



Graduate School of Development Studies

California's Pavley Law on Vehicle Emissions
and State Climate Initiatives:
Shifting the Gears of Environmental Federalism from
the Bottom Up?

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Dedication

To the North's attempt to assume a share of responsibility for climate mitigation and adaptation.

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“The issue of climate change is one that we ignore at our own peril. There may still be disputes about exactly how much we're contributing to the warming of the earth's atmosphere and how much is naturally occurring, but what we can be scientifically certain of is that our continued use of fossil fuels is pushing us to a point of no return. And unless we free ourselves from a dependence on these fossil fuels and chart a new course on energy in this country, we are condemning future generations to global catastrophe.”

Barack Obama – US Presidential Candidate 2008

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List of Acronyms

APCA	Air Pollution Control Act
ASEAN	Association of Southeast Asian Nations
CalEPA	California Environmental Protection Agency
CCAA	California Clean Air Act
CAA	Clean Air Act
CARB	California Air Resources Board
C.A.F.E.	Corporate Average Fuel Economy
CEQ	Council on Environmental Quality
CO ₂	Carbon dioxide
CWA	Clean Water Act
DDT	Dichloro-Diphenyl-Trichloroethane
EIA	Energy Information Administration
EPA	Environmental Protection Agency
EPCA	Energy Policy and Conservation Act
EU	European Union
GHG	Greenhouse Gases
GM	General Motors
HCOGR	House Committee on Oversight and Government Reform
IPCC	Intergovernmental Panel on Climate Change
LEV	Low-emission Vehicles
MVPCA	Motor Vehicle Pollution Control Act
NEPA	National Environment Protection Act
NHTSA	National Highway Traffic Safety Administration
SUV	Sports Utility Vehicle
UNFCCC	United Nations Framework Convention on Climate Change
US	United States of America
ZEV	Zero-emission Vehicles

Abstract

As an important player in global affairs, any political response to climate change will need to involve the United States. After withdrawal from the Kyoto Protocol, the United States government further constrained climate initiatives by first failing to recognize carbon dioxide under the Clean Air Act (CAA) and then denying California the CAA waiver exemption to implement their Pavley vehicle emission standard. This paper then seeks to explore the space for state climate initiatives in the context of US environmental federalism. While scholars have looked at specific aspects within the debate such as the legality of the CAA, there isn't any work that assesses comprehensively the entire picture by raising theoretical questions and answering them with empirical evidence from the Californian experience. This paper attempts to fill that void in existing literature. The research concludes that California is in fact unravelling trends of (traditional) environmental federalism and by virtue of the exclusive CAA waiver is furthermore reversing federalism by setting its own policy that other states are choosing to implement.

Keywords

US climate initiatives, vehicle emissions regulation, environmental federalism, state-federal relations, federal pre-emption, climate litigation and judicialization, adaptive environmental federalism

1. INTRODUCTION

Climate change has emerged as one of the most pressing issues in global affairs of our time. According to the United Nations Framework Convention on Climate Change (UNFCCC), “Billions of people, particularly those in developing countries, face shortages of water and food and greater risks to health and life as a result of climate change” (UNFCCC, 2007). Special advisor to UN Secretary General Moon, Jeffrey D. Sachs, affirms the daunting reality of ‘an inconvenient truth’. Sachs asserts that, “the largest threats come from the production and consumption of energy - mainly the burning of fossil fuels (coal, oil, gas) - for electricity and transport” (Project Syndicate, 2007).

Viable mitigation and adaptation efforts are largely dependent upon the United States of America (US), the world’s largest economy and aggregate greenhouse gas (GHG) emitter. In 2004, the concentration of GHG emitted by the US alone was estimated at 5,923 million metric tons, roughly 22% of the global total¹. Thus, political decisions taken by the US government will have direct implications for a strong, concentrated global response to the climate change. The current federal climate initiative, the Energy Independence and Security Act of 2007 (hereinafter, Energy Policy), aims to address CO₂ emissions by updating national fuel economy standards thereby regulating vehicle fuel consumption. However, there is broad academic and professional consensus - in line with the subsidiary principle - that the global climate problem demands a comprehensive, multi-tiered response by not only national governments but sub-national political units as well (Betsill, 2007).

In terms of legislation, California has long been a pioneer of emissions control regulation. In 2002, California passed the landmark AB 1493 or Pavley Law, (hereinafter Pavley), which aims to address the climate issue by directly controlling tailpipe GHG emissions as opposed to the federal approach to regulating fuel economy. Additionally, the enactment of Pavley constituted the first piece of legislation in the US to explicitly link GHG vehicle emissions to climate change².

In December 2007, the United States Environmental Protection Agency (EPA) Administrator Stephen Johnson denied California a waiver request to exempt the state from federal pre-emption of the Clean Air Act (CAA), authorizing the state to implement its landmark Pavley Law to regulate vehicular carbon dioxide (CO₂) emissions. For over thirty years, the agency had unconditionally granted the waiver to allow California regulatory discretion. As the main basis of his decision, Johnson cited the EPA’s support for a different policy approach to address greenhouse gases (GHG) based on a single national fuel economy standard. The EPA’s decision was the second clear expression of federal opposition to climate initiatives after the agency refused to recognize CO₂ as an ‘air pollutant’ under the CAA to warrant regulation. In light of federal opposition, what has happened to the birthplace of the modern environmentalism movement in the era of the climate change?

¹ Figure published by the Energy Information Administration (EIA) - the official authority on energy statistics for the US government - in the report, “International Energy Outlook 2007”.

² Throughout the paper, certain terms will be used interchangeably such as GHG, CO₂ and climate initiatives, vehicle emissions regulation.

In environmental politics, the US is characterized as practicing environmental federalism. The notion refers to the political choices that dictate the division of regulatory authority across the federal level and its allocation between state and federal agencies to ensure enforcement in environmental issues. Environmental federalism is the most relevant concept in which to analyze the role federalism plays in environmental regulatory decisions in governance structures around the world. From regional political institutions such as the European Union (EU) and the Association of Southeast Asian Nations (ASEAN) to individual countries such as Canada, Brazil and India, environmental federalism has increasingly gained currency as it provides analytical vehicle in which to understand factors of regulatory competence and discretion in terms of both centralized and decentralized forms of policymaking and enforcement. Inasmuch as the US has traditionally practiced a top-down centralized approach to environmental federalism, the emergence of climate change at the forefront of the international political agenda has revealed a US failure to redefine its domestic approach by not delivering a national climate policy. To fill this policy gap, state initiatives such as Pavley have emerged over the past eight years to challenge this customary arrangement.

Responsible for nearly one third of American CO₂ emissions, the transport sector is central to any political response to climate change. As one of the dominant modes of transport, automobiles play an important role in climate policymaking with a range of social, economic, and political factors involved. As emerging economies such as Brazil, China, and India grow, newfound prosperity will trigger a rise in automobile acquisition and, in turn, the magnitude of CO₂ emissions. Therefore, transport represents one of the challenging sectors from governance and development perspective in the South to minimize the CO₂ impact while integrating these highly populated societies into the global economic order.

Researching the dynamics of US climate politics is relevant then for governance scholars and practitioners in the field of development. While the American experience may differ from developing contexts in many ways, it serves as a noteworthy example of how conflicting interests across governing levels within environmental federalism can be reconciled. A case analysis of the Californian experience can serve as a concrete reference for politicians, business leaders, civil society activists, and engaged citizens of the South to draw from when dealing with the emerging climate predicament.

In presenting both the California and Federal policies, the purpose is not to dispute the technical details of each specific policy by both governing levels, but it is, rather, to assess: 1) the transformative process occurring in US climate politics with the establishment of California's unique role in advancing policy ideas; 2) the impact a state climate initiative (Pavley) vis-à-vis the federal initiative (Energy Policy) constitutes in the international arena; and 3) the consequences these factors have for traditional notions of federalist environmental politics. Discussion in regards to the notion of judicialization and the role of automakers in climate politics will be added to enhance the argument. Under this context, this paper seeks to explore the space for state climate initiatives and posits the question, Is California's Pavley Law effectively reversing the trends of US environmental federalism by unravelling the

traditional fabric of top-down, centralized policymaking and authority? In other words, how has California's climate legislation, through a process of judicialization, challenged conventional perceptions of federal leadership by portraying federal government as policy laggards and states as innovative policy leaders?

Admittedly, the climate debate encompasses a range of issues that are extensively discussed in the literature and warrant further scholarly research (Bang, 2003; Calef and Goble 2007; Duraiappah, 2006; Greenberg, (2006); Fredriksson et al, 2004; Karkkainen, 2004; Kollman, and Prakash (2001); Shrivastava, 1995; Smith, 2007; Tjernshaugen, 2005). While they are important in their own right, this paper's limitations of size and scope do not allow for a necessary comprehensive analysis. This research covers, in turn, the politics of US vehicle emissions control and will only discuss the contentious interplay in state-federal relations that the policy area presents under the context of environmental federalism. Furthermore, the information and arguments discussed here reflect the most current available at the time of writing. The reader must be aware the paper only researches the debate regarding climate litigation until January 2008 and state-federal relations involving the EPA until May 2008. It may very well be the case that new developments arise to challenge some of the arguments posed herewithin.

In order to answer the question posed in this research, key themes in the US climate debate will be discussed and analyzed. First, the second chapter will provide the reader with a primer on the political economy of US environmental issues and discuss the Energy Policy that tighten national fuel economy standards. Once established, the notion of environmental federalism will be introduced in chapter three where the arguments for centralization and decentralization of environmental policymaking will be presented. Since the environmental federalism best embodies US environmental politics, the concept provides the analytical framework used in this research paper. Moreover, the concepts of states as laboratories of innovation and judicialization will be introduced, as they are integral to the analysis of the Californian case and US climate politics to be delivered at the end of the paper.

Following the analytical framework, the fourth chapter will conceptualize California as an environmental leader and will describe the state initiative – Pavley Law - and the implications of its enactment since 2002. Central to understanding California's role, the special CAA exemption waiver will explain the state's unique position authorized by the federal law to formulate their emissions regulation.

The implications of Pavley will then be highlighted in the fifth chapter by applying the notion of judicialization. In this way, the emergence of litigation as a mediation strategy can be explained to understand current trends in the US climate debate. Through the empirical evidence of three prominent climate cases, the increased presence of the Judiciary will be demonstrated through its effectiveness to reinforce judicial statutory review and serve as a democratic check on political processes within environmental federalism.

Lastly, the sixth chapter will provide an extensive analysis of this research's findings. To begin, the practical experience of California will be theorized to understand firstly how changing state-federal dynamics contribute

to redefining environmental federalism and secondly how it challenges traditional perceptions of state-federal regulatory roles. In the third part, the importance of the Pavley Law signifies in emissions control policy will be argued and the implications the Californian experience entails for scaling up to the international level. The following sub-section will measure judicialization in the contexts of the three court cases and then expand into implications for democracy. The final part of the analysis will examine the role of the automotive industry in the climate debate and the impact their interests have had climate policymaking and the support or opposition they have consequently produced.

To conclude, a summary of the research's finding will be presented and located in the literature. As a point of closure, several recommendations for future research then will be offered to assist in guiding the debate.

2. US ENVIRONMENTAL POLITICS

Introduction

To understand the contentious nature of US climate politics today, it is necessary to review the story of historical development of environmental politics to fully grasp the events and ideologies that overtime have shaped and informed policy orientation. The age-old struggle between environmental protection and economic development can be analyzed through various processes that dictate, and ultimately inform environmental problems, policy, and politics. US environmental politics can be neatly classified into four distinct environmental periods: the conservation, preservation, modern environmental, and contemporary movements (Rome, 2003). For analytical integrity, this research paper will base its starting point on the significance of the modern environmental period beginning in the 1960's whereas public outcry over salient environmental problems spawned an array of critical literature and activism catapulting environmental issues to the mainstream political agenda for the first time, which initiated extensive Federal legislation like National Environment Protection Act (NEPA) and establishment of prominent federal agencies such as the EPA. The contemporary period beginning in the 1990's presents new challenges due to the global nature of environmental problems such as climate change and entails a new set of politics symbolized by international regimes such as the Kyoto Protocol. Inasmuch as new developments in environmental problems and politics change the regulatory framework, a consistent set of actors involved include public and civil society, executive, legislative and judicial officials, and private actors. However, new complexities redefine roles and relationships.

2.1 The 'Modern' Environmental Movement (1960-1990)

The most significant period in US environmental activism and policymaking began in the 1960s with the birth of the 'Modern' Environmental movement, which ultimately resonated worldwide. One starting point to reflect on the modern environmentalism is to discuss the literature and popular culture material that emerged during period. In 1962, Rachel Carson published "Silent Spring" that detailed the harmful effects of Dichloro-Diphenyl-Trichloroethane (DDT) spraying - for agricultural purposes - had on animals and the ecological state of farmland. The US government had allowed chemical spraying without extensive testing of its adverse effects. Silent Spring triggered a mainstream public outcry so boisterous that it forced the federal government to adjust its pesticide policy resulting in a national ban on DDT. Along with other notable environmental literature, Carson's work had such a lingering effect on the public environmental awareness and activism that it helped spur a sharp political response³. Subsequently, new federal legislation was passed in other areas including the Land and Water Conservation Fund Act of 1964, and the Wild and Scenic Rivers Act of 1968.

