for the plain text [of the Clean Air Act]."[114]

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107. *See id*. at 182-85, for a discussion of the criteria pollutants and their impacts on health and the environment.

108. *Id*. at 184, tbl. 5.1.

109. 42 U.S.C. § 7511c(a).

110. 40 C.F.R. pts. 51, 72, 75, 96 (2014).

111. 70 Fed. Reg. 25, 162 (2005); 40 C.F.R. pts. 51, 72, 73. 74, 77, 78, 96 (2014).

112. Clean Air Act § 110(a)(2)(D) (42 U.S.C. § 7410(a)(2)(D)); 76 Fed. Reg. 48208, 48216 (Aug. 8, 2011).

113. U.S. EPA, An Evaluation of the South Coast Air Quality Management District's Regional Clean Air Incentives Market - Lessons in Environmental Markets and Innovation i, 1, 12 (2002), *available at* http://www.epa.gov/region9/air/reclaim/reclaim-report.pdf.

114. *New Jersey v. EPA*, 517 F.3d 574, 582 (D.C. Cir. 2008).

- 2008: CAIR's 2005 'cap-and-trade' program required states to prohibit emissions that "contribute[ ] significantly to nonattainment in, or interfere with maintenance by, any other State with respect to ⋯ [National Ambient Air Quality Standards]."[115] The D.C. Circuit stuck this 'cap-and-trade' regulation as "arbitrary and capricious," "not otherwise in accordance with the law," and "fundamentally flawed."[116]

- 2009: Challenged by an environmental organization and stricken again by the D.C. Circuit was EPA's 'cap-and-trade' emission trading program in ozone non-attainment areas pursuant to the Clean Air Act amendments of 1990.[117]

- 2009: A challenge to the application of the RGGI 'cap-and-trade' system in New York, one of the states implementing it, which New York promptly

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115. CAIR was promulgated to comply with Section 110(a)(2)(D)(i)(I) of the Clean Air Act addressing interstate air pollution. CAIR was intended to reduce or eliminate the impact of upwind sources on attainment of particulate and smog NAAQS in downwind states. In part, CAIR was a response to concerns that the NOx SIP Call cap and trade system addressed in *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000), were not sufficiently reducing interstate air pollution. *See* Patricia Ross McCubbin, *Cap and Trade Programs Under the Clean Air Act: Lessons from the Clean Air Interstate Rule and the NOx Sip Call*, 18 Penn St. Envtl. L. Rev. 1, 9 (2009). Twenty-three states were required to reduce both annual SO_2 and NOx emissions, while 20 states were required to reduce NOx emissions during the ozone season (May through September).

116. *North Carolina v. E.P.A.*, 531 F.3d 896, 929, 906 (D.C. Cir. 2008), *modified on petitions for rehearing*, 550 F.3d 1176 (D.C. Cir. 2008). ("We must vacate CAIR because very little will 'survive[ ] remand in anything approaching recognizable form'"[it is] "arbitrary and capricious" and "not otherwise in accordance with the law"). *Id*. at 918. EPA's state apportionment decisions were found to be "fundamentally flawed," unfair, and must be redone "from the ground up" because they allowed upwind sources to purchase tradable allowances rather than actually reduce their pollution and contribute to congressional requirements to have emission sources within the state measurably reduce pollution. *Id*. EPA quantitative trading budgets were never rationalized; EPA had insufficiently explained how it arrived at the 50% and 65% reduction figures. The cap-and-trade system could externalize responsibility by transferring actual reduction from the regulated state to other tradable sources, thus allowing up-wind states to continue creating pollution contributing to downwind state nonattainment with Clean Air Act goals. *Id*.

117. *NRDC v. EPA*, 571 F.3d 1245 (D.C. Cir. 2009).

settled in favor of the challenging plaintiffs.[118]

- 2010: The D.C. Circuit Court of Appeals invalidated EPA's'cap-and-trade' regulation for hydrochlorofluorocarbons (HCFCs), which originally were regulated by the Montreal Protocol and are a global warming gas.[119]

- 2011: California's Low Carbon Fuel Standard was challenged on Constitutional grounds, with the federal trial court finding the regulation unconstitutional,[120] subsequently reversed by a split Court of Appeals, now on appeal.[121]

- 2012: After CAIR 'cap-and-trade' was stricken in 2008, EPA issued and substituted the Cross-State Air Pollution Rule (CSAPR) addressing interstate air transport of SO_2 and NOx contributing to ground-level ozone and fine particle pollution from fossil fuel-fired power plants in twenty-seven Eastern states.[122] The D.C. Circuit struck the CSAPR cross-state rule, in part, because it did not defer to state implementation plans (SIPs) and state discre-

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118. *Indeck Energy Sues State Questioning Legality of Regional Greenhouse Gas Program*, Indeck Energy (Aug. 7, 2010), available at http://www.indeckenergy.com/pdf-news/RGGI%20Lawsuit%20012909%20.pdf [hereinafter *Indeck Energy*].

119. *Arkema, Inc. v. EPA*, 618 F.3d 1 (D.C. Cir. 2010).

120. *Rocky Mountain Farmers Union v. Goldstene,* 843 F. Supp. 2d 1071 (E.D. Cal. 2011).

121. *Rocky Mountain Farmers Union v. Richard Corey*, 730 F.3d 1070 (9th Cir. 2013).

122. Clean Air Act § 110(a)(2)(D) (42 U.S.C. § 7410(a)(2)(D)); 76 Fed. Reg. 48208, 48216 (Aug. 8, 2011). CSAPR requires significant reductions in SO_2 and NOx, Hazardous Air Pollutants (HAP) including mercury from electric power, as well as certain $PM_{2.5}$ precursor emissions, with intrastate and limited interstate trading. SO_2 is a precursor to $PM_{2.5}$ formation and NOx is a precursor to both ozone and $PM_{2.5}$ formation. This rule is part of a suite of other state and federal rules that, together, would result in power plant emissions reductions of 73 percent for sulfur dioxide ("SO_2") and 54 percent for nitrous oxide ("NO_x"). EPA estimates that if all affected power plants were in full compliance with CSAPR, "[a]pproximately 70 percent of the power generated from coal-fired power plants [in states covered by the rule would] come from units with state-of-the-art SO_2 controls," and roughly 50 percent of that power would "come from units with state-of-the-art NO_X controls." Env't Prot. Agency, The Cross-State Air Pollution Rule: Reducing the Interstate Transport of Fine Particulate Matter and Ozone, *available at* http://www.epa.gov/airtransport/CSAPR/pdfs/CSAPRFactsheet.pdf [hereinafter Cross-State Air Pollution Rule].

tion in implementation under the federalism split authority of the Clean Air Act.[123] The court took a 'hard look' and held that one level of government cannot cross the federalist line of its jurisdiction "down the rabbit hole." EPA asked the Supreme Court for certiorari, and was opposed in this motion by 14 states, while nine states supported certiorari.[124] The Supreme Court granted certiorari and reversed the decision in 2014.

- 2012: The 5th Circuit struck EPA taking control of the Texas New Source Review permit provisions of the Clean Air Act, as an arbitrary and capricious disruption of cooperative federalism.[125]

- 2013: The D.C. Circuit upheld federal imposition of air quality standards on states whose plans were not able to achieve federal clean air requirements.[126]

- 2013: California's 'cap-and-trade' system for carbon control was unsuccessfully challenged as beyond state authority because it raised extensive amounts of revenue, with that decision now on appeal.[127]

A. Hg 'Cap and Trade'

Mercury (Hg) is a pollutant that is regulated as a toxic chemical by the Clean

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123. *EME Homer City Generation LP v. EPA*, 696 F.3d. 7 (D.C. Cir. 2012). While employing a different mechanism than CAIR to address cross-state pollution, the court found that it required some states to reduce emissions by more than they contributed to downwind state pollution. Fifteen 15 states sought review of CSAPR, while six states intervened to support the rule. *Id*.

124. *EPA v. EME Homer City Generation LP,* 133 S.Ct. 2857 (2013). The Supreme Court reversed the decision in 2014.

125. *Texas v. EPA,* 690 F.3d 670 (5th Cir. 2012).

126. *Texas v. EPA*, 726 F.3d 180 (D.C. Cir. 2013). The D.C. Circuit upheld EPA's imposition of federal Clean Air Act implementation plans for states that failed to require PSD permits for stationary sources which emit greenhouse gases. While the challenge was dismissed on standing, it distinguished the environmental regulation from the higher concern on federal coercion of the states identified in the prior Supreme Court decision on the Affordable Care Act.

127. *Cal. Chamber of Commerce v. Cal. Air Res. Bd.*, No. 34-2012-80001313 (Super. Ct. Aug. 28, 2013), *appeal docketed*, No. C075930 (Cal. 3d Dist. Ct. App.).

Air Act.[128] In 2000, the EPA determined that mercury emitted by electric generation units (EGUs) was a Hazardous Air Pollutant (HAP) and therefore regulated EGUs' emissions of mercury under section 112 of the Clean Air Act.[129] Four years into this determination, EPA decided it would be more effective to regulate EGUs with a 'cap-and-trade' system under section 111 of the Clean Air Act[130] and proceeded to remove EGUs from the list of HAPs in section 112.[131] When challenged, the federal D.C. Circuit Court in 2008 determined that the EPA acted outside its authority by removing EGU HAPs from section 112 in a manner other than that prescribed by Congress.[132] Section 112 only allows the EPA to delist a HAP if the agency determines that "⋯ emissions from no source in the category or subcategory concerned ⋯ exceed a level which is adequate to protect public health with an ample margin of safety and no adverse environmental effect will result from emissions from any source."[133] The EPA did not meet this standard when it removed EGUs from the section 112 list, which was the basis for the court striking this alternative 'cap-and-trade' system.

The court rejected each of the EPA's three arguments in support of its administrative action. The agency first argued that its action was appropriately within its administrative discretion under the Chevron standard of agency deference, which requires the court to analyze the EPA's decision by first asking "whether Congress has directly spoken to the issue."[134] If Congress did directly speak to the issue then the EPA does not have interpretive discretion and they must follow Con-

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128. Clean Air Act, 42 U.S.C. § 7411 (2006).

129. *New Jersey,* 517 F.3d at 579.

130. 42 U.S.C. § 7411.

131. *New Jersey*, 517 F.3d at 579-80.

132. *Id*. at 582.

133. Clean Air Act § 112(c)(9); 42 U.S.C § 7412.

134. *Chevron, U.S.A., Inc. v. Natural Res. Defense Council, Inc.,* 467 U.S. 837 (1984). It does this by "employing traditional tools of statutory construction." If the court deems the statutory language "clear," it simply "give[s] effect to the unambiguously expressed intent of Congress." If, however, "the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible interpretation of the statute." If the agency interpretation is permissible, the court defers to that interpretation, and "does not simply impose its own construction of the statute." *Id*. at 842-43. The *Chevron* test can also be deemed not to apply. *See U.S. v. Mead Corp.*, 533 U.S. 218 (2001).

gress' manifested intent.[135] If Congress did not speak directly to the issue, then the court moves to the second step, which asks "whether the agency's answer is based on a permissible construction of the statute."[136] The second step allows for significant agency discretion in interpreting the EPA's authority. The D.C. Circuit quickly dispatched EPA's arguments by stating "we do not see how merely applying an unreasonable statutory interpretation for several years can transform it into a reasonable interpretation."[137]

One lesson for agencies is that there is not unlimited discretion to substitute a cap and market trading for direct conventional regulation. If the 'cap-and-trade' system of EPA is inconsistent with express language or existing obligations imposed by the Clean Air Act, or EPA tried to regulate a pollutant that was already governed by another section of the Act without delisting the pollutant, the 'cap-and-trade' system was not permissible. EPA must follow the direct requirements of Congressional legislation, without unlimited license to substitute administrative innovation.

B. 'Cap and Trade' CAIR

Second, the Clean Air Interstate Rule (CAIR), promulgated by EPA in 2005, required twenty-eight upwind states of other states, to "reduce or eliminate the impact of upwind sources on out-of-state downwind nonattainment of NAAQS for" sulfur dioxide (SO_2) and nitrogen oxides (NOx).[138] CAIR was intended to reduce or eliminate the impact of upwind sources on attainment of particulate and smog NAAQS in down-wind states. The designated states were to revise their SIPs to include control measures that would sufficiently reduce their emission of these pollutants. CAIR also instituted an interstate trading program for SO_2 and NOx that would govern all upwind pollutants not already addressed by an approved SIP.

The first flaw found by the D.C. Circuit in CAIR was the regional trading system. CAIR allowed states to trade their emissions allowances regionally, which the court found violated section 110(a)(2)(D)(i)(I) of the Clean Air Act, the so-called "good neighbor" provision. The good neighbor provision "prohibits sources within the state [from] contribut[ing] significantly to nonattainment in ⋯

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135. *Id*.

136. *Chevron*, 467 U.S. at 843.

137. *Id*. (quoting *F.J. Vollmer Co. v. Magaw*, 102 F.3d 591, 598 (D.C. Cir. 1996)).

138. *North Carolina*, 531 F.3d at 903.

any other state ⋯."[139] CAIR violated this provision because it allowed sources in one state to purchase unused allowances from another state in the region to continue polluting in large amounts that contributed significantly to a downwind state's non-attainment.[140] The cap and trade system did not guarantee that each state would prohibit sources "within the state [from] contribut[ing] significantly to nonattainment in ⋯ any other state" because CAIR theoretically allowed one source to maintain or increase its pollution levels, thereby doing nothing to stop it from violating the good neighbor provision.[141]

The court also held that the EPA's allocation of state emission budgets for SO_2 and NOx were "arbitrary and capricious" in violation of the Administrative Procedure Act[142] because the agency did not adequately explain how the budgets relate to the goals sought by the "good neighbor" provision.[143] In order for the EPA to cap state emissions according to the "good neighbor" provision, the EPA must show that the chosen cap relates to, and makes measurable progress towards, the objectives of the "good neighbor" provision. The court found that the EPA did not provide any evidence to show how the budgets it allocated related to the objectives in section 110(a)(2)(D)(i)(I).[144]

The D.C. Circuit stuck this 'cap-and-trade' regulation as "arbitrary and ca-

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139. *Id*. at 907. CAIR's 2005 'cap-and-trade' program required states to prohibit emissions that "contribute[ ] significantly to nonattainment in, or interfere with maintenance by, any other State with respect to ⋯ [National Ambient Air Quality Standards]." CAIR was promulgated to comply with section 110(a)(2)(D)(i)(I) of the Clean Air Act addressing interstate air pollution. *Id*.