³ Other influential contributions pushed environmental concerns further on political agendas advocating increasing regulation on the private sector. They include Paul Ehrlich's, "The Population Bomb" (1968), Barry Commoner's, "The Closing Circle" (1970), and E.F. Schumacher's, "Small is Beautiful" (1973).

2.2.1 Public Consensus Takes Political Form: Establishment of the EPA and Key Federal Acts

A critical juncture in US environmental policy was the shared support by both societal and political actors that constituted the enactment of the NEPA and the establishment of the EPA by President Richard Nixon in 1970. Nixon proclaimed the 1970s to be the *'Environmental Decade'*. NEPA marked the official prioritization of environmental issues on the national political agenda and its exclusive jurisdiction by federal authorities. The established of the EPA signified the onset of centralized, top-down environmental federalism, which will be explained further in Chapter two's section on the EPA's early experience that follows the theoretical debate on centralization.

2.2.2 The Clean Air Act (CAA) Amendments of 1970

Despite substantive Federal achievements on resource and land issues, federal policy hardly attempted to address air quality issues. Historically, air pollution legislation remained a state (or local) issue. Opposition to a federal presence subsided in 1970 with significant amendments to the CAA, originally enacted in 1963, which constituted a more active Federal role in State's air quality issues. The CAA was the deterministic impetus of President Nixon and demanded strict technology-forcing measures on states to achieve motor vehicle emission goals. CAA amendments required state air control agencies to achieve a 90% reduction in hydrocarbon and carbon monoxide emissions by 1975 and a 90% reduction in nitrogen oxide emissions by 1976 (Brown, et al, 1995). While non-technological social innovations were also encouraged in the CAA framework such as mass transit, forcible objection by automakers reoriented public focus on the benefits of a technology-forcing approach (Brown, et al, 1995). Once the CAA amendments took effect, automotive interests began to form a strong lobby in Washington to intensify strategic pressure on federal officials to avoid CAA requirements (Brown, et al, 1995).

2.2.3 California's Waiver Extension and Federal Pre-emption

Unlike any other US state, California has a unique right to set its own automotive emission standards apart from those authorized by the CAA. By virtue of its long history of air pollution regulation that begun prior to the CAA amendments of 1970, California has been granted special waiver exempting the state from the CAA mandate. According to Section 209(b) of the CAA, other states are authorized to choose between adopting California's standards or following Federal guidelines. The Northeastern states have indeed a history of preferring California's regulatory standards to Washington's fuel economy policy (Passell, October 20, 1994). For over thirty years, the EPA has unconditionally granted the special waiver to exempt California from federal pre-emption and may only reject a waiver request if the EPA Administrator finds: 1) California's determination regarding protectiveness is "arbitrary and capricious;" 2) California does not need state standards "to meet compelling and extraordinary conditions;" or 3) California's standards are not consistent

with statutory requirements for adequate lead-time and technological feasibility.⁴

2.2.4 *Centrality of the Automobile in American society*

The newly established Federal targets were relevant considering the role of automobiles in the US and the increasing emissions impact they produced. Automobiles had become an essential component of mobility for American life for two reasons. One explanation depicts the natural advantages automobiles pose compared to other forms of transport in terms of freedom contributing to American's 'love affair' with the car (Paterson, 2001). Another perspective views the centrality of automobiles with regard to the promotion of economic growth and distribution of goods providing the wheels for value production in state and national economies (Paterson, 2001). Since the State, US state and federal government, plays a fundamental structural role in promoting accumulation, we can understand the politicians' competing political and economic interests involved in vehicle emission control policymaking and enforcement.

2.2.5 *The 1970s Oil Crisis and the Energy Policy and Conservation Act (EPCA) of 1975*

The oil crisis of the early 1970's had significant impact on the Big Three US automakers (General Motors or GM, Ford, Chrysler) similar to other advanced, industrial nations of Europe. In response to the embargo, public demand amplified for efficient fuel consumption. However, heavy, full-size powerful automobiles were long the norm in the US. As a result of the crisis, sales dramatically fell on these types of cars and were replaced by demand of subcompacts increasingly supplied by Japanese and European counterparts such as Toyota, Datsun, Peugeot, Volkswagen, Mazda, and Honda. The Big Three was slow to react and foreign competitors began to capture the market offering models with better fuel mileage. This social and political problem led to the passage of Energy Policy and Conservation Act (EPCA) of 1975 that established national C.A.F.E. standards (or Corporate Average Fuel Economy), which regulating vehicle fuel economy and would become the cornerstone of the Federal solution for controlling vehicle emissions⁵. In the original C.A.F.E. legislation an important distinction was made between cars and light trucks entailing separate standards. Less stringent standards placed on light-duty trucks – at the time pickup trucks, minivans, and Sport Utility Vehicles (SUVs) were primarily used for commercial and agricultural purposes – allowed automakers to begin to manufacture 'cross-over' vehicles combining features of both types of vehicles (Pew Center, 2004). Beginning in the 1980s, light-duty vehicles have increasingly become a personal transport automobile.

⁴In US legal terms, pre-emption refers to superiority of Federal law over State law to prevent any action that might conflict with a Federal statute (Merriam-Webster website). It has long been a point of contention in the US environmental politics since the creation of the US EPA.

⁵<http://www.nhtsa.dot.gov/portal/site/nhtsa/menuitem.d0b5a45b55bfb582f57529cdba046a0/>

2.2.6 *Reaganite Environmentalism*

After the initial experimental stage of environmental policymaking in the 1970s, the economic repercussions of stringent environmental regulation became evident at the onset of Ronald Reagan's Presidency in 1981. The unfavorable economic circumstances the Reagan administration inherited were well suited for his conservative agenda and provided sufficient motive for wide-ranging reforms to rollback the State (Kraft, 2000). Heavily influenced by conservative think-tanks like the Heritage Foundation, Reagan reverted to an overarching confidence in the private sector's ability to manage environmental affairs (Brown, et al, 1995). Free-market logic defeated federal regulatory interventionism.

The new approach not only relieved policy responsibility from the federal government's shoulders but also drastically affected existing programs by shifting more regulatory duties to (ill-equipped) states. The Reagan administration's policy change in Washington created a disparity in regulatory authority, reversed the previous decade's policies, and revealed sharp political differences in both ideological camps and state-federal relations (Kraft, 2000).

2.3 *The Contemporary Period (1990-present)*

Contemporary US environmental politics in the early 1990s can be characterized as a window of opportunity for renewed Federal engagement that resulted in political paralysis. George H.W. Bush proclaimed his Presidency to be, "*a return to Roosevelt's conservationism*" referring to the Efficiency model of the Progressives at the turn of the century founded on technological, apolitical solutions to the address the era's environmental problems. Yet deep party divisions revealed the ideological reality from such rhetoric, especially when the Bush Sr. administration asserted its (indifferent) position on air pollution and climate change in the CAA amendments of 1990 and the Rio Earth Summit held later in 1992. In Bush's words, "the American way of life is not negotiable" (Beatty, 1999).

By choosing an "environmental" running mate in Al Gore, Bill Clinton attempted to reinvigorate US environmental leadership in 1992 in both domestic and international arenas. Prior to the Presidential campaign, Gore had published, "Earth in the Balance: Ecology and the Human Spirit", where he outlined the escalating global ecological dilemma and proposed a range of policies to address it. The landslide Republican takeover of Congress in 1994 though quelled this renewed Executive support for environmental protection. The new political direction, alternately, outlined in the conservative's plan, "Contract with America", called for a massive rolling back of federal committees and staff, negating priority for environment issues. Again, many of the policy ideas contained in the plan originated with the highly influential conservative think-tank, the Heritage Foundation. This event erected a substantive political obstacle that prevented Gore's policies to reach fruition.

Conservative opposition to climate change grew by the mid to late 1990s. Media campaigns, financed by the Heritage Foundation and other conservative organizations, constructed the non-problematicity of climate change as social problem and instigated skepticism toward global warming epistemology (Dunlap and McCright, 2003). The Global Climate Coalition,

comprised of the “Who’s Who of American manufacturers” spent \$13 million on a print and broadcast media campaign (Harrison, 2007). The so-called environmental ‘*browlash*’ had a profound impact on societal and political perceptions and deterred any prospect for sound federal climate legislation.

As a result, climate diplomacy in the Kyoto negotiations in particular failed due to domestic political gridlock. The Republican-controlled Senate emphatically declared the American position on climate change by passing the Byrd-Hagel Resolution unanimously (95-0) in 1997. The Resolution’s premise was that the US would not be signatory to any international environmental regime unless binding targets and commitments were imposed on developing countries as well. The rationale given was that the absence of such a condition would be, in turn, damaging to the US economy (Dunlap and McCright, 2003; Harrison, 2007; Tamura, 2006). This event sent a strong message to domestic and international audiences that clearly ruled out any prospect for US ratification of the Kyoto Protocol. Although Clinton had previously signed the Protocol, it was anticipated that it lacked the Congressional support to be ratified. TABLE 1 shows the distribution of campaign contributions between Democrats and Republicans from 1990-2002, the key period for Kyoto negotiations. A causal link seems to exist between the Kyoto position of the Republican-controlled Senate during George H. W. and George W. Bush’s administrations and the political party preference of a particular financial contributor.

TABLE 1:
Comparison of campaign contributions by environmental organizations and business and industry groups to Democrats and Republicans, 1990-2002

	Average percentage to Democrats	Average percentage to Republicans	PDI
Environmental	91	8	+83
Oil and gas industry	28	71	-43
Chemical and manufacturing	24	73	-49

Source: Sussman, G. (2004).

PDI: Percentage Difference Index: plus (+) = more support for the Democrats; minus (-) = more support for the Republicans

2.3.1 *George W. Bush Administration*

With the election of George W. Bush to the Presidency in 2001, the domination of conservative agenda in environmental politics was extended. Previously, as Governor of Texas, Bush changed pollution laws to privilege the

interests of power and oil companies, which turned Texas into the most polluted State in the Union⁶ (Abraham, 2000). In Bush's first term, it was clear he would reject a Kyoto agreement, "*fatally flawed in fundamental ways*", instead preferring an energy policy that touted voluntary mechanisms that did not correspond to Kyoto's commitments⁷ (Tamura, 2006). In March 2001, the US withdrew from the Kyoto process. Upon re-election in 2005, Bush pledged support for reducing carbon dioxide emissions through emissions trading and carbon sequestration programs. In the 2006 State of the Union address, Bush hailed alternative, renewable energy sources as the way to power Transport differently – through hybrid and electric cars, and ethanol - and the solution to break America's 'addiction to oil' (White House Press Release, 2006).

Once his second term unfolded, conversely, Bush abandoned any Federal climate policy that would require government involvement and negative implications for big business. Since 2000, the Bush administration has consistently questioned climate science, threatened executive veto on new Congressional proposals and thwarted fair interpretation of existing environmental statutes such as the CAA, the only federal mandate that addresses CO₂ emissions (Dunlap and McCright, 2003; and Harrison, 2007). In 2003, the EPA announced its position not include CO₂ emissions in its definition of an air pollutant within the CAA in what came to known as the Fabricant Memo. In response, state governments and environmental groups filed petitions in court to challenge the position articulated in the Fabricant Memo, which will be discussed in the chapter on climate litigation.

In November of 2006, Democrats took control of the Senate and several climate proposals have consequently been advanced. According to the Pew Center on Global Climate Change, there are fifteen major pieces of climate legislation addressing transport emissions that have either been formally introduced or in the works during the 110th Congress (See Appendix D). A clear departure from the Bush administration's politics pursued under a Republican –controlled Congress, it is unlikely any of the current proposals will be enacted in the last part of Bush's tenure. The only major law that has been passed addressing CO₂ emissions in some way is the Energy Policy.

2.3.2 *The Federal Initiative on Vehicle Emissions – The Energy Independence and Security Act*

Throughout the administration, the White House has based its overall CO₂ mitigation strategy on technological development and voluntary programs such as the Climate VISION, Climate Registry, and FreedomCAR initiative⁸ (White House Press Release, 2002). In the array of political rhetoric and policy proposals, the only concrete policy targeting transport-related CO₂ emissions is the Energy Independence and Security Act of 2007 or Energy Policy (See Appendix I. for link to full text). The policy is based on the assumption that by reducing American consumption of oil via fuel economy C.A.F.E. standards, progress can also be made on mitigating US CO₂ emissions. Throughout the

⁶ During Bush's tenure as Governor, Houston replaced Los Angeles as the most smog-ridden city in the US.