140. *Id*. *See also* Robert B. McKinstry, Jr., Thomas D. Peterson, Adam Rose & Dan Wei, *The New Climate World: Achieving Economic Efficiency in A Federal System for Greenhouse Gas Control Through State Planning Combined with Federal Programs*, 34 N.C. J. Int'l L. & Com. Reg. 767, 811-12 (2009) (reiterating that the focus of the court's objection to CAIR was that it allowed states to interfere with attainment of NAAQS in another).

141. *Id*. The court noted that it is possible for CAIR to accomplish the goals of the good neighbor provision, but that EPA is not exercising its duty to enforce that provision unless "it is promulgating a rule that achieves something measureable toward the goal of prohibiting sources 'within the State' from contributing to nonattainment or interfering with maintenance 'in any other State.' " *Id*.

142. Administrative Procedures Act, 5 U.S.C. § 551 (2006).

143. *North Carolina*, 531 F.3d at 918. EPA had insufficiently explained how it arrived at the 50% and 65% reduction figures.

144. *Id*.

pricious," "not otherwise in accordance with the law," and "fundamentally flawed."[145] The D.C. Circuit ultimately struck CAIR because its regional trading system was too broad and allowed one area within the region to sustain or increase its significant contribution to a downwind state's nonattainment or maintenance of attainment. EPA's state apportionment decisions were found to be "fundamentally flawed," unfair, and must be redone "from the ground up" because they allowed upwind sources to purchase tradable allowances rather than actually reduce their pollution and contribute to congressional requirements to have emission sources within the state measurably reduce pollution.[146] The court also struck CAIR on procedural grounds finding that the EPA failed to adequately explain how it determined state emissions budgets and to address provisions of the Clean Air Act that it was required to enforce independently.

C. 'Cap and Trade' Budgets

Challenged by an environmental organization and stricken again by the D.C. Circuit was EPA's 'cap-and-trade' emission trading program in ozone non-attainment areas pursuant to the Clean Air Act amendments of 1990.[147] In NRDC v. EPA, the D.C. Circuit addressed the NOx SIP Call 'cap-and-trade' system for nitrogen oxides (NOx).[148] This EPA system established an emissions budget for 22 states and the District of Columbia that limited a state's total emissions during the summer ozone season. The NOx SIP Call allowed states to meet their emissions target by installing control technology on sources within the state or by purchas-

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145. *Id*. at 929, 906 ("We must vacate CAIR because very little will 'survive[ ] remand in anything approaching recognizable form'"[it is] "arbitrary and capricious" and "not otherwise in accordance with the law"). *Id*. at 918. In part, CAIR was a response to concerns that the NOx SIP Call cap and trade system addressed in *Michigan*, 213 F.3d 663, were not sufficiently reducing interstate air pollution. *See* McCubbin, *supra* note 115. Twenty-three states were required to reduce both annual SO_2 and NOx emissions, while 20 states were required to reduce NOx emissions during the ozone season (May through September). The 'cap-and-trade' system could externalize responsibility by transferring actual reduction from the regulated state to other tradable sources, thus allowing up-wind states to continue creating pollution contributing to downwind state nonattainment with Clean Air Act goals.

146. *Id*.

147. *NRDC*, 571 F.3d 1245.

148. *Id*. at 1255-56.

ing emissions allowances from any other states subject to the SIP Call system.

The D.C. Circuit found that this provision of the 'cap-and-trade' system violated the RACT requirements of section 172(c)(1) of the Clean Air Act because there was no guarantee that all nonattainment areas would achieve RACT level reductions.[149] The preamble to the EPA 'cap-and-trade' CAIR Phase 2 Rule stated that it is likely that the region subject to the program would achieve a beyond-RACT degree of control.[150] The court found that the legislation does not authorize the EPA to "replace the RACT requirement with a 'cap-and-trade' program."[151] The D.C. Circuit Court again found issue with the trading element of the 'cap-and-trade' system because it provided the possibility for some nonattainment areas to meet the requirements of the cap and trade system but to violate the 172(c)(1) RACT requirements of the Act. An agency may need an express grant of Congressional 'cap-and-trade' authority when the statute does not contemplate it expressly. Wholesale replacement of other regulatory mandates with a 'cap-and-trade' mechanism cannot be substituted.

D. HCFCS and Climate Change

The Montreal Protocol obligated the United States to reduce its emissions of hydrochlorofluorocarbons (HCFCs) over the course of multiple "stepdown" phases.[152] The U.S. is required to reduce its HCFC emissions by thirty-five percent by 2004, sixty-five percent by 2010, ninety percent by 2015, 99.5% by 2020 and 100% by 2030.[153] In 2003, the EPA issued a final rule creating a 'cap-and-trade' system that assigned baseline emission allowances to each participating company on a one-time basis to be used for each of the step-down phases.[154]

The rule allowed companies to trade their allowances with each other and between regulated HCFCs within the same company, subject to EPA approval, on an annual or permanent basis. The preamble to the rule explained that permanent transfers of baseline allowances would "permanently reduce[]" the transferor's quantity of baseline allowances and "permanently increase[]" the transferee's

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149. *Id*.

150. *Id*. at 1256.

151. *Id*. at 1258.

152. *See Arkema*, 618 F.3d 1.

153. *Id*.

154. *Id*. at 3.

quantity of baseline allowances for all relevant periods.[155] In 2010, the EPA issued another rule stating that the participating companies could not permanently trade their allowances for HCFCs within the same company, but continued to recognize permanent transfers between companies.[156]

The petitioners in this case argued that the EPA's former rule allowing permanent trades conflicted with the new rule proscribing permanent trades, concluding that the new rule was "arbitrary and capricious" and an inappropriate, retroactive action. The court found that the EPA did allow permanent transfers of inter-company allowances to extend beyond the subsequent step-down phases, despite EPA's argument that it was the author of the regulations and it knew what it said.[157] In light of the court's conclusion, the EPA's new rule operated retroactively in contradiction of its original rule and as such, was impermissible. The D.C. Circuit Court of Appeals invalidated EPA's 'cap-and-trade' regulation for HCFCs.[158]

E. CSAPR Follows CAIR

After CAIR 'cap-and-trade' was stricken in 2008 by the D.C. Circuit Court of Appeals, EPA issued and substituted the Cross-State Air Pollution Rule (CSAPR) addressing interstate air transport of SO_2 and NOx contributing to ground-level ozone and fine particle pollution from fossil fuel-fired power plants in 27 Eastern states.[159] The Clean Air Act affords states a period of time to submit a new or revised SIP after the EPA sets emission standards.[160] If the state fails to submit a timely or sufficient SIP, the EPA may enforce a Federal Implementation Plan (FIP).[161] CSAPR imposed a FIP on the states before they could file a SIP and

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155. 68 Fed. Reg. 2820, 2835 (Jan. 21, 2003).

156. *Arkema*, 618 F.3d at 3.

157. *Id*. at 9.

158. *Id*. at 1.

159. Clean Air Act § 110(a)(2)(D) (42 U.S.C. § 7410(a)(2)(D)); 76 Fed. Reg. 48208, 48216. (Aug. 8, 2011). CSAPR requires significant reductions in SO_2 and NOx, Hazardous Air Pollutants (HAP), including mercury from electric power, as well as certain $PM_{2.5}$ precursor emissions, with intrastate and limited interstate trading. CROSS-STATE AIR POLLUTION RULE, *supra* note 122.

160. Clean Air Act, 42 U.S.C. § 7410(a) (2006).

161. *Id*. at § 7410(c)(1).

have it reviewed as to adequacy.[162] EPA argued that states are obligated to comply with National Ambient Air Quality Standards (NAAQS) and the "good neighbor" provision simultaneously, and that the regulated states had failed to submit an appropriate SIP, entitling the EPA to enforce a FIP.[163]

The D.C. Circuit Court found the EPA's argument flawed because the "good neighbor" provision necessitates the EPA to determine a state's reduction obligation before requiring the state to comply with it.[164] The court also found that CSAPR forced upwind states to share the burden of other upwind states' significant contributions downwind. Ultimately, the court of appeals struck this latest Clean Air Act 'cap-and-trade' mechanism developed by EPA after, again, finding that the EPA had acted outside the scope of its authority. The D.C. Circuit struck the CSAPR cross-state rule, in part, because it did not defer to state implementation plans (SIPs) and state discretion in implementation under the federalism split authority of the Clean Air Act.[165] The court also found that CSAPR regulated too extensively and concluded that the EPA only has the regulatory authority to follow the language of the Clean Air Act exactly, no more and no less.

EPA asked the Supreme Court for review on certiorari, and was opposed in this motion by fourteen states, while nine states supported certiorari.[166] The Supreme Court agreed to review[167] and in 6-2 opinion, reversed the D.C. Circuit holding in April 2014, reaffirming deference to agency discretion in devising Clean Air Act regulations, as per Chevron: "The statute ⋯ calls upon the Agency to address a thorny causation problem: How should EPA allocate among multiple contribut-

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162. *EME Homer City Generation*, 696 F.3d. at 28; Margaret Campbell & Byron Kirkpatrick, *The Cross-State Air Pollution Rule and EPA's Rush to Regulate*, TRENDS 6, 7 (2012).

163. *EME Homer City Generation*, 696 F.3d. at 32.

164. *Id*.

165. *Id*. at 7. *T*he court found that it required some states to reduce emissions by more than they contributed to downwind state pollution.

166. *EPA*, 133 S.Ct. 2857.

167. *See Environmental Protection Agency, et al. v. EME Homer City Generation, L.P, et al*., SUPREME COURT OF THE U.S., http://www.supremecourt.gov/Search.aspx?FileName=/docketfiles/12-1183.htm (cert. granted June 24, 2013).

ing upwind States responsibility for a downwind State's excess pollution?"[168] The Court allowed the EPA leeway to devise its air control scheme for interstate cross-state pollution. The majority opinion denominates the allocation choices EPA made as "sensible," "equitable," "efficient" and "making good sense,"[169]citing Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc., 467 U. S. 837.

Under Chevron, Congress' silence effectively delegates authority to EPA to select from among reasonable options. See, United States v. Mead Corp., 533 U. S. 218, 229. EPA's chosen allocation method was held to be a "permissible construction of the statute."[170] The Court concluded that EPA must give states a reasonable opportunity to allocate their emission budgets before issuing FIPs.[171] The Clean Air Act was held to mandates SIP compliance with the Good Neighbor Provision, which requires SIPs to "contain adequate provisions ⋯ prohibiting ⋯ any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will ⋯ contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any ⋯ [NAAQS].§7410(a)(2)(D)(i)."[172] The plain text was held to support the federal agency disapproval of a state plan (SIP), which without more, triggers EPA's obligation to issue a federal plan (FIP).

The Supreme Court's dissenting opinion concluded: "Too many important decisions of the Federal Government are made nowadays by unelected agency officials exercising broad lawmaking authority, rather than by the people's representatives in Congress ⋯ Today, the majority approves [a] undemocratic revision of the Clean Air Act."[173]

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168. *EPA v. EME Homer City Generation LP*, No. 12–1182 (U.S. 2014).

169. *Id*. ("⋯ curtailing interstate air pollution poses a complex challenge for environmental regulators ⋯. The overlapping and interwoven linkages between upwind and downwind States with which EPA had to contend number in the thousands ⋯ Rather, as the gases emitted by upwind polluters are carried downwind, they are transformed, through various chemical processes, into altogether different pollutants. The offending gases at issue in these cases—nitrogen oxide (NOX) and sulfur dioxide (SO_2)—often develop into ozone and fine particulate matter (PM2.5) by the time they reach the atmospheres of downwind States.").

170. *Chevron*, 467 U.S. at 843.

171. *EPA*, 133 S.Ct. 2857.

172. *Id*.

173. *Id*. (Scalia, J., dissenting).

Ⅲ. 'Cap and Trade' Regulatory Challenges to State Carbon Control

U.S. states also recently have enacted 'cap-and-trade' regulation focused on regulating climate-warming gas emissions in the state. The Regional Greenhouse Gas Initiative, (RGGI)[174] and California's A.B. 32 carbon regulation program[175] both adopted 'cap-and-trade' programs. RGGI in originally ten, and now nine, eastern states, regulates its 'cap-and-trade' allowances only for CO_2 emissions from power plants larger than twenty-five Mw.[176] California's A.B. 32 regulates all carbon emissions from all major industries in the state.[177] RGGI is more limited than California in covered entities and industries, the kinds of GHGs emissions controlled, and the amount of emissions targeted and controlled: RGGI controls just CO_2 while California controls all six GHGs; RGGI controls just larger electric generation facilities while California controls, in three phases, electric generation and all other larger industrial emitters of GHGs, including transportation fuels. Both RGGI and California carbon credits are tradable.[178]

A. California Carbon Control

1. 'Cap and Trade' Scoping Plan Challenge

CARB's scoping plan for selecting the mechanism for implementation of carbon control in California was challenged by a group representing lower-income state citizens. California in 2011 lost this suit against its carbon control 'cap-and-trade' regulation, resulting in an additional year of delay in start of the entire regulatory program until CARB "comes into complete compliance with its obligations" in 2013 and made any revisions to comply with court order on legal

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174. Memorandum of Understanding, *supra* note 3.

175. Cal. Health & Safety Code § 38501 (2006).

176. Reg'l Greenhouse Gas Initiative, Goals, Proposed Tasks, Short-Term Action Items 1 (2003), *available at* http://www.rggi.org/docs/actionplanfinal.pdf.

177. *See* Cal. Entvl. Prot. Agency Air Res. Bd., http://www.arb.ca.gov/cc/ab32/ab32.htm.