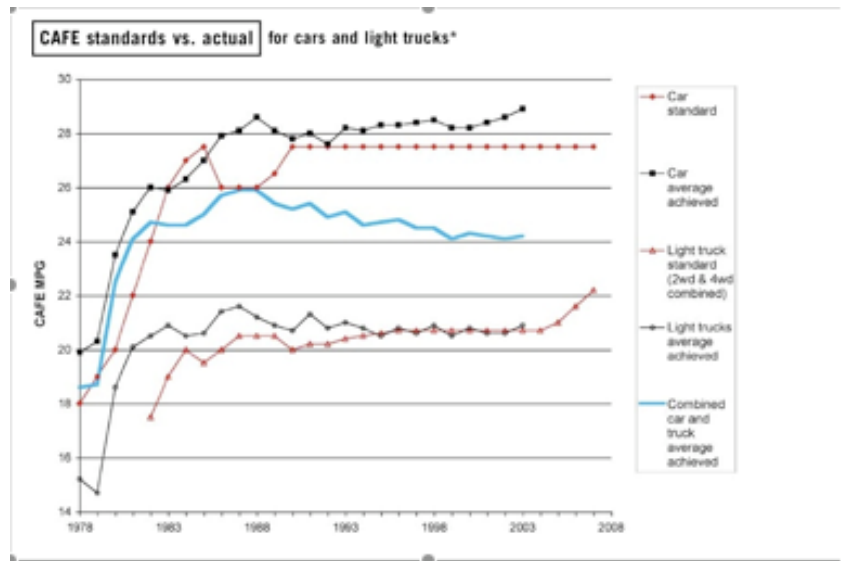
⁸ Please see Appendix I for an overview of each federal program.

C.A.F.E. section, there is a clear absence of climate verbiage and even CO2 emissions for that matter.

Fuel economy refers to the average mileage a particular vehicle model has the ability to travel per gallon of gasoline or other equivalent fuel. According to the National Highway Traffic Safety Administration (NHTSA), C.A.F.E. technically represents a manufacturer's fleet-wide - passenger cars and light trucks – sales weighted average fuel economy for the US market. The NHTSA has the direct responsibility to regulate C.A.F.E. standards whereas the EPA calculates fuel economy indicators. Similar to past administrations, Bush has only supported a single, uniform federal solution to vehicle emissions.

Since their introduction in the early 1970s, C.A.F.E. standards have been definitively stagnant in the US⁹ (NHTSA website). Fuel economy for cars has been unchanged since 1985 at 27.5 mpg and the standard for light-duty vehicles has only seen incremental change since 2004 to the 22.2 mpg standard set in 2007 (Pew Center, 2004). FIGURE 1 below illustrates the stunning statistical trends in both individual categories for cars and light-duty vehicles and combined average fuel economy.

FIGURE 1:



To provide global context, C.A.F.E. standards in the US - prior to the Energy Policy of 2007 - constituted the poorest performing regulatory regime for vehicle emissions of any advanced industrial society (Pew Center, 2004). FIGURE 2 below illustrates this point by comparing fuel economy standards in other major players in global affairs. New standards introduced in China were strikingly more stringent than not just the US but also Canada, Australia (Pew Center, 2004). The EU has the most stringent standards in place by

⁹ <http://www.nhtsa.dot.gov/CARS/rules/CAFE/overview.htm>

comparison in the world (Pew Center, 2004). It is noteworthy to point out the inclusion of California as a credible actor in the scope of Pew's report.

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

The new mandate is set to begin in 2011 and requires new light-duty – passenger and trucks - models to reach 35 mpg by 2020. If the NHTSA were to implement the measures incrementally to meet the 2020 target, the agency would need to achieve a proportional increase of 3.44% per year (California Air Resources Board (CARB), Feb. 2008). Built into the policy also are flexible instruments relating to alternative fuels credits, which are made available to manufacturers to meet fuel economy obligations.

The Energy Policy caps the vehicle weight component included in the standard at 8,500 lbs, therefore high selling (high polluting) models in the market like GM's Hummer and Ford's Excursion are considered heavy-duty and not covered by the regulation. In this context, it is striking to note that there is not a national fuel economy standard for heavy-duty and commercial vehicles (HR6 Energy Policy text).

3. ENVIRONMENTAL FEDERALISM

Environmental politics in the US can be articulated most appropriately by the concept of environmental federalism, which refers to how environmental problems should be regulated within a federalist system (Kelemen in Fraure and Vig, 2007; Oates, 2001; Alder, 1996; Revesz, 2001; Esty, 1996; and Farber, 1997). Contentious debate abounds in academic and professional circles regarding the nature and extent of the term as it gradually modifies with new events and information. Since federalism comprises multiple levels of government with diffused regulatory responsibilities, it has the potential to create a problematic space for policymakers and affect other stakeholders from government agencies, private sector, and civil society. Exploring these dimensions will reveal central arguments for centralized and decentralized decision-making and enforcement and advance the notion of *laboratory of innovation*, *democratic experimentalism*, and *judicialization*, which combine to explain modern US environmental politics.

3.1 *A Conceptual Understanding*

In order to conceptualize environmental federalism, it is important to begin with a concrete understanding of federalism as a political order. Federalism refers to a system of the government in which the power to govern is distributed between a central governing authority (national government) and constituent political units (state, provincial, or local government) (Dwyer, 1997; Fischman, 2006; and Weiser, 2001)¹⁰. Viewed in a positivist manner, scholars typically analyze federalism by its overall power structure through the notion of *dual federalism* rather than a normative bias focused on favoritism of states' rights. Dual federalism contends that each government entity, state and federal, acts independently on policy design, implementation, and enforcement without aligning their efforts, maintaining their respective sovereignty whereby the spheres of authority do not overlap (Weiser, 2001). In this literature, the fundamental relationship between the two levels is generally understood as *cooperative federalism*, a variant of dual federalism, whereas the inter-governmental relationship is worked out principally through the enactment of statutes and actions taken by agencies (Fischman, 2006).

The work of Daniel Kelemen, one of the leading scholars of environmental federalism, lends a useful analytical lens in which to unpack the complexity of federalism in environmental regulation. According to Kelemen, environmental federalism refers to the political choices that dictate the division of regulatory authority across the federal level and its allocation between state and federal agencies to ensure enforcement in environmental issues (Kelemen, 2007). In theorizing the evolution of US regulatory federalism dealing with environmental issues, Kelemen argues for two central dimensions salient in federalism: the politics of competence and the politics of discretion. The first category, the politics of competence, refers to the basic power division that exists in federalist systems whereas between the two levels, the federal government assumes the leading role in policymaking and the state

¹⁰ For analytical purposes, a distinction has been drawn between various levels of government whereby this paper will focus on the critical relationship between state and federal bodies in a federalist polity and not on the nature at provincial or local levels.

government directs implementation of federal law (Kelemen, 2000). The assumption being that the federal government is more advanced in policy ideas and strategies than states and therefore acts as the regulatory innovator drawing from superior competencies, resources, and scale.

In the second dimension, the politics of discretion, the degree of fragmentation within the federal government correlates to the extent of discretion bestowed upon state agencies for implementation duties (Kelemen, 2000). Kelemen argues that where a weak and pervasive divide of authority exists, typically found in decentralized political systems based on separation of powers, limited discretion will be allowed to states in implementing federal law. Furthermore, the division of power between executive and legislative branches provides for a larger role for the judiciary to play in mediating differences in regulatory styles and enforcement. Inclusion of the courts entails a pronounced space for adversarial litigation to thrive as a method in which federal authorities can ensure compliance.

A federal institutional structure would, in principle, comprise a division of authority with a clear classification of responsibilities between the two government layers. Unlike other regulatory arenas, the notion of environmental federalism in terms of cooperative federalism is still nascent and under-developed perpetuating ill-defined roles that are culpable for political conflicts that potentially arise consequently¹¹. To be sure, the range of environmental issues within US cooperative federalism at one extreme pesticide labelling and defense-generated nuclear waste as national regulatory issues and at the other land-use regulation, water rights in private property traditionally are given to states' authority (Fischman, 2006). An important guiding question to keep in mind then is, "which government level is best suited to ensure socially-optimal environmental protection?" Without attempting to provide an answer, we turn to the contemporary debate on environmental regulation – stemming from the historical experience of the EPA – to understand both arguments for centralization and decentralization.

3.2 *Roots of Environmental Federalism – Arguments for Centralization*

The theoretical basis that initially underpinned environmental federalism, referred to as 'first-generation' literature, can be traced back to the regulatory and enforcement challenges that arose out of the post World War II industrial boom in the United States (Esty, 1996). For analytical brevity, this section will explore the arguments for centralization by examining the environmental regulation, more specifically air pollution control that grew out of the 1960's environmental movement in the United States¹². The creation of the EPA in 1970 by President Richard Nixon signified the institutionalization or *federalization* of concentrated regulatory power by the federal government (Esty, 1996).

According to Daniel Esty, three basic justifications for centralized environmental regulation emerged in this period: 1) interstate spillovers of

¹¹ See Fischman's explanation of the development of cooperative federalism in the fields of telecommunication regulation, public utilities regulation, Occupational Safety and Health Administration (OSHA), Medicaid, and hate crime enforcement.

pollutants; 2) poor performance of states as environmental regulators; and 3) interstate competitiveness that raced to lower state environmental standards (Esty, 1996). In addition, the work of Richard Stewart offers a two more reasons to complete the debate on centralization: 1) to address the tragedy of the commons and achieve national economies of scale; and 2) to obtain the advantages of pursuing moral ideals and the ‘politics of sacrifice’ on a national plane (Stewart, 1977). To combat these problems, the underlying assumption was that a single, uniform national policy could match state need effectively. It is widely recognized that the Clean Air Act of 1970 and the Clean Water Act (CWA) of 1972 marked the definitive shift of regulatory authority to the hands of federal regulators previously the domain of states (Esty, 1996; Farber, 1997, Kelemen, 2007; and Oates, 2001).

The starting point in Esty’s analysis and indeed that of many scholars was the aforementioned ‘race-to-the-bottom’ dynamic. In regulatory terms, the race-to-the-bottom concept refers to how states compete to minimize their environmental standards insofar as to attract more investors to spur a state’s economic activity (Esty, 1996). His second main point identified the pronounced gap in the literature on the most appropriate to account for pollution sources and environmental externalities. In this regard, the spillover effect refers to waste, air and water contamination - seen inevitably as cross-boundary in nature - that arises out of (lax) environmental standards in one state –whereby failing to curb their respective polluting activities – and transpose onto a neighboring state (or jurisdiction) (Esty 1996; Oates, 2001). Also, Stewart argued that sweeping national policies - benefiting from economies of scale - are more effective to control the spillover effect phenomenon. Lastly, Stewart went further suggesting moral obligations could be incorporated into the national level through a single federal policy and filter down to the lower governing levels (Stewart, 1977).¹³

Inasmuch as the above factors indeed contributed to support regulatory centralization, other critical perspectives exist. Many scholars suggest the centralization trend also reflected the automobile industry’s preferences for uniform, national environmental standards that alleviate (unnecessary) costs that arise from varying state requirements (Elliott et al, 1985). Although the industry is not homogeneous, it does share a common preference for similar and predictable (minimal) standards to abide by in their business models. Furthermore, these authors contend that the presence of (fifty) varying state processes would have compounded to weaken a fragmented, systemic arrangement in early environmental federalism and entail implications in the fora of international environmental negotiations. This plausible occurrence would have thereby questioned the necessity for multiple (state) actors in the regulatory arena discrediting altogether bottom-up forces in regulation (Elliott et al, 1985).

3.2.1 Early Centralized Regulation -The Experience of the EPA

The early experience of the EPA illustrates the application of centralized environmental regulation and provides lessons that spurred calls for

¹³ Stewart continued in his argument suggesting that moral obligations that resonate down to citizens will thus improve citizen’s responsibility to one another.

decentralization. Establishing the new federal agency in 1970 entailed many organizational and jurisdictional issues. Upon inception, all existing environmental protection programs were transferred to the jurisdiction of the EPA and it operated as an independent, executive agency reporting directly to the President. Firmly guided by President Nixon's close hand expanded field offices, staff, state and federal representatives, institutional capacity, and operating budget during the 1970s¹⁴. Furthermore, requirements set forth by the CAA and the CWA compelled states to vastly improve their capabilities by increasing staff support and skills and tighten fiscal management. Nevertheless, the mounting incongruence of programs and disparity in capacity of branch offices deemed the EPA ineffective in realizing its overall bold mandate¹⁵. As a result, environmental protection was not enhanced by a centralization of regulatory duties and, in contrast, suffered by its direction on a national scale.