178. *See* CARB(2010), supra note 81; Reg'l Greenhouse Gas Initiative, Model Rule (2013), available at http://www.rggi.org/docs/Model%20Rule%20Revised%2012.31.08.pdf.

requirements.[179]

The petitioners claimed that CARB violated the California Environmental Quality Act (CEQA) in the preparation of its Functional Equivalent Document ("FED").[180] These claims all contested a failure to comply with required state law and administrative process. As to basic administrative process, the court held that CARB did not abuse its discretion and was not arbitrary and capricious in making its program choices. However, the court did find that CARB improperly approved its Scoping Plan prior to completing the legally required environmental review.[181] The court issued a writ of mandate enjoining CARB from any further 'cap-and-trade' rulemaking until it complied with CEQA by analyzing alternatives to 'cap-and-trade' and considered relevant public comments. This delayed the program implementation for approximately a year until 2013.[182] When re-promulgated a year later in 2012 with a more robust consideration of alternatives, CARB's Climate Change Scoping Plan and choice of the previous 'cap-and-trade' option was upheld by a state court.[183]

2. 'Cap and Trade' Auction Litigation

The California decision to implement an auction process for allowance distribution, raising money from the auction of allowances to covered entities to emit carbon, was challenged by the California Chamber of Commerce.[184] The California Chamber of Commerce filed a lawsuit at the end of 2012 seeking to invalidate the 'cap-and-trade' auction scheme under A.B. 32. The complaint asserted that A.B. 32 does not authorize CARB to impose fees other than those

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179. *Ass'n of Irritated Residents v. Cal. Air Res. Bd.*, 206 Cal. App. 4th 1487 (2012). The court issued a writ of mandate enjoining CARB from any further 'cap-and-trade' rulemaking until it had complied with CEQA by analyzing alternatives to 'cap-and-trade' and public comments. This delayed the plan until 2013. *Ass'n of Irritated Residents*, 2011 WL 991534 (Cal. Super. Ct. 2011).

180. This alleged that CEQA was violated by "(1) failing to adequately analyze the impacts of the measures described in the Scoping Plan, (2) failing to adequately analyze alternatives to the Scoping Plan; and (3) impermissibly approving and implementing the Scoping Plan prior to completing its environmental review." *Id*.

181. *Id*.

182. *Ass'n of Irritated Residents*, 206 Cal. App. 4th 1487.

183. *Id*.

184. *Cal. Chamber of Commerce*, No. 34-2012-80001313.

needed to cover the ordinary administrative costs of implementing a state emissions regulatory program.

The California Chamber of Commerce claims that CARB itself projected to raise a total of $70 million dollars, which is well in excess of that necessary to regulate the conduct of the entities paying the fees. CARB argued that the revenue raised from auctioning allowances under the 'cap-and-trade' program is not a tax, but a "regulatory fee," which by law must be relative in amount to the burden placed on the payer, and must be spent on programs that are related to the specific goal of the program reducing greenhouse gas emissions, rather than for other fiscal purposes.[185]

A separate, subsequent 2013 suit brought by different plaintiffs challenged the California greenhouse gas allowance auctions under its emissions 'cap-and-trade' program as an illegal unconstitutional tax or fee,[186] and raised similar concerns to the Chamber of Commerce litigation.[187]The Morning Star litigation adds explicit examples of how the alleged unconstitutional tax is causing parties to bear increased costs and expenses.[188]

Morning Star argued that the auction revenues cannot be characterized as valid regulatory fees, because the revenues are not limited to the reasonable costs of any regulatory program.[189] They further asserted that CARB has not established

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185. *Isaac v. City of L.A.*, 66 Cal. App. 4th 586 (2006). To constitute "regulatory fees" rather than taxes, fees must not exceed the reasonable cost of the services necessary for the activity for which the fees are charged and for carrying out the purpose of the regulation, and the fees may not be levied for unrelated purposes. *Id*.

186. *Morning Star Packing Co. v. CARB*, No. 34-2013-80001464 (Cal. Super. Ct. Apr. 16, 2013) *appeal docketed,* No. C075930 (Cal. 3d Dist. Ct. App.). The suit asks the court to declare that "the auction and revenue generating provisions" of the 'cap-and-trade' regulation are unconstitutional under Proposition 13, the ballot initiative that requires a two-thirds vote on taxes, or under Proposition 26, a ballot initiative requiring a super-majority vote on some fees and levies. A.B. 32 did not pass on a two-thirds vote, nor did S.B. 1018, A.B. 1532, S.B. 535, and A.B. 1463, which stipulate how the auction revenues must be spent. Plaintiff, Morning Star Packing, participated in CARB's two prior auctions, spending $379,860 on allowances.

187. *Cal. Chamber of Commerce*, No. 34-2012-80001313.

188. *Morning Star Packing Co.*, No. 34-2013-80001464, verified Petition for Writ of Mandate and Complaint for Declaratory Relief, at 3.

189. *Morning Star Packing Co.*, No. 34-2013-80001464 (Sacramental Superior Court Case # 2013-80001464, filed June 10, 2013, Petitioners and Plaintiff's Memorandum of Points and Authorities in Support of Motion for Issuance of Writ of Mandate, at 2-3.

any reasonable relationship between the revenues generated by bids made at auction and either the regulatory burdens posed by auction bidders or the benefits auction bidders receive from the regulatory program, and that the 'cap-and-trade' regulation does not prohibit the revenue from being used for purposes that are unrelated to the regulatory program.[190] They also argued that the 'cap-and-trade' regulation is ultra vires because A.B. 32 neither explicitly nor implicitly authorizes CARB to generate billions of dollars of revenues for California by selling emission allowances at auction.

The state court in August 2013 tentatively allowed CARB to auction allowances under A.B. 32.[191] From the bench, the judge indicated that if the California precedent of Sinclair Paint applied to A.B. 32, it was an illegal tax.[192] In November 2013, there was a trial court decision which called it a close call, but allowed the auctioning of allowances.[193]

3. 'Cap and Trade' Additionality

Offsets are an alternative means to achieve compliance with 'cap-and-trade' carbon regulation, allowing lower-cost reduction opportunities outside the capped state to be pursued and monetized as tradable credits applied in California. The quid pro quo for offsets has been the requirement for 'additionality'.[194] A 2012 lawsuit in California by advocates for low-income interests attacked the California climate control legislation on the basis that its compliance requirements would be met principally by offsets from out-of-state or even international locations, without any assurance that the offsets would

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190. *Id*.

191. *Id*. (August 2013 order).

192. Carolyn Whetzel, *Court Upholds California's Authority to Auction Greenhouse Gas Allowances*, Bloomberg BNA Energy and Climate Report (Aug. 27, 2013).

193. *Cal. Chamber of Commerce*, No. 34-2012-80001313.

194. "Additionality" is the requirement in most carbon control statutes or regulations that only "additional" or non-business-as-usual carbon-reduction projects legally qualify to create carbon "offsets;" "which are tradable credits for compliance with these carbon policies. *See*, Reg'l Greenhouse Gas Initiative, Model Rule (2007), *available at* http://www.rggi.org/docs/model_rule_corrected_1_5_07.pdf [hereinafter RGGI Model Rule]; Pervaze A. Sheikh & Ross W. Gorte, Climate Change and International Deforestation: Legislative Analysis CRS-5, tbl. 1 (2008).

be "additional" to business-as-usual policies in California.[195] Plaintiffs argued that the regulation was ultra vires to the administrative power of CARB, whose actions were arbitrary and capricious and not based on a solid administrative record.[196] The California trial court in 2013 rejected both arguments,[197] deferring to CARB's expertise and experience and demurring to CARB's methodology for offsets.