Besides operational issues that resulted due to federal control, the robust policymaking of 1970s cemented the jurisdictional power dynamic in state-federal relations (Kraft, 2000). Insofar as the rigorous demands of major federal statutes such as the CAA forced states to vastly improve capacity to meet federal obligations, this requirement, in turn, produced negative consequences. The most significant outcome observed was the infeasibility of forcing states to implement a federal program – diverting state financial resources - with little relevance to state circumstances. It became increasingly recognized that states greatly differ by their environmental conditions, climate, weather, emissions levels, policy approaches and priorities and this diversity may be a source of benefit¹⁶ (Esty, 1996). Since federal authorities assumed state regulators to be inundated with corrupt behaviors, resistant to change, and unwilling to risk displeasing their economic citizenry, the EPA's top-down command intensified as a result. Instead of ameliorating the working relationship explained by (cooperative) environmental federalism, distrust and skepticism became rampant. This skepticism echoed through academic and political circles and calls emerged for the decentralization of authority to the state level whereby states could be the (potential) 'new heroes' of American environmental federalism (Kraft, 2000).

3.3 *'New' Environmental Federalism – Arguments for Decentralization*

Even before the durability of the centralized enforcement argument could be fully tested, scholarly thought quickly emerged to question its validity and began to advocate decentralized enforcement¹⁷. This literature, called 'second-generation' thought, has long dominated the debate and its core, underlying assumption points to the problematicity of establishing a single, comprehensive national approach to environmental regulation (Esty, 1996; Oates, 2001; and Revesz, 2001). The tenets of decentralized regulation are

¹⁴ In the 'environmental decade', the EPA's operating budget grew from \$500 million in 1973 to \$1.3 billion in 1980. In the same period, full-time staff numbers nearly doubled to 13,000 employees with nearly two-thirds of them spread out in the regional field offices. (Kraft, 2000).

¹⁵ The EPA's actual mandate failed to clearly define the agency's objectives and since it often became involved with projects and programs that differed from its core objectives, the EPA's credibility was jeopardized within other government branches (Kraft, 2000).

¹⁶ Federal law was based on the assumption that environmental issues were basic in character having straightforward solutions that were unproblematic to implement (Kraft, 2000).

¹⁷ The experience of the EPA was certainly only one expression of the regulatory authority debate.

attributed to the validity of claims for state diversity and the lack of any substantive, convincing empirical evidence of a race-to-the-bottom. Second-generation thinking focuses on five arguments for decentralization: 1) benefits of diversity and diseconomies of regulatory scale; 2) arguments for regulatory competition and against race-to-bottom fears; 3) public choice claims regarding representativeness of decentralized decision-making; 4) rejection of morality-based arguments for federal regulation; and 5) an implicit assumption that transboundary pollution spillovers are insignificant (Oates, 2001; Revesz, 2001).

According to this literature, there are several factors that dispel the foundational assumption of first-generation (centralization) thought that national policy can match state need (not in any corresponding order to the above arguments). First of all, states vary in their activities that contribute to climate change and environmental problems that occur do so over a range of time and spatial dimensions causing varying impacts on human health and ecological quality¹⁸. Second, state compliance costs had been greatly increasing and diverting state resources to meet federal conditional demands was illogical because of inadequate federal programs. Lastly, uniform national standards that incur more costs than benefits are less efficient and rather inappropriate to reach optimal regulation for local conditions (Adler, 1996). This critical second-generation literature was supported through the experience of the Reagan and Bush Sr. administrations. For example, the excessive centralized regulation prior to the Reagan years compounded during his administration to deliver two consequences: 1) underestimation of state compliance costs; and 2) implementation challenges in applying uniform to a range of diverse industries¹⁹.

3.3.1 *Benefit of Decentralized Regulation – States as ‘Laboratories of Innovation’*

“It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.”

Justice J. Brandeis dissenting in the case of *New State Ice c. v. Liebman* (1932)

It is important to return to the first and most convincing tenet of decentralized environmental regulation that promotes the benefits of individual state uniqueness within federalism. In the Brandeisian tradition, states have been increasingly seen as *‘laboratories of innovation’* or *‘laboratories of democracy’* whereas they can serve as a innovative testing ground for policy and program experimentation²⁰ (Adler, 1996; Engel, 2007). Dorf and Sabel advance further the notion of *‘democratic experimentalism’* suggesting that government institutions, in terms of environmental regulation, can draw from particular successes and

¹⁸ Therefore, it is increasingly important to recognize these differences and varying state competencies available to address them.

¹⁹ The implementation experience by states in this period disputed arguments for rule harmonization as a policy ideal.

²⁰ See Appendix III for a brief description of *New State Ice Co, v. Liebmann* in which Justice Brandeis made this assertion.

innovations from either the private sector or other government levels (State Legislature or agency) if a certain degree of policy discretion is forwarded. Therefore, in the US context, these 'green' laboratories of democracy may advance new ideas and approaches onto Washington contributing to the development of the next wave of environmental policy, practices and standards (Adler, 1996).

From the federal government's perspective, there is certainly a strong argument as to the benefits state experimentation can provide. Allowing states a great deal of flexibility can save considerable effort and financial resources on the part of federal authorities potentially outweighing the new set of challenges it entails. To be sure, decentralization allows democratic space for deeper policy development and opens up a range of choices to state citizens to satisfy their individual environmental preferences when posited against other societal debates such as the economy (Adler, 1996).

3.4 *Environmental Federalism in Other Contexts – Canada and Australia*

Insofar as considerable conceptual development has occurred in the United States, environmental federalism takes a nuanced form in other contexts. Practical experiences across Canada and Australia share many similarities with the US involving regulatory power and jurisdiction, however, the most significant distinction exists in the politics of discretion. The source of this difference can be traced in large part to the institutional design of the central government whereas Canada and Australia both are characterized by parliamentary systems and the US is founded on separation of powers. Historically, lawmakers in both Canada and Australia prefer to enact ambiguous legislation that act as 'enabling' statutes allowing a great degree of discretion on behalf of state agencies charged with implementation. There is a great deal of confidence across all government branches to follow the executive's setting of common environmental goals, therefore, the judiciary takes a backseat role discouraging litigation (Kelemen, 2000). This opposes the US-style of action-forcing requirements and non-discretionary commitments that cause a more contentious space for environmental enforcement. In essence, the development of environmental regulation overtime in Canada and Australia - although not immune to conflict - has invariably exerted a less judicialized nature.

3.5 *Judicialization*

The institutional hierarchy within the practice of environmental federalism presents further challenges beyond the allocation of authority. The extent to which the federal government can enforce compliance of federal law is based upon the legal tools explicitly available. According to Kelemen, the fragmentation of power inherent in horizontal intra-federal and vertical state-federal relations commonly results in stringent, action-forcing law and also in arduous, adversarial litigation as the primary method to ascertain compliance from states. This theoretical reasoning underpinned the origins of what Michael Howlett called the legalization or *judicialization* of US environmental politics (Howlett, 1994). In the contemporary climate debate, as result of the US political economy presented earlier, judicialization has come to reflect the

limits of the politics of discretion whereas state agencies with minimal flexibility turn to a litigious approach to settling policy differences. Thus, an increasing reliance on the judiciary as a prominent independent actor in mediating climate politics has occurred.

The process of judicialization is explained by Howlett in describing the extent of openness of the US government regulation²¹. According to him, unlike closed and informal processes of the environmental policy process in other countries from Canada to Europe, the US is characterized as largely open and inclusive of a range of actors. Beyond the traditional presence of business and government, the formal US legal process includes environmental NGOs and individual citizens that constitute new degrees of representation and right to contestation (Howlett, 1994). Such access for a plurality of actors to an open system encourages legal recourse to ensure compliance of environmental statutes. TABLE 2 below illustrates this point by depicting the amount of court cases brought in relation to the most important statute referenced in the period of 1980-1989 alone. The statistics can also be interpreted to show the importance of the CAA being utilized in litigation well before the climate change issue propelled to the mainstream and at the top of political priorities.

TABLE 2
ENVIRONMENTAL LITIGATION IN THE UNITED STATES, 1980-1989, BY STATUTE UTILIZED

Type of statute	No. of cases	Percentage
Federal Water Pollution Control Act	741	25.2
National Environmental Protection Act	620	21.0
Clean Air Act	441	15.0
Comprehensive Environmental Response, Compensation and Liability Act	351	12.0
Resource Conservation and Recovery Act	180	6.1
Surface Mining Control and Reclamation Act	111	3.7
Federal Insecticide, Fungicide and Rodenticide Act	68	2.3
Rivers and Harbours Act (1989)	56	1.9
Endangered Species Act	52	1.7
Safe Drinking Water Act	29	1.0
Others	293	10.0
Total	2,942	100

Source: The Bureau of National Affairs, *Environmental Report—Cases* (Washington, D.C.: Bureau of National Affairs, 1980-1989), Vols. 13-29.

Therefore, it is the process of judicialization that has emerged in the past 20 years as the dominant strategy for environmental enforcement, beyond traditional top-down forms, transforming climate politics in the US and in other contexts – Canada and Australia - to more adversarial orientations. An

²¹ In US legal action can be taken directly against individual polluters and also private parties can bring litigation against both state governments and polluters.

adversarial approach not only suggests implications for state performance, as historical experience shows, rather may imply enhanced performance by federal authorities and the private sector. In fact, all actors have increasingly used judicialization as a strategy against each other to pursue their agenda. Hence, judicialization functions as a concept instrumental to understanding climate politics today in the US and can provide lessons for other relevant contexts such as beyond Canada and Australia as in the EU, Brazil and India.

4. CALIFORNIA: A Leader in Climate Change Policy

Introduction

Since the political economy of US environmental issues and the analytical lens of environmental federalism have been established, the story of state climate initiatives will now unfold in the context of California. Despite the current absence of a federal climate policy, California has made a definitive imprint on the regulatory area, specifically dealing with adverse ambient air effects of motor vehicle emissions. The progressive approach to policy by the California State Legislature is result of historic state air quality problems and a range of well documented consequences stemming from rising temperatures, which include droughts, fires, rising sea levels, and mudslides. Indeed, California has long had experience in air pollution policy strengthened by the state air regulatory agency, CARB, which, at times, has challenged and influenced Federal policymaking. The enactment of the landmark Pavley Law (AB 1493) in 2002 solidified California's long pioneering leadership and shifted the state's focus to addressing climate change. As this chapter recounts, Pavley has met deep opposition, however, by powerful federal government officials and automotive actors.

4.1 Early population and economic growth, mounting smog, and the need for legislation

California's efforts to combat air quality issues were sparked by the rapid urban growth that combined with the accelerated economic development of the Los Angeles Basin area during the 1940s²². Since urban planning was inadequate in the Basin and not conducive to the geographical and climatic conditions, the massive industrial expansion that was occurring led to mounting human health problems²³ (Gonzalez, 2002). In addition, patterns of automobile acquisition from the prior decade continued into the 1940s, marking a 33% increase in registration, and making air pollution worse. The economic gains that could be realized by this great urban development and greater automobile presence were quite promising yet surmounting air pollution posed a significant challenge to future growth and sustainability.

By the 1950s, deteriorating air quality and the emergence of *smog* became an unacceptable nuisance to citizens and public and private societal actors. According to Gonzalez, societal elites began to recognize that poor air quality not only adversely affected public health but it also damaged future economic prospects. In his perspective, air pollution abatement regulation can be understood as “a legal infrastructure that helps attract capital, and ultimately facilitates and promotes growth, much like education and transportation infrastructure does” (Gonzalez, 2002). It can be inferred then that the nature of the regulatory approach were shaped with the interests of business in mind, a point relevant to the later discussion on US climate politics and opposition to Pavley.

²² From 1940 to 1950, LA County's population nearly doubled from about 3 million people to over 5.5 million (Gonzalez, 2002).

²³ The industrialization boom also brought highly polluting industries to the Basin in the form of petroleum refineries and steel manufacturing.

In fact, initial efforts to advocate air control legislation were spearheaded by prominent, local economic elites in Los Angeles County. The influential editor of the LA Times, Norman Chandler, organized the early anti-smog campaign all the while promoting the economic derivatives of such legislation. Chandler formed an advisory committee of scientific experts and acquired the political support of the Automotive Club of Southern California, the Los Angeles Chamber of Commerce, and the Pasadena Chamber of Commerce. Moreover, all major petroleum (energy) companies – Standard, Union, Texaco, General Petroleum, Shell, and Richfield – were consulted and their position concluded that it was, “in the best interest of the community and *its future prosperity* that the legislation be not opposed”. As a result, the key recommendations of Chandler’s committee were presented to the California legislature and on June 10, 1947, Governor Earl Warren signed into law the Air Pollution Control Act (APCA), the first of its kind in the US.

After the enactment of this momentous legislation, California embarked on a path of advanced policymaking in this area based on a technology-forcing approach. This active period culminated in 1960 - in the absence of federal attention to automotive air pollution - when the California Legislature passed the world’s first automobile emissions control legislation: the Motor Vehicle Pollution Control Act (MVPCA).

State environmental legislation by California in a national context was progressive to a certain extent often preceding any federal law (Board on Environmental Studies and Toxicology, 2006). Inspired by California’s APCA, the federal Air Pollution Control Act was later passed in 1955. Then, the Federal government enacted the Motor Vehicle Air Pollution Control Act in 1965, following California’s lead (Board on Environmental Studies and Toxicology, 2006). Years later, the California CAA (CCAA) signed by Governor Deukmejian in 1988 set forth the framework for major federal amendments in 1990 (Board on Environmental Studies and Toxicology, 2006). Furthermore, the Porter-Cologne Act - the basis of the California’s water quality program - served as the model for the federal Clean Water Act. Thus, a significant recurrent theme in state-federal environmental relations with California’s laws pre-dating federal policy implies policy convergence from the bottom-up and an absence of federal policy leadership.