4. 'Cap and Trade' for Liquid Fuels

The purpose of the low carbon fuel standard (LCFS), an element of A.B. 32, is "to implement a low carbon fuel standard, which will reduce greenhouse gas emissions by reducing the full fuel-cycle, carbon intensity of the transportation fuel used in California."[198] The LCFS rule is to reduce the carbon content of transportation fuels sold in California by ten percent by the year 2020 from the year 2010 baseline.[199] The LCFS was "designed to reduce California's dependence on petroleum" and "to stimulate the production and use of alternative, low-carbon fuels in California."[200] The LCFS regulates transportation fuels that are "sold, supplied, or offered for sale in California, and focuses on the 'carbon intensity' of fuels …."[201] Carbon intensity is not limited to how much carbon the fuel contains, but also includes the amount of carbon released in the

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195. *Citizens Climate Lobby and Our Children's Earth Foundation v. California A.R.B.*, No. CGC-12-5195944 (San Francisco Sup. Ct. filed November 14, 2012), Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief, at 3, para. 4, *available at* http://ggucuel.org/wp-content/uploads/3_28_12_Cal_GHG_Complaint.pdf.

196. *Id*.

197. The court concluded that plaintiffs had "failed to demonstrate that the Legislature foreclosed the use of standardized additionality mechanisms or demonstrate that [CARB] acted arbitrarily or capriciously in promulgating additionality standards." *Id*. Statement of Decision Re: Petition for Writ of Mandate, at 34, ll. 3-5, *available at* http://ggucuel.org/wp-content/uploads/Offsets-decision-document_pm_021.pdf.

198. Low Carbon Fuel Standard § 95480 (2007).

199. Cal. Air Res.Bd., Final Regulation Order, *available at* http://www.arb.ca.gov/fuels/lcfs/CleanFinalRegOrder112612.pdf.

200. Cal. Envtl. Prot. Agency Air Res. Bd., California's Low Carbon Fuel Standard: Final Statement of Reasons 457 (2009), *available at* http://www.arb.ca.gov/regact/2009/lcfs09/lcfsfsor.pdf.

201. *Id*.

full fuel cycle.[202] The provider's carbon intensity score is affected by the location of the commerce.

In a case distinct from a somewhat similar suit on the merits by other parties under Constitutional principles in federal court, the largest ethanol producer in the United States challenged the LCFS rule in California state court, alleging a failure to comply with the California Environmental Quality Act.[203] Plaintiffs POET, LLC challenged the LCFS regulations on the grounds that CARB violated the APA and CEQA during the adoption process. The appellate court held that California had, in fact, violated the California Environmental Quality Act (CEQA) and the California Administrative Procedure Act by approving the regulation before the required review under CEQA.[204]

The Act required the LCFS regulations, as well as other greenhouse gas measures, to be in place by January 1, 2010. The trial court found against the challengers. On appeal, plaintiffs contended that CARB violated the Administrative Procedure Act by excluding certain emails from consultants from the rulemaking file made available to the public. The appellate court held that California had, in fact, violated CEQA and the California APA by approving the regulation before the required review under CEQA. The court also found that CARB had improperly deferred formulating required mitigation measures. However, after ruling against the state, the court refrained from enjoining the regulation under state law. The parties were directed to submit comments about remedies for these viola-

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202. Cal.Code .Regs. tit. 17, § 95481(a)(28) (2010). The LCFS refers to this inclusive concept as the "lifecycle greenhouse gas emissions," which is defined as: "aggregate quantity of greenhouse gas emissions (including direct emissions and significant indirect emissions such as significant emissions from land use changes), as determined by the Executive Officer, related to the full fuel lifecycle, including all stages of fuel and feedstock production and distribution, from feedstock generation or extraction through the distribution and delivery and use of the finished fuel to the ultimate consumer, where the mass values for all greenhouse gases are adjusted to account for their relative global warming potential." *Id*.

203. *POET, LLC v. Cal. Air Res. Bd.*, 218 Cal. Ct. App. 4th 681 (2013), *available at* http://www.edf.org/sites/default/files/5th%20appelate%20LCFS%20ruling%206.3.13.pdf. Poet argued that CARB failed to respond to numerous public comments, that it omitted documents from the rulemaking file, and that the LCFS will lead to increased GHG emissions, not the reductions it promises. Poet alleged that CARB's LCFS rule exceeds the scope of authority delegated to it by the legislature. *Id.*

204. *Id*.

tions.[205]

At the end of 2013, the California Supreme Court denied CARB's request to review overturning the appellate court decision that CARB had improperly promulgated the LCFS program.[206] So this finding of LCFS illegality is final.

Rocky Mountain Farmers Union v. Goldstene challenged the LCFS rule as violating the dormant Commerce Clause of the Constitution.[207] The LCFS regulation incorporates into its calculations the differences between indirectly associated carbon emissions from transportation, the farming methods used to raise the agricultural produce, and the fuel used to produce the electricity in the state where the ethanol is produced.[208] In December 2011, the federal district court for the Eastern District of California upheld plaintiffs' argument, invalidating certain parts of the LCFS rule and enjoining the rule's enforcement, as it "discriminates against out-of-state corn-derived ethanol while favoring in-state corn ethanol and impermissibly regulates extraterritorial conduct."[209] The Court held that the LCFS differentiate based on place of origin of the commerce and concluded that the LCFS discriminates on its face against out-of-state corn-derived ethanol.[210]

The trial court found that the LCFS serves a legitimate local purpose, however, defendants had not met their burden to show that there is not a nondiscriminatory means to adequately serve their objective.[211] The court found that CARB had several other means to address the state's purpose without discriminating against out-of-state fuel products.[212] The court held that the LCFS "may not impose a barrier to interstate commerce based on the distance that the product must travel in interstate commerce."[213]

The Ninth Circuit recently reversed the trial court finding of unconstitutional-

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205. *Id*.

206. *See California Supreme Court Declines to Review Decision on Low-Carbon Fuel Standard*, Bloomberg BNA (Nov. 29, 2013), http://climate.bna.com/climate/summary_news.aspx?ID=255482.

207. *Rocky Mountain Farmers Union v. Goldstene,* 843 F. Supp. 2d 1071, 1081 (E.D. Cal. 2011).

208. *Id*. at 1088.

209. *Id*. at 1081.

210. *Id*. at 1087.

211. *Id*. at 1093. The Rocky Mountain plaintiffs offered many nondiscriminatory alternatives including a tax on fossil fuels or solely regulating tailpipe emissions. *Id*.

212. *See*, *e.g*., *Dean Milk Co. v. Madison*, 340 U.S. 349 (1951).

213. *Rocky Mountain Farmers Union,* 843 F. Supp. 2d at 1089.

ity, in a split decision with a dissent. The majority opinion determines that it is acceptable for a state to calculate transportation CO_2 in the carbon emissions index or rating of delivered fuel.