4.2 *The Establishment of the California Air Resources Board (CARB)*

The proliferation of air quality policymaking in California necessitated the creation of a single, consolidated state agency to oversee the complexity of the array of programs. In 1967, California’s Legislature passed the Mulford-Carrell Act to establish the California Air Resources Board (CARB), which combined two Department of Health bureaus - the Bureau of Air Sanitation and the Motor Vehicle Pollution Control Board – formally locating the bureau under the wing of the CalEPA.

From its origins, CARB has had an advantageous organizational design by maintaining financial and operational independence from California Environmental Protection Agency (CalEPA) and federal EPA. Only a small percentage of CARB’s financial resources come from the EPA, the lowest out of any state agency. The Board’s annual operating budget is \$750 million as of

2007, of which a majority is generated by user fees (pollution permits) and smog checks (CARB website). Since its ample finances are independent, CARB enjoys a great deal of political autonomy and, in this sense, can be viewed as a normative case of environmental federalism.

To implement California's policy achievements has required a lean, competent administrative staff. As of 2008, CARB employs roughly 1,200 engineers, scientists and attorneys from domestic and foreign talent pools (CARB website). Brown et al argue that CARB is "the most capable state agency in the US". Indeed, California's climate leadership can be attributed in large part to CARB's organizational capacity, financial independence, and political autonomy.

With a firm bureaucratic agency in place, policy innovations have emerged over the following decades assured by CARB's regulatory expertise. Some of the most significant vehicle technologies originating in California include catalytic converters, hybrid engines, Low-emission (LEV) and Zero-emission Vehicles (ZEV), and unleaded gasoline²⁴. In 1999, the CARB also approved a rule that banned MTBE, an additive in gasoline²⁵. Beginning with early policy innovations (MVPCA, CCAA, CCWA) to new vehicle technologies, California has played a primary role played in US environmental regulation.

4.3 *California's Initiative on Vehicle Emissions – The Pavley Law*

Devoid of a Federal climate policy, the most notable occurrence over the past ten years has been the strong sub-national response led by California. Admittedly, the decline of the top-down environmental federalism of 1970s served, to a large extent, as a pre-condition for strong state efforts. Since the late 1990s, an array of regional and state initiatives have emerged that pose a substantial challenge to Federal legitimacy on climate change. Significant sub-national initiatives include California's AB1493 (or Pavley Law) of 2002, the Regional Greenhouse Gas Initiative (RGGI) of 2003, the West Coast Governor's Global Warming Initiative (WCGGWI) of 2003, California's AB32 (or Global Warming Solutions Act) of 2005, and the Western Climate Initiative (WCI) of 2007 (Please see Appendix II for further details on each initiative). The only mandatory regulation exclusively targeting GHG emissions from vehicles that does not include any trading mechanism is California's Pavley Law (See Appendix II. for link to full text).

Signed into law in August 2002, the Pavley Law directed the CARB to develop measures to significantly combat GHG tailpipe emissions derived from mobile vehicle sources. According to the statutory text, Pavley recognized that, "California has a long history of being the first in the nation to take action to protect public health and the environment and the federal government has permitted the state to take those actions". Opposed to the Federal belief in addressing fuel consumption, California focuses directly on tailpipe GHG emissions as the most relevant unit of analysis and effective solution to achieve this policy goal. Regulations were developed over the

²⁴ See Brown et al (among others) for an elaboration on California's ZEV mandate (1990), later defeated controversially.

²⁵ See 336 F.3d 965 (9th Circuit 2003) for the ruling in *Davis v. EPA*, which marked the first time California asserted its right to regulate in a modified way under the CAA.

following two years and were scheduled to be effective on 2009 new vehicle models.

In CARB's scenario planning, Pavley's full implementation was estimated to account for a 30% GHG reduction by 2016 (CARB Fact Sheet, 2004). This end result would be achieved by a regulation capping tailpipe emissions at 323 CO₂Eq g/mile by 2009 and 205 CO₂Eq g/mile by 2016²⁶. In terms of CO₂-equivalent savings, a paramount 87,700 mt would be mitigated per day by 2020 (CARB, Feb. 2008).

(Please refer to the figure presented in chapter two contained in the section on the federal Energy Policy to put these numbers in contexts).

Consistent with California's tradition of technology-forcing measures, Pavley requires and automakers to build smarter vehicles through enhanced technologies such as variable valve timing, turbo-charging engines, and improved air-conditioning systems. Incentives are provided to ease the initial cost impact of technology investment and ensures car manufacturers that greater benefits will be reaped in the long-term as a result.

The landmark Pavley Law was the first and only of its kind at the time in the US at any governing level (Broder, 2007). Moreover, it was the first piece of legislation in the US to formally declare CO₂ as a GHG, effectively linking vehicle emissions to climate change²⁷ (Pavley text). Immediately, fourteen other states and Canada moved to adopt Pavley's standard and have since developed regulatory programs²⁸ (CARB, Feb. 2008). Pavley's ambitious aim to drastically change business-as-usual produced implications, in turn, for government, automotive, and technology entrepreneurs that reached state, national, and international extents.

In the statute, Californian lawmakers already anticipated claims of federal pre-emption. Pavley addresses this argument in stating, "It is the further intent of the Legislature that the greenhouse gas regulations take effect in accordance with any limitations that may be imposed pursuant to the federal Clean Air Act...as amended by the federal Clean Air Act Amendments of 1990...and the waiver provisions of the federal act" (Pavley text). The law also had the foresight built in to show support for state-federal collaboration while asserting California's regulatory importance whereby, "If the federal government adopts a standard regulating a greenhouse gas from new motor vehicles that the state board determines is in a substantially similar timeframe, and of equivalent or greater effectiveness as the regulations that would be adopted pursuant to this section, the state board may elect not to adopt a standard on any greenhouse gas included in the federal standard" (Pavley text).

With an annual gross state product of USD\$ 1.7 trillion, the state of California is the world's tenth largest economy on par with major European countries like Spain and Italy²⁹. Of America's total 22% share of global GHG emissions, California contributes 6.2% or 367 million mt in 2004 (Energy Information Administration or EIA, 2007). Similar to the US national figures, California's transport sector alone contributes one-third (38%) of all state

²⁶ The CO₂ equivalent figures comprises of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydro fluorocarbons (HFC).

²⁷ See Appendix II for link to Pavley's text.

²⁸ States adopting Pavley's rules include: Connecticut, Maine, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, Washington, Maryland, and New Mexico.

²⁹ Figure is according to CIA World Factbook of 2007.

GHG emissions and represents the largest growing sector in terms of aggregate terms (California's Climate Change Portal). According to the Pew Center, California represents 30% of all automobiles sold in North America (Pew Center, 2004). Air pollution in California has been identified as 'extreme' by the EPA with nine of the twenty poorest air quality regions in the US found in the state (California's Climate Change Portal). Light-duty vehicles account for 70% of the LA Basin's air pollution and the number of cars registered has increased by 30% since the late 1980s (California's Climate Change Portal).

4.4 Opposition to State Climate Initiatives –Federal Officials and Automakers

Federal opposition to state climate change regulation has mainly taken two forms. First, the EPA determined that the prevailing CAA text did not provide the authority for CO₂ regulation and their decision had clearly been articulated since a series of memorandums in 2003 by EPA general counsel Robert Fabricant established their interpretation of the statute (Winters, 2004). Moreover, the agency declined to regulate GHG as 'air pollutants' if the CAA were to authorize it, instead opting for a different policy approach. The EPA's decision reveals two relevant factors: 1) the definition of an air pollutant's public harm; and 2) EPA reliance on the Administrator's 'judgement'.

To regulate carbon dioxide, the gas must meet the criterion of an 'air pollutant' under the definition in the CAA. According to section 202, the Administrator must find that 1) emissions of the pollutant, 'cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare' and 2) the presence of the pollutant in the ambient air results from numerous or diverse mobile or stationary sources³⁰. The original Fabricant memo and subsequent EPA communiqués do acknowledge that CO₂ can be considered a GHG and that GHG do ultimately cause climate change. However, the EPA has never established that GHG pose a risk to cause direct harm on the public. Hence, the EPA can only be obliged to regulate CO₂ if the CAA explicitly provides for regulation of climate change per se and they argued that it clearly was not included (Winters, 2004).

4.4.1 The Decisive Factor: EPA denial of California's waiver

The second and decisive check the EPA subjected Pavley to deals with California's special waiver included within the CAA. In December 2007, EPA Administrator Stephen Johnson denied California the exemption waiver for the first time in history and questioned the merits on which California's request was based (Litz, 2008). Under the CAA provision 209, California is authorized to establish its own measures that are, "at least as protective...as applicable Federal standards". In the waiver denial letter, Johnson concluded that California, "in light of the global nature of the problem of climate change...does not have a 'need to meet compelling and extraordinary conditions'". Johnson continues by stating, "I firmly believe that, just as the problem extends far beyond the borders of California, so too must be the

³⁰ Currently, the EPA considers six air pollutants to meet the criteria as pollutants under the CAA, there are ozone, particulate matter, carbon monoxide, sulphur dioxide, nitrogen dioxide, and lead. Once an air pollutant is identified to meet the criteria, the EPA must set national ambient air quality standards (NAAQS) for that pollutant. See NAAQS at <http://www.epa.gov/air/criteria.html>.

solution. Congress has recognized the need for very aggressive yet technically feasible national standards to address greenhouse gases and energy security by passing the Energy Independence and Security Act³¹. Therefore, Johnson implicitly confirmed that the EPA supports a different policy approach that advocates a single, uniform federal standard based on fuel economy rather than interpret the statutory text of the CAA in question and the merits of California's request. Also, the denial letter claims that Pavley would only amount to improving fuel economy to 33.8mpg by 2020 as opposed to the Federal target of 35mpg outlined in the Energy Policy. In response, CARB strongly disputed the claim invalidating the accuracy of EPA's calculations insofar as the methodology is never identified³².

Federal opposition to California's initiative was not exclusive to the EPA. In September 2007, evidence surfaced that revealed a lobbying campaign directed by Bush's transportation secretary Mary Peters to defeat support for the Pavley Law (Coile, 2007). The campaign sought out Gubernatorial and Congressional sympathizers from states – Michigan, most notably - reliant on automobile manufacturing and associated industries. It actively urged a blocking of California's efforts in line with the long-held federal position of opposing state piecemeal regulation. In her defense, Peters snapped back to critics upholding the counter-initiative by calling it, "a legal and appropriate outreach and a routine component of policy development" (Coile, Z., 2007).

To take advantage of the impasse, US automakers quickly jumped to the defense of federal authorities. Clearly one of the most affected actors by Pavley's requirements, influential domestic automobile manufacturers, primarily the 'Big Three: GM, Ford, and Chrysler along with members of the National Automobile Dealers Association, Engine Manufacturers Association, and Truck Manufacturers were threatened by how Pavley would force a change in their business model. Firm emissions reduction called for by Pavley would necessitate costly technological research and development in cleaner, efficient automobiles. Although American automakers already engage in the continuous development of a range of technologies, they tend to be reluctant to rollout full production plans until sufficient consumer demand is demonstrated³³ (Taylor, 2005). Moreover, automakers argue that costs incurred by further technological requirements would greatly affecting the retail purchase price to consumers (Hakim, 2004). This increase would, in turn, negatively impact sales sending repercussions through the Industry in general.

Besides these objections, automakers cleverly presented the repercussions that regulation such as the Pavley Law would have on US engagement in international climate negotiations. According to them, Pavley essentially impedes presidential foreign affairs' power since if there were fifty states potentially implementing their own standards with varying requirements, any leverage the US would bring to the negotiation table would be fragmented. Differing (competing) sub-national polices would jeopardize - more than single

³¹ See Administrator Johnson's letter at: www.epa.gov/oraq/climate/20071219-slj.pdf

³² CARB reports in GHG grams per mile that implies a different calculation methodology difficult to emulate and translate qualitatively into federal fuel economy terms (miles per gallon) for comparative reasons.

³³ This is precisely the same rationale that derailed California's ZEV mandate.

national policy - any prospects for harmonization with future commitments of international climate change agreements³⁴.

As it has been demonstrated, Federal official supported by US automakers have ardently and systematically fractured the rise of state climate initiatives as in the case of California's Pavley Law. The waiver denial was the foremost expression of Federal hijacking efforts and represents the EPA's obstinate stance, under the Bush administration, towards state initiatives and the perceived regulatory and political threat that they invariably present.

To counter Federal opposition, California has armed a technical and legal resistance. Beyond pointing to the waiver request's historical record, California has strengthened its fight for the waiver right on more compelling grounds. Specifically, California points to the CAA text that explicitly calls for California to, "establish more stringent standards applicable to emissions covered by Federal standards *and* standards applicable to emissions *not* covered by Federal standards"³⁵. This declaration has been viewed as unmistakable legislative support for California to serve as, "an innovative laboratory, offering cutting-edge regulation that other states can adopt" (Chanin, 2003).

All in all, this conflict has invigorated the debate among all actors defining policy preferences and political allegiances. With marked differences on both sides, an onslaught of climate change litigation has come forward leaving the ultimate decision to the politically insulated Judiciary. The following section will discuss the most prominent cases significant to the climate debate.

³⁴ The foreign policy argument relates to basis of *Big Six v. Witherspoon* whose ruling is pending the Massachusetts decision discussed in the chapter on climate litigation.

³⁵ The actual text is found in the committee report accompanying the enactment of the 1967 CAA in the section on California's waiver provision. See H.R. Rep. No. 90-728, at 21 (1967).

5. CLIMATE CHANGE LITIGATION

5.1 *Summary*

After having presented California as a key actor in the architecture of US climate politics, this section will build upon previous chapters by briefly illustrating the notion of judicialization – introduced in the theoretical section – through the eruption of climate litigation over the past few years. Rather than mulling through the details of each case, a simple summary will be provided in order to highlight the outcomes of judicialization. Given the uncompromising interplay in climate change between state and federal regulators and automotive associations, I argue that courts have emerged as a central arena for US climate politics specifically beyond the broader air and water pollution acts contained in TABLE 2 found in the third chapter. The judiciary now plays an augmented, essential role for mediating differences.

Representing state initiatives, California is the foremost catalyst of active climate engagement leading other states into the fight for US climate policy. However, litigation is certainly not only instigated by states like California. The EPA and coalitions of automobile manufacturers - representing major brands such as GM, Ford, Toyota, Daimler Chrysler, Honda, and Nissan - equally see the capability of judicialization as a tool to protect their position. Insofar as states aim relentlessly to induce suitable national action on the one hand and federal authorities along with automakers fervently respond to quell the rise of state initiatives on the other, no other tool remains available other than a legal response to either induce policy or proper statutory interpretation or evaluate the legal standing of state climate initiatives.

In Justin Pidot's survey of climate change litigation in the US, existing cases were found to have basic commonalities ascribed to all types of litigation. Pidot concisely organized cases in the following four broad categories: 1) Clean Air Act suits, whereby courts are asked to interpret existing (public) laws and statutes as in the case of *Massachusetts v. EPA*, hereinafter *Massachusetts*; 2) National Environmental Policy Act (NEPA) suits, typically dealing with the inclusion of environmental impact assessments into government contract projects; 3) nuisance suits, which claim that GHG polluters are creating a common-law nuisance by contributing to climate change and ask the courts use their power to punish said violators as in the case of *California v. GM Corp., et al*, hereinafter, *California*; and 4) pre-emption suits, filed by Industry actors typically automakers or other affected actors against states like California with firm emissions standards as in the case of *GM, et al. v California*, hereinafter *GM* (Pidot in Dahl, 2007).

In the section below, the key decision made in the principal cases of each type of climate change litigation, with exception to NEPA suits, will be presented to understand their significance and implications, in terms of precedence, for future litigation.³⁶ Through the courts' rulings, two central themes become salient in terms of regulatory authority and broader notions of democracy and political motives: Congressional statutory intent and the

³⁶ Although important to climate change litigation, NEPA cases are more relevant to the discussion on EIA including climate change components than state-federal relations within environmental federalism. Please see Pidot's brief explanation in Dahl 2007.

political question doctrine. One assumption underlying any piece of legislation is that the relevant agency in charge of enforcing the law will exercise fair interpretation of the text in line with the approximate intent of the Congressional body that formulated it based on prevailing information and conditions. Secondly, the political question doctrine refers to an issue that federal courts refrain from deciding because resolution is inherently political and properly belongs to the authority of elected officials in other government branches³⁷.

5.2 **Clean Air Act suit** - *Massachusetts, et al. v. EPA* - 2003

In *Massachusetts*, a broad coalition of states filed suit to compel the federal agency to regulate carbon dioxide as an ‘air pollutant’ under the Clean Air Act. Since *Massachusetts* marked the first case the Supreme Court presided over that explicitly addressed climate change, the final ruling set a precedence entailing certain ramifications in terms of future climate litigation. Upon reviewing the statutory text, the Court held in April 2007 that the EPA does in fact have the ability to regulate such a pollutant within the CAA and can exercise the power to regulate. It asserted that the EPA could only decide to not regulate by providing reasonable explanation that CO2 does not contribute to *climate change* and the rationale for which the EPA will use its discretion not to regulate (Heinzerling, 2007). *Massachusetts* answered the critical technical question regarding the intent and authority vested by Congress in the CAA and the EPA’s discretion in interpreting it. Instead of a fair statutory interpretation, the EPA’s position was based on what Heinzerling describes as a ‘laundry list’ of political considerations and a distorted definition of *welfare*, which are accommodated for by power the agency vests in the Administrator’s *judgement* (Heinzerling, 2007).

5.3 **Nuisance Suit** - *People of California v. GM Corp., et al.* - 2006

In *California*, the state of California is suing automakers for failing to manufacture vehicles that emit minimal amounts of CO2 and for the billions of dollars in environmental externalities these vehicles cost the state. California is first state to sue automakers directly over emissions linked to climate change. The case of *California*, however, is still ongoing and a favorable verdict for California is not likely taking into account a previous court’s decision in *Connecticut*. That case was dismissed on grounds of the political question doctrine whereas the judge claimed it was not the business of the court to decide public policy issues.

5.4 **Pre-emption Suit** - *GM, et al. v California, Vermont, New Mexico, and Rhode Island* - 2004

In *GM*, a coalition of automakers filed separate injunctions in the federal courts of the states of California, Vermont, New Mexico, and Rhode

³⁷ The doctrine’s purpose is to distinguish the role of the federal judiciary from the responsibilities of the legislature and the executive, preventing the former from encroaching on either of the latter. As with other judicial doctrines created by the Court, the rule is interpretive and self-imposed, created as part of the broader concept of justiciability—the issue of whether a matter is appropriate for court review (Merriam-Webster, 2001).

Island to prevent the CARB, the defendant, from implementing the Pavley Law claiming federal pre-emption by the EPCA and CAA.³⁸ The GM verdict was pending the final ruling in *Massachusetts* and in December 2007 the California court ruled in favor of the people of California rejecting the automakers' claim³⁹.

**Please refer to the Appendix for a detailed description of the arguments presented in each case and for further reference on other cases either directly or indirectly related to climate change.*

³⁸ A group of thirteen automobile dealers from California's Central Valley came together with the Alliance of Automobile Manufacturers and the Association of International Automobile Manufacturers to contest the Pavley Law. CARB was joined in support by all major environmental organizations.

³⁹ Federal court in Vermont has also ruled against automakers on the same grounds. The case is still pending in New Mexico and Rhode Island.

6. ANALYSIS

Illustrating the role of judicialization in climate politics through three key cases complements the chapters on US political economy and the importance of California to complete the entire story of US climate politics. This section will use the analytical framework of environmental federalism from chapter three to analyze the main points from each theme and establish certain causal links. The analysis will reveal contributions to new environmental federalism theory, posit Federal authorities as regulatory laggards, challenge claims of Pavley's negative international implications, assess the merits of climate judicialization and its impact on democracy, and lastly, point to the destructive part automotive actors play in the climate policymaking and enforcement.

6.1 *Informing New Environmental Federalism Theory*

Referring back to the core concepts introduced in the theoretical section will allow us to draw conclusions from the role of California as a formidable state climate initiative within the environmental federalism debate. Since traditional federalist theory is based on the notion of dual federalism whereas the relationship between both state and federal levels of government, understood as cooperative federalism, explains the optimal exercise of sovereign legislative policymaking and agency implementation that does not overlap. Nevertheless, the nature of federalism is not static and is redefined by practice. As it has been presented, the case of California's Pavley Law raises interesting theoretical and empirical questions about the validity of the customary politics of competence and discretion in practice. Is the Federal government indeed the competent policymaker bolstering climate legislation and states merely act to implement federal law? Is the extension of discretion to State agencies limited to simply design appropriate measures to implement federal law or also a flexible mechanism to confer policy knowledge generation?

If any case can be made today for centralized environmental regulation, three of Esty's and Stewart's criteria must be met: 1) states as regulatory laggards; 2) federal law achieves national economies scale; and 3) interstate competitiveness leads to a race-to-the-bottom⁴⁰. Firstly, CARB's long history and current policy initiatives – Pavley as the main focus - attest to the contrary whereas California, in terms of a sub-national state actor, is a regulatory leader in both policy innovation and legislative enforcement. Second, the US has the weakest national fuel economy standards of any developed country and have not revised them for over twenty years to increase standards to reflect new circumstances. Moreover, federal C.A.F.E. standards do not fully address California's environmental conditions and meet regulatory needs. Lastly, California has acted instead to race-to-the-top thereby basing their state competitiveness on long-term economic and environmental goals, their understanding of the climate science, and the merits of assuming responsibility.

The Californian experience not only dispels the tenets of traditional environmental federalism rather it *reverses* its historical trends in two ways. First,

⁴⁰ The spillover effect of pollutants is difficult to analyze as researchers, consultants, and bureaucrats do not have adequate tools to calculate and trace.

it has been established prior that dual federalism does not provide for a formal overlap of authority, ultimately assigns dominant authority to Federal authorities yet typically respects states' rights if a normative (widely-held) perspective is taken. However, the contentious, almost hostile, political response from the Bush administration and the EPA that exploded as a result of Pavley disproves this notion. More importantly, it illustrated the threat Pavley posed to *reverse* the power structure disproportionately favoring federal officials in terms of complete authority over GHG policy issues. To counter the threat presented by California, the Federal government not only unjustifiably rejected California's waiver request but also orchestrated the NHTSA lobbying campaign to subsidize a national coalition of support for Pavley from other states with automotive industry interests.

Secondly, the waiver provision included in the CAA that exempts California from federal air pollution regulatory pre-emption both challenges (cooperative) environmental federalism and supports a nuanced argument for decentralization. The extension of the waiver has allowed California for over thirty years to build a national leadership role in terms of controlling air pollution resulting from vehicle emissions. By granting the option to other states to adopt California's standards essentially imbricates their authority with Federal powers creating an overlap of jurisdiction. If a fair amount of states follow California's lead (it was previously mentioned that twelve other states have designed specific measures in line with Pavley), it constitutes significant national implications that may conflict with federal political interests that shape regulatory decisions. Hence, Pavley has contributed to unravel the traditional fabric of US environmental federalism in the context of vehicle emission control and climate change.

Accordingly, the Californian experience offers a new variant of federalism - a third way - different from the standard, narrow cooperative form. Their special exemption status bridges the gap between each side of the regulatory debate with both proponents and opponents of decentralization. Furthermore, the empirical merits of the case presented extend the theoretical realm of environmental federalism informing a new conceptualization, what can be called *adaptive* environmental federalism. In the context of air pollution control and the established link to climate change, *adaptive* environmental federalism can be understood as a dynamic regulatory system of environmental jurisdiction that incorporates, or rather imbricates, both state and federal actors yet elevating only one (unique) state, California, to a formidable role⁴¹ (Adelman, D., and Engel, K., 2007). This new framework would be far from the rigid, adversarial regulatory relationship evident in the (un)cooperative environmental federalism of the past. On the contrary, the *adaptive* form would be flexible and structurally designed to adapt to the unpredictability of environment problems and assigning regulatory roles ad-hoc. By assigning a privileged role to the selected co-regulator (California), more focus can be

⁴¹ Although Adelman and Engel argue that the dynamic potential of adaptive environmental federalism is threatened by federal legislation and judicial rulings in favor of federal pre-emption, they fail to discuss the uniqueness of California in the fora of emissions control (and now climate change) and how the CAA waiver legally insulates them from federal pre-emption (insofar as their claim has merit) reinforced by the *Massachusetts* ruling.

given to local problems whereas a diversity of measures can be appropriately designed to address the variability and complexity of environmental problems.

A critical point salient here lies in the benefit of regulatory discretion, a core dimension of environmental federalism discussed in chapter three. The idea of states as laboratories of innovation had been discussed in the theoretical section, which held if state regulators are afforded a greater amount of discretion, new policy ideas could be experimented with potentially replacing existing approaches. For example, in Canada and Australia, the intent of Parliamentary lawmakers is to extend a great degree of discretion to sub-national polities through vague, ‘enabling’ statutes to provide flexibility in developing regulatory measures. Conversely, with the degree of discretion California was accommodated by the special waiver, CARB was able to develop a different policy methodology – measuring direct tailpipe emissions - to calculate the GHG benefits from a particular policy style comparative to the fuel economy approach argued for by the Federal government. Hence, as argued by Dorf and Sabel, the democratic space to experiment extended to CARB – a competent, sophisticated agency - proved to be successful in formulating a policy (Pavley) - supported by rigorous scenario planning - clearly more effective than an underperforming federal proposal (Energy Policy of 2007). Thus, Pavley is the prime example of a laboratory of innovation tempering a uniform federal act (C.A.F.E. standards) by states’ competitive standards to enhance policy competence from the bottom up to reach a socially optimal end for GHG protection.