B. Other State 'Cap and Trade' Challenges

1. New York 'Cap and Trade' Regulation Implementing RGGI Carbon Control

There was a successful suit in 2010 against New York's RGGI 'cap-and-trade' carbon regulation.[214] The Regional Greenhouse Gas Initiative, commenced in January 2009 in ten Northeastern states.[215] CO_2 emissions from power plants in the region were capped at then-current levels[216] and the cap will remain in place until 2015. RGGI states would then begin the process of incrementally reducing emissions, with the goal of achieving a ten percent reduction by 2019,[217] which recently was amended to make it fourty-five percent more demanding at an earlier year.[218]

This suit was brought by an independent cogeneration project which had car-

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214. *Indeck Corinth v. Paterson*, No. 369/2009 (N.Y.S. 2009), *available at* http://www.chamberlitigation.com/sites/default/files/cases/files/2009/Indeck%20Corinth%2C%20L.P.%20v.%20Paterson%2C%20et%20al.%20%28NCLC%20Brief%29.pdf; *Indeck Energy*, *supra* note 118. In a suit against the state of New York's RGGI program in 2009, New York's quick settlement had Consolidated Edison Company agreeing to pay the cogeneration project for the cost of its additional carbon allowances through the end of their pre-existing long-term contracts. *See Indeck Corinth, L.P. v. Paterson, et al*., U.S. Chamber Litigation Center, http://www.chamberlitigation.com/indeck-corinth-lp-v-paterson-et-al.

215. *Model Rule*, Reg'l Greenhouse Gas Initiative, http://www.rggi.org/DESIGN/HISTORY/MODEL_RULE. The market-based design of the RGGI Memorandum of Understanding (MOU) is a 'cap-and-trade' program. *See* Reg'l Greenhouse Gas Initiative Model Rule (2013), *available at* http://www.rggi.org/docs/Model%20Rule%20Revised%2012.31.08.pdf.

216. The regional base annual CO_2 emissions cap will be equal to 121 million short tons. Memorandum of Understanding, *supra* note 3, at 2.

217. Reg'l Greenhouse Gas Initiative, Press Release: States Reach Agreement on Proposed Rules for the Nation's First Cap-and-Trade Program to Address Climate Change (2006).

218. Gerald Silverman et al., *Majority of States in Regional Initiative in early Stages of Implementing 'Model Rule'*, 4 Env't Rep. 1797 (2013).

bon compliance obligations imposed on it.[219] In 2009, Indeck Energy, the owner of a New York cogeneration power facility, sued the state of New York regarding the constitutionality of its carbon regulation program, part of the then ten-state Regional Greenhouse Gas Initiative which imposes additional costs to purchase carbon emission allowances on wholesale power sellers.[220] New York quickly settled the suit, granting plaintiffs complete relief and not imposing any of these approximately $3 million annual additional costs on the specific wholesale market plaintiffs, rather than let the court address the legality of its state program. The settlement had Consolidated Edison Company and its ratepayers agree to pay the cogeneration project for the cost of its additional carbon allowances through the end of their pre-existing long-term contracts.[221]

The New York implementation of the RGGI carbon 'cap-and-trade' program was challenged in two additional suits, both of which were dismissed on procedural grounds without reaching the merits. In the second New York RGGI case,[222] New York ratepayers argued that the program, which was never passed by legislature, was improper if only implemented by regulation. This complaint was denied on the procedural ground of lack of standing of New York ratepayers to challenge their injury as not distinct from the general public. The third New York RGGI suit contested New York's RGGI program as an unauthorized tax which shifted its costs invisibly without consent to electric ratepayers.[223] The suit was dismissed in 2013 not on its merits, but by upholding the procedural challenge to the lack of legal standing of the plaintiffs to bring an action in court.[224] The court held that plaintiffs had waited too long to bring the complaint and lacked an injury distinct from the injury to all electricity consumers in the state who had to absorb the

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219. William Funk, *Constitutional Implications of Regional CO_2 Cap-and-Trade Programs: The Northeast Regional Greenhouse Gas Initiative as a Case in Point*, 27 J. OF ENVTL. L. 353, 359 (2009).

220. *Indeck Energy*, *supra* note 118.

221. *Id*. In a suit against the state of New York's RGGI program in 2009, New York's quick settlement had Consolidated Edison Company agreeing to pay the cogeneration project for the cost of its additional carbon allowances through the end of their pre-existing long-term contracts. *Id*.

222. *Thrun v. Cuomo*, 42 ELR 20132, No. 4358-11 (N.Y. Sup. Ct. June 13, 2012); G. Craig & G. Roberts, *Lawsuit Disputes Legality of New York Participation in RGGI, Citing State's Lack of Legislative Approval*, ELEC. UTIL. WK., July 4, 2011, at 10.

223. *Thrun v. Cuomo*, 42 ELR 20132, No. 4358-11 (N.Y. Sup. Ct. June 13, 2012), 112 A.D.3d 1038 (N.Y. App. Div. 3d 2013), *appeal denied*, 22 N.Y.3d 865 (App. Ct. 2014).

224. *Id*.

state-imposed cost of RGGI.[225]

2. Massachusetts 'Cap and Trade' Regulation

There was a successful suit alleging that Massachusetts renewable energy tradable energy credits under capped incentives violated the Constitution.[226] The program was successfully challenged on Constitutional grounds in 2010 by TransCanada Corporation, the owner of a Maine wind project.[227] The suit alleged that Massachusetts' limitation on eligible solar Renewable Energy Credits (SRECs) as well as issuance of long-term power purchase contracts only to Massachusetts companies, both discriminated against out-of-state renewable energy projects in violation of the dormant Commerce Clause of the U.S. Constitution.[228]

After stating that it had confidence in its position, Massachusetts immediately settled the litigation so as to avoid a court decision, providing that TransCanada would be eligible for these programs.[229]

3. 'Cap and Trade' Renewable Energy Credits

Judge Richard Posner, speaking for the Seventh Circuit Court of Appeals in a unanimous decision,[230] for authority for its holding on the respective jurisdiction of state and federal government to regulate electricity, the opinion relied on a 2013 law review article on Constitutional federalism energy issues authored by Professor Ferrey.[231] The Seventh Circuit declared unconstitutional state regulation limiting state renewable portfolio standards to in-state generation, as a violation of the dormant Commerce Clause: "it trips over an insurmountable constitutional

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225. *Id*.

226. *Transcanada Power Mktg. Ltd. v. Bowles*, No. 4:10-cv-40070-FDS (Dist. Ct. Mass. April 16, 2010), *available at* http://www.ohiogreenstrategies.com/documents/transcanada.pdf; E. Ailworth, *State Looking to Settle Suit Oover Law on Clean Energy*, The Boston Globe (May 27, 2010), *available at* http://www.boston.com/business/articles/2010/05/27/lawsuit_hits_mass_law_promoting_local_energy_providers/.

227. *Id*.

228. *Id*.

229. *See* Massachusetts Dept. of Energy Res., Partial Settlement Agreement, *available at* http://www.mass.gov/eea/docs/doer/renewables/solar/settlement-agreement.pdf.

230. *Ill. Commerce Comm'n v. FERC*, 721 F.3d 764 (7th Cir. 2013).