At this point, it is too early to predict the effect Pavley’s specific approach will have on Washington and if there are prospects for scaling up to a national policy on vehicle emission reductions⁴². We must recall though the positive impact California’s green laboratory had during 1970s, an era when the Congress and the EPA were in the initial process of policy, organizational, and administrative development regarding environmental issues. California’s state air and water legislation provided a novel model useful to the federal government in laying the foundation for the Federal CAA and CWA, two of the foremost Federal laws. The suggestion that ‘progressive’ policy development and enforcement originates in sub-national (state) government levels challenges conventional perceptions by juxtaposing federal authorities as regulatory laggards and states as innovative, policy leaders.

6.2 *The Federal Legislature and EPA as Regulatory Laggards*

It has been concluded that the case of California’s Pavley Law provides significant empirical evidence that not only unravels yet also reverses traditional trends of environmental federalism. In the complex state-federal interplay dealing with vehicle emission control, not only has California proven to be a laboratory of innovation but Washington, more critically, has been exposed as a regulatory laggard. Today’s highly politicized climate change

⁴² See CARB’s Enhanced Technical Assessment (February, 2008) that outlines various reduction scenarios in detail that could be expected under Pavley in terms of state, regional, and national benefits.

sphere is in sharp contrast to the regulatory approach of the Progressive's Efficiency model focused on pragmatic, technological solutions and Nixon's Environmental Decade of (forceful) centralized regulation that drew from a broad coalition of public and political support. To be sure, the dynamic change in state-federal environmental relations took root in Reagan's rolling back of the federal government, was nurtured by the 1994 Republican takeover of Congress under Clinton, and accelerated - even cementing lack of alternatives - through both Bush terms beginning in 2000. My argument offers three principal, interrelated reasons that may underpin today's trends in environmental federalism whereas Federal inaction has compelled California's sub-national initiative: 1) commitment to a differentiated policy approach; 2) Bush administration special interest capture 3) Lack of intra-federal political will.

One recurring theme central to explaining the debasement of Federal regulatory credibility is the long-held policy approach of a single, national standard based not on tailpipe GHG emissions rather on managing vehicle fuel economy. Although the purpose of this paper has not been to comparatively assess the potential effectiveness of each policy option, the legislative record over the past 30 years that reflects a complete void of political support to tighten fuel economy standards is convincing. By basing his judgement on a 'different policy approach', EPA Administrator Johnson essentially expressed, albeit implicitly, the agency would not back any effort to improve policy - both state and federal - even though previous federal attempts have consistently ended fruitless. In addition, Federal lawmakers have unquestionably based policy decisions on the fuel economy measure, as in the case of the Energy Policy, failing to persevere to pass a new piece of legislation that is expressly a national climate policy. Essentially, both factors are a result, in part, of the next two reasons.

A second factor that appears to have contributed to the Federal government being a climate regulatory laggard is the Bush administration's capture by petroleum and automotive special interests (Harrison, 2007). Prior to his political career, President Bush was an oil executive and given oil's importance in American transportation, it was clear that Bush did have any motivation to impair oil consumption levels by increasing fuel economy for cars and 'cross-over' vehicles. In contrast, a seemingly main intention for the Bush administration has been to appease the anti-climate agenda of a network of industry allies by leveraging Bush's ability to centralize power in other policy areas (to be discussed below). The administration's position on emission control may have been further stimulated by Vice-President Cheney's former occupation. Previously, Cheney was CEO of Halliburton Energy Services, the world's largest oilfield support company (Harrison, 2007).

Campaign financing may be the causal link to Bush's special interest capture that might explain Bush's anti-climate position. In the 2004 Presidential election, George W. Bush received 87% of total campaign contributions from both the Transportation and Energy/Natural Resource sectors to the two major party candidates (Center for Responsive Politics

website)⁴³. This statistic corroborates, in part, the close relationship between George W. Bush and the petroleum and automotive industries.

Developments associated with the Pavley Law have been threatened by weak political will for environmental issues pervasive in the federal arena during the Bush administration. Since Congress has been dominated by Republicans since the mid 1990's, Bush has strengthened his hold on the Legislative branch and been able to consolidate power. TABLE 3 below illustrates how Republican Congressional voting is far from 'green' beginning from the Reagan years. If we consider climate change as today's most exemplary 'green' issues in environmental politics, one can determine the destructive effect Republicans have represented with any potential climate or emission control bill.

**TABLE 3:
Comparing "green" voting among Congressional Democrats and
Republicans by Presidential administration**

	House Democrat/Republican	Senate Democrat/Republican	PDI House/Senate
W. Bush*	81%/16%	82%/9%	+65/+73
Clinton	73%/21%	80%/14%	+52/+66
H. W. Bush	65%/28%	66%/28%	+35/+38
Reagan	64%/32%	63%/36%	+32/+27

Source: Sussman, 2004 adapted from League of Conservation Voters (www.lcv.org)

Note. Average "green" voting calculated by Sussman.

PDI: Percentage: Percentage Difference Index: plus (+) = more green voting by Democrats

*: including 2001 data only

Under Bush, political will for climate change has been weakened with his appointments to Federal office where a majority of the top positions at key environmental or natural resource agencies have been given to figures with non-environmental or scientific backgrounds (Kraft, 2006). The most controversial was the appointment of Philip Cooney as Chief of Staff of the Council on Environmental Quality (CEQ). A former lobbyist with the American Petroleum Institute, Cooney had been at the center of an investigation by the House Committee on Oversight and Government Reform (HCOGR) into the Bush's administration alleged campaign to systematically

⁴³ Average percentage contribution calculated by the author from data on the source's website: www.opensecrets.org

weaken the credibility of climate science⁴⁴ (The Guardian, 2007). The investigation has revealed direct requests by Cooney and other senior officials to edit language on the scientific consensus on climate change to minimize its severity and the anthropogenic contribution. An internal EPA memo leaked to the press in 2003 revealed EPA staff complaints of extensive White House editing (by Cooney) of the climate chapter of EPA's "Report on the Environment" (Harrison, 2007). Soon after public exposure, Cooney resigned and promptly accepted a position with Exxon Mobil.

Since the waiver rejection by the EPA, controversy abounded as to the source of their decision. The HCOGR also launched a query into media reports that the Bush administration instructed both the EPA's biased interpretation of CAA and California's waiver denial. In a Committee memo from May 2008, Committee Chair Waxman states, "The record before the Committee suggests that the White House played a pivotal role in the decision to reject the California petition, but it does not explain the basis for the White House intervention" (HCOGR Memo, 2008). Until now, a third subpoena for documented communications between EPA and White House staff has been ignored whereby some of the documents has been described by the White House Counsel's office as "indicative of deliberations at the very highest level of government" (HCOGR Memo, 2008).

6.3 *The International Implications of Pavley and State Initiatives*

Given the political considerations, special interests capture, and weak political will plaguing the federal government, California's Pavley initiative provided a strong state response. The extent of change that Pavley necessitates has actually scaled up to have international implications. It illustrates how state initiatives factored into global environmental politics on two levels. From arguments made by automotive associations, it has been claimed that the introduction of Pavley and the prospect of enabling other state climate initiatives restricts the US President's ability to negotiate international agreements. Multiple state policies would complicate the negotiation by the sheer difficulty of later implementation and essentially compete with the prevailing state climate regime. Referring to the *Massachusetts* case, the Supreme Court asserted and reiterated the due expediency of the EPA to interpret fairly the statutory text of the CAA. The court rejected the foreign policy argument and held that, "while the President has broad authority in foreign affairs, that authority does not extend to the refusal to execute domestic laws" (Payne, 2007). In other words, the court's promulgation implies that the President's foreign affairs power does not give the President 'exclusive' control over GHG regulation. Hence, California's effort to regulate GHG emissions under Pavley cannot be similarly neither pre-empted by federal law nor by Presidential authority over foreign policy.

In addition, the CAA waiver that authorizes legislation such as Pavley and its adoption by other states rejects automaker's claims that multiple potential state processes would cause widespread negative consequences for

⁴⁴ In the investigation led by Henry Waxman, a Democrat from California, chairman of the HCOGR Cooney revealed his objective by stating that his, "sole loyalty was to the President and advancing the policies of his administration".

US international environmental politics. The foreign policy argument was intended to discredit bottom-up regulatory initiatives. In contrast, adaptive environmental federalism in the emission control context would reveal this claim as untenable. Only one state - California - would have special position to enact its own, differing vehicle emissions policy, therefore the prospect of a plethora of (fifty) state initiatives is not authorized by the CAA. If additional states choose to adopt Pavley's standards only two, non-competing policies would exist presenting essentially little challenge. Moreover, the US withdrawal itself from the Kyoto Protocol has been attributed to a range of other factors introduced in chapter two that carry more weight than the Presidential foreign affairs argument. Ultimately, any concrete climate action by the US would need to originate from Federal government, either playing a larger or smaller part depending upon California's future engagement. In the end, a comprehensive Federal policy would put US in best position to negotiate international agreements.

6.4 *Measuring Judicialization and Implications for Democracy*

As discussed in chapter there, it is widely recognized that environmental issues in the US have undergone a process of judicialization over the past twenty years. However, legal recourse took place typically by federal regulators attempting to enforce compliance of federal law from states. Increasingly, litigation has emerged as an effective strategy for states in the context of climate change to settle policy differences current with Federal inaction. Moreover, the open, pluralistic legal system in the US invites private sector actors such as automotive associations to bring suit. While the litigious mechanism serves as an initiator of change, this 'free-for-all' elevates a central role for the judiciary in climate change enforcement and alters the nature of climate politics altogether. So what significance does judicialization have in climate politics? Based on the court cases presented, two important themes need to be explained: 1) in terms of the interpretation of statutory law, climate litigation reinforces the role of judicial review and democratic checks and balances; 2) regarding common (nuisance) law, climate litigation stirs up discourse about the judiciary's new leverage of power, institutional democratic character, and the importance of the political question doctrine.

One substantive outcome out of the judicialization of climate politics has been the successful exercise of judicial review. For example, in *Massachusetts*, the case dealt with the 'proper' implementation of the CAA statute by a federal agency, the EPA, and warranted a straightforward interpretation of Congressional intent by the Judiciary. By focusing on its legal scope, the Supreme Court explicitly avoided unqualified scientific conclusions and larger political questions (the Bush administration's position on climate change), yet implicitly confirmed the urgency of climate change as a societal issue. By ruling that EPA must ultimately regulate CO₂ as air pollutant from mobile sources, larger consequences may be extrapolated if this precedence is applied to stationary sources such as manufacturing and utilities. The EPA could be expected then to regulate CO₂ in severely polluting sectors whose opposition would pose even greater contention and litigation.

Also, the *Massachusetts* decision reinforces the need for an effective system of checks and balances. In basing their argument for declining to regulate CO₂ on a ‘different policy approach’, the EPA succumbed to the Bush administration’s political agenda. As a result, the Supreme Court disciplined the federal agency for narrowly interpreting a binding federal statute because of a shortfall of political will. In short, the ruling in *Massachusetts* upholds the merits of judicial review.

The second major impact judicialization has made on climate politics focuses on the democratic quality of the Judiciary as an institution. By examining litigation involving common (nuisance) law, the democratic character of an increasingly powerful Judiciary comes centerstage, particularly when decisions consider the political question doctrine. In an oversimplified description, Congressional legislators are elected through a competitive process and responsible to enact laws on behalf of the electorate, thereby being held accountable by the public. In theory, the entire process undergoes critical review and abides by the principles of democracy. As opposed to lawmakers, Supreme Court judges are nominated by the President and approved by Congress, whereas both set of actors carry certain political convictions. Therefore, a benign reliance on a democratically nominated, yet not elected, Judiciary may potentially be counter-productive if they decide strictly on ideological grounds and not on the objective merits of the case. While questions of judicial accountability are important, the sheer fact that the judges are not elected is significantly positive in itself because if they are not concerned with re-election, they may be less exposed to other political forces. This factor may add to their credibility as a mediator insofar as the judiciary is insulated, for the most part, from capture by strong political forces.

Furthermore, the political question doctrine introduced in chapter five re-emerges as a central theme in this type of litigation. Inasmuch as the judiciary walks a tightrope in taking an active stance in climate litigation, they do benefit by the existence of such a doctrine. In the case of *California*, the predicament presented to the court is between deciding to hold GHG polluters financially accountable - amid evidence of the amount of emissions - for their impact on climate change or refraining from a decision altogether since the root problem is actually a matter of public policy. By choosing to get involved, the court would be encroaching on the state and federal legislature’s authority over public policy formulation. Referring back to the ruling in *Connecticut v. American Electric Power Co.* whereas the court evoked the political question doctrine and dismissed the case, it is likely the same outcome will occur in *California*.