231. *Id*. (citing 2012 law review article by Professor Steven Ferrey as authority for state energy regulation).

objection. Michigan cannot, without violating the commerce clause of Article I of the Constitution, discriminate against out-of-state renewable energy."[232] Tradable energy credits applied to in-state renewable power and denied to identical out-of-state renewable power sold in the state, were held unconstitutional.[233]

Ⅳ. CONCLUSION

'Cap-and-trade' is the key mechanism employed in the U.S. Clean Air Act,[234] in the Clean Development Mechanism of the Kyoto Protocol for GHG control,[235] and the regulatory foundation of carbon control in several U.S. states.[236] The result has rendered the EPA's 'cap-and-trade' environmental air regulations reaching the D.C. Circuit Court of Appeals in the past half-dozen years, to be judged illegal in every one of five challenges. Only in April 2014, was one of these five opinions reversed by the U.S. Supreme Court, deferring to the regulatory agency decision. In several key U.S. cases, the challengers have prevailed in court or received a favorable settlement in more than half the cases against 'cap-and-trade' which have proceeded on the merits without the government first prevailing on a procedural defense allowing avoidance of the merits of the claim.[237]

Developing countries will have additional resources and may consider 'cap-and-trade' regulatory options for controlling carbon emissions. Developed countries have committed to the largest sustained international transfer of wealth in history: A commitment of an additional $100 billion/year of foreign aid continuing indefinitely in perpetuity for the explicit purpose of dealing with global warming risk.[238] There were GHG reduction pledges made by developed countries

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232. *Id*. at 15.

233. *Id*.

234. 42 U.S.C. 7401 (1970).

235. *See* FERREY(b), *supra* note 5.

236. *Id*. at 79-109.

237. *Id*.

238. U.N. Secretary-General, High-Level Advisory Group on Climate Change Financing, at 2 (Nov. 5, 2010), http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGF_reports/AGF_Final_Report.pdf.

at the 1997 Kyoto Protocol,[239] at the 2007 Bali COP,[240] at the 2009 Copenhagen COP,[241] at the 2010 Cancun COP,[242]and at the 2011 Durban COP, as well as a fast-start pledge.[243] The United Nations Climate Change Conference in Copenhagen set a goal of mobilizing $100 billion per year by 2020 to support mitigation and adaptation activities in developing countries, plus USD $30 billion in "fast start" finance during 2010-2012. The fund is administered in Korea.

For context regarding the magnitude of this commitment, the total annual U.N. budget is $1.9 billion annually;[244] added peacekeeping operations raise annual expenditures to $15 billion.[245] About half of this latter amount comes from mandatory U.N. assessments, and the other half from voluntary donations by member nations.[246] The annual operating budget of the World Bank (excluding loans and grants) is approximately $1.5 billion.[247] The annual budget of the IMF, with a smaller staff, is approximately $1 billion annually for administration, in addition

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239. *See Kyoto Protocol*, U.N. Framework Convention on Climate Change, http://unfccc.int/kyoto_protocol/items/2830.php.

240. *See* Jessical Aldred, *Q&A: Bali Climate Change Conference*, The Guardian, http://www.guardian.co.uk/environment/2007/nov/30/bali.climatechange; *Deal Agreed in Bali Climate Talks*, The Guardian (Dec. 15, 2007), http://www.guardian.co.uk/environment/2007/dec/15/bali.climatechange4 [hereinafter *Bali Climate Talks*]; U.N. Conference on Climate Change, Bali, Dec. 3-15, 2007, *Decisions Adopted by the Confernce of the Parties*, U.N. Doc. FCCC/CP/2007/6/Add.1 (Mar. 14, 2010), http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf#page=3.

241. *See* U.N. Conference on Climate Change, Bali, Dec. 7-19, 2009, *Decisions Adopted by the Conference of the Parties*, U.N. Doc. FCCC/CP/2009/11/Add.1 (Mar. 30, 2010), http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf#page=4.

242. *See Cop 16: UN Conference Delegates Debate Source of Climate Change Funds*, The Huffington Post (Dec. 8, 2010), http://www.huffingtonpost.com/2010/12/08/cop-16-un-conference-dee_n_794094.html; *Bali Climate Talks*, *supra* note 240.

243. *See* World Res. Inst., Summary of Developed Country Fast-Start Climate Finance Pledges, *available at* http://pdf.wri.org/climate_finance_pledges_2010-10-27.pdf.

244. *See* United Nations, *available at* http://www.un.org/geninfo/ir/index.asp?id=150. This figure excludes expenditures of the World Bank and International Monetary Fund.

245. *Id*.

246. *Id*.

247. *See World Bank Budget Increase,* World Bank, http://go.worldbank.org/1NIXYH95H0.

to its lending.[248]

'Cap-and-trade' is an important regulatory mechanism of modern administrative law. Judicial review of the legality of regulation is established in various common law and civil law countries. In common law countries, including the U.S. England, Australia, Canada, India, Singapore, Pakistan, and South Africa, courts review executive branch regulations. In the U.S., the federal Administrative Procedure Act[249] limits executive branch regulations, including 'cap-and-trade' regulation, and most of the fifty U.S. states have similar state administrative laws which allow state court review of state regulations.[250] The majority of civil law countries has specialized courts to deal with administrative cases regarding procedural administrative rules.[251] The European Union has some administrative requirements for its multinational regulations, which include its EU-ETS 'cap-and-trade' system.[252]

In the U.S., a significant portion of the E.P.A. federal 'cap-and-trade' environmental regulation has been ruled illegal by the U.S. federal appellate courts, as has some of the state of California's 'cap-and-trade' regulation of carbon emissions and climate change. Only in April 2014, did the U.S. Supreme Court reverse one of five successive determinations by the federal U.S. Court of Appeals for the D.C. Circuit that EPA air regulation through 'cap-and-trade' mechanisms was in each case illegal. This article examined the administrative legislative enactments and judicial interpretation of U.S. 'cap-and-trade' regulation and California's and

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248. *See* Int'l Monetary Fund, Annual Report of the Executive Board for the Financial Year Ended April 30, 2010 (2010), *available at* http://www.imf.org/external/pubs/ft/ar/2010/eng/pdf/ar10_eng.pdf.

249. Administrative Procedures Act, 5 U.S.C. § 500 (2006).

250. *See*, *e.g.*, Cal. Gov't Code § 11340 (2009). There is a Model State Administrative Procedure Act drafted by the National Conference of Commissioners on Uniform State Laws. *See* National Conference of Commissioners on Uniform State Laws, Revised Model State Administrative Procedure Act (2010), *available at* http://www.uniformlaws.org/shared/docs/state%20administrative%20procedure/msapa_final_10.pdf.

251. Civil law countries with such rules include France, Germany, the Netherlands, Sweden, Brazil, Chile, and Ukraine. *See* Administrative Law, Wikipedia, http://en.wikipedia.org/wiki/Administrative_law.

252. E.U. Treaty of Lisbon, Article 298, provides the legal basis for a regulation that would cover all EU institutions. *See* European Added Value Assessment, Law of Administrative Procedure of the European Union (2012), *available at* http://www.europarl.europa.eu/meetdocs/2009_2014/documents/juri/dv/eav_lawofadminprocedure_/EAV_LawofAdminprocedure_EN.pdf.

several other states’ ‘cap-and-trade’ regulation. These lessons from the U.S. experience for legislative and administrative law apply to many world countries with similar or comparable systems of law, and to carbon and global warming ‘cap-and-trade’ regulation now moving forward in several countries.

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