More importantly, the doctrine can be used essentially as a powerful tool to shift the policy burden back to the Legislature, the correct policymaking branch. It is precisely in the arena of publicly accountable institutions that climate change policy should originate. If questions abound claiming the judiciary is overstepping its boundaries, focus must be reoriented on the Legislature itself. In the context of climate change, US lawmakers have consistently failed to enact statutes on CO₂ emissions control that reflect changing times with new information and circumstances. As far as democracy is concerned, Congress has the ability to improve its effectiveness either through new lawmaking or amendments, which would be the ultimate

democratic check. Nevertheless, climate-related cases dismissed by the doctrine do not necessarily signify a loss in the fight for climate legislation. By reverting responsibility back to policymakers, a court's decision can be perceived as validating the plaintiffs' standing.

6.5 *Automakers in the Driver's Seat*

One of the most substantive, looming factors at the heart of the US climate policy problem is the strong, ubiquitous reach of automotive associations. From early vehicle emissions policy and regulation to the contemporary deliberation on climate, associations such as Alliance of Automobile Manufacturers, National Automobile Dealers Association, Engine Manufacturers Association, and Truck Manufacturers Association have had a contentious part in influencing societal perceptions on climate, furthering state-federal regulatory differences, determining actual policy outputs, and also augmenting the process of judicialization. In effect, these associations constitute one of the key actors exacerbating the politics of discretion in state-federal regulatory relations. As it has been described throughout the paper, their efforts range from lobbying politicians to sponsoring research media (brownlash) campaigns on the non-problematicity of climate science to proclaiming (unfounded) federal pre-emption of Pavley, and recently, direct involvement in litigation to dispute state initiatives. Through close association with Bush-allied petroleum industry and financial contributions to the Republican Party, automotive associations have congealed their ability to capture both executive and legislative actors in climate era of the past twenty years. In turn, Federal capture has prevented the advancement of Legislative climate bills, constrained regulatory discretion to states to address climate change, and contributed to the US withdrawal of the Kyoto Protocol (Campbell, 2005).

Indeed, automotive associations led by the Big Three hold an imbricated position between social, economic, and political actors enabling them to effectively articulate and negotiate their interests. Given the central role for automobiles in American mobility and economy, automakers clearly are affected by stringent climate policy controlling vehicle emission levels. Essentially, any change would challenge what Matthew Paterson calls US *autobegemony* (Paterson, 2001). Their continued, unwavering support for a single, uniform national policy – beyond making business sense for them - is one of the mechanisms in which they re-assert their power in American environmental politics. To safeguard their agenda, it is likely that automotive associations concentrate lobbying efforts on one national target: powerful, high-level federal politicians and coalitions, to ensure support national regulatory solutions. To prevent the damaging effect of the introduction of C.A.F.E. in 1975, automakers ardently contest any other policy choice that may produce a similar outcome, as in the case of Pavley.

Recalling Paterson's point regarding automobiles as a source of economic growth allows us to understand the mutually-beneficial relationship between automakers and politicians. Regardless of its production of environmental degradation, car manufacturing yields a host of economic benefits on both a state and national scale. State and Federal politicians are

reminded that the automobile industry creates a large number of manufacturing jobs, generates business that permeates into other associated sectors, and triggers important (immeasurable) indirect benefits by providing citizens a means for mobility to arrive to their place of work. Today, American domestic automakers are in deep financial trouble facing plunging sales, partly attributed to \$100/barrel oil, and resulting in lay-offs of thousands of workers industry-wide. In fact, none of the major three US automakers – General Motors, Ford, and Chrysler - have turned a profit in the past three years accumulating combined losses of more than \$67 billion (Ingrassia, June 2008). Moreover, unit sales have plummeted over the years and projections for 2008 estimate less than 15 million automobiles will be sold, the lowest figure since 1994 (Ingrassia, June 2008). Nearly one third of the Big Three's combined workforce has been laid off since 2000 clearly a social and economic problem for the states, mostly in the Mid-West, in which they are located (Ingrassia, June 2008). Given the bleak current status and future outlook, politicians have increasingly acted to protect these industries, especially if they affect their home constituency.

There are additional convincing reasons to explain why automakers have been enabled to be successful in derailing efforts. First of all, a fuel tax has never been the policy preference of Federal authorities nor would it be effective in altering American fuel consumption patterns. The US rarely uses taxation in energy sector to regulate and has never attempted in terms of vehicle fuels. Secondly, for decades new heavy-duty pickup and SUV models introduced at automotive shows always receive more attention. Therefore, the US automobile market consistently demands big vehicle sizes based on rugged functionality that compels automakers to continue to build them even though they are far less fuel efficient than smaller European counterparts. Thirdly, there has not been any concrete incentive to change for automakers. Since the US does not tax fuel, gasoline remains relatively cheap – even at today's \$4/gallon price - compared to highly-taxed European petrol at \$8/gallon (Oxford Analytica, 2008). In other words, the American cultural decision to prefer bigger automobiles has influenced Washington's policy on opposing fuel taxes. Stricter regulation in the US, either in the form of new fuel economy standards or controlling GHG tailpipe emissions, does not actually pose a substantive change – from a technological or cost standpoint - for automakers since the majority of brands already manufacture higher efficiency automobiles for other markets in Europe and Asia. Lastly, enhanced regulation would incur greater research costs on automakers. This mainly deals with the ability for automakers to satisfy the truck and SUV market preference while meeting new regulatory requirements that set hurdles for competition in the American marketplace (Oxford Analytica, 2008).

7. CONCLUSION

The starting point of this paper in analyzing US climate initiatives was located in the problem posed by EPA rejection of California's waiver request. Over successive chapters, a range of factors that contributed to this Federal position was explained demonstrating the contentious regulatory dilemma in current US climate politics. The objective of this research was then stated by posing the question, "whether the enactment of the Pavley Law by the California Legislature effectively reverses traditional forms of top-down, centralized environmental federalism". In examining the developments in US climate politics, California's leadership role in vehicle emission regulation, and the emergence of judicialization of climate politics, it was concluded that not only does the Californian case reverse and even unravel customary environmental federalism, it informs a rethinking of its theoretical underpinning through California's unique waiver provision included in the CAA, advancing arguments for a third way in the form of *adaptive* environmental federalism.

Environmental federalism as a concept and analytical tool has traditionally assumed that the federal governing level is the competent policymaker and regulator while states or sub-national governing units are responsible merely for implementing federal law. The inter-governmental relationship within (cooperative) dual federalism is then exercised through the enactment of statutes and actions taken by agencies. The space for state climate initiatives depends on the politics of competence and discretion practiced within this relationship. Given the circumstances of US climate politics, it has been argued that the federal government is simply failing as a competent regulator and refusing to extend regulatory discretion to states. In response, California takes advantage of its special CAA waiver to legally authorize emissions control initiatives like the Pavley Law that demonstrate the state as the innovative policy leader while exposing federal authorities as regulatory laggards.

Since it has been concluded that the federal government is far from a leader on climate issues, empirical evidence was then provided to illustrate this conclusion. First of all, federal fuel economy standards known as C.A.F.E. have not been updated for over twenty years. Moreover, the Bush White House has been captured by petroleum special interests, a sector closely associated with the automotive industry. This has contributed to the systematic weakening of political will on climate change illustrated by the Bush administration's direct involvement in the EPA's decision to deny California's waiver request. Lastly, the federal government has failed in climate regulatory leadership simply because the US has not passed a national climate policy unlike other advanced, industrial nations.

The third finding in this research is that California has risen over the years, amid federal inaction, to be a policy innovator on climate. The CAA waiver provision has provided California the space for democratic experimentalism. Serving as a laboratory of innovation, the state's past experiments led to the landmark legislation of the CAA and CWA, which later scaled up to the national level. In addition, the waiver only authorizes California to diverge and formulate their own emissions control policy thereby

disproving claims that it could lead to multiple state initiatives, which would ultimately hamper Presidential foreign affairs power.

The emergence of judicialization as a viable climate strategy was then illustrated through three significant cases. The legal outcomes of the cases were the validation of judicial review (CAA statutory interpretation), the rearticulation of democratic checks on federal agencies (EPA), the discrediting of automaker's claims of federal pre-emption over state initiatives (Pavley), and the broader implications for democracy of an enhanced role for the Judiciary in US climate politics.

Lastly, the looming, pervasive influence of automakers was argued to be behind many of the problems in American climate politics. Since the damaging effect fuel economy standards had on the industry as a result of the early 1970's oil shock, automotive associations have heavily influenced societal perceptions on the ambient effects of GHG emissions, furthered state-federal regulatory differences, played a part in actual policy outputs, and also have attempted to utilize the judicialization of climate politics. Admittedly, car manufacturing has promoted a magnitude of economic growth in American society over the years and politicians realize the social, economic (and electoral) benefits this function provides. It was then explained that automakers have been enabled to stall policy enhancement due to four principal reasons: 1) US political and public opposition to fuel taxes; 2) the cultural popularity of heavy-duty pickup and SUV models; 3) affordable gasoline available without any fuel tax; 4) the research costs automakers would incur from stricter regulation would be passed onto consumers.

From an academic standpoint, the empirical evidence demonstrated in the Californian experience presents new theoretical questions. It has been argued that the special position of California enabled Pavley's formulation. This empirical success is more than sufficient to expand the intellectual realm of environmental federalism forming an understanding of '*adaptive*' environmental federalism. The practical lessons from Pavley add to the literature by suggesting that the new flexible regulatory schemes harness the policy and enforcement strengths of each governing level, whether state and/or federal, across environmental regulatory areas to collaborate in providing socially-optimal environmental protection. Thus, it is advisable that a mix of state and federal authority be accommodated whereas both actors complement each other and simply compensate for any gaps in respective policies.

As it has been presented, a series of events coalesced to trigger state initiatives and through Pavley, expand this new thought of adaptive environmental federalism. However, it would be naïve to assume state climate initiatives are a panacea and other state circumstances and capabilities are homogeneously similar to California. While difficult to refute their importance, state initiatives certainly cannot always be appropriate and relevant. When are they appropriate and when are state initiatives? In theorizing state climate initiatives, the role of the federal government surfaces again to reassert its importance. Contributions to climate mitigation produced solely by well-exercised state initiatives may prove to be minor in aggregate terms since alone they are unlikely to be a sufficient, comprehensive solution and may be

unsuitable given the nature of a particular environmental problem. Therefore, a clear federal policy must always be in place to support any initiative by identifying the policy gaps and striking the right regulatory balance between governing levels.

While the research aim of this paper was to explore which governing level is best-suited for climate regulation and examine the impacts California's Pavley Law bears on US environmental federalism, unfortunately the paper's limitations excluded several other key issues. However, within the boundaries of the research, certain dimensions warrant further scholarly attention:

- Not all states are like California. Not all issues are like climate change. Future research must theorize the prospects of adaptive environmental federalism in other environmental policy areas across other spatial contexts, particularly rapidly emerging nations such as Brazil and India. Here the academic community can determine the relevance of the notion of laboratories of innovation to local contexts in light of political differences.
- Once regulatory measures under Pavley are implemented, new empirical evidence will emerge to assess the merits of adaptive environmental federalism in terms of climate change whereas to reinforce the theory.
- The extent to which automotive associations affect the policymaking process indicates certain prospects for a climate regulatory regime. Therefore, the systemic effect automakers have on policy formulation and enforcement must be examined. Specifically, a closer look must be given to the relationship between party financing and voting trends on environmental policy.
- The US withdrawal from the Kyoto Protocol delivered a substantive blow to the climate regime's credibility. In this line, learning must take place on the role of transport actors in this event to work towards future US engagement in the successive international climate agreement.
- Judicialization has propelled climate politics into a new fora. Just as all polities differ so do the institutions operating within environmental federalism. As developments occur, the unintended consequences of judicialization will need to be researched in terms of governing institutions.

Needless to say, irrespective of the proximate occurrences in the Pavley experience, partial federal officials who restrain climate leadership by suppressing regulatory discretion and environmentally-negligent automakers tenuously resorting to the immediacy of judicialization do not contribute to mitigating the climate impact of the largest, global CO₂ emitter and the normative responsibility it entails. Indeed state climate initiatives are beneficial in part and Pavley clearly represents a first step for the rearticulation of US environmental leadership on both national and international scales. The extent

to which federal officials engage in open collaboration and extend regulatory discretion to other governing levels determine the potential of socially-optimal climate protection. It is precisely these factors that are missing today in US climate politics. If the CAA waiver was approved - as in the past thirty years - Pavley measures would be anticipated to take effect on new 2009 models not only in California, but more importantly at least in fourteen other states and perhaps on a national scale. Admittedly, the need to address climate via existing air pollution or fuel economy legislation would be trivial with a concrete national climate policy in place.

Appendix I.

General federal initiatives on CO2 emissions:

Source: White House Press Release, 2002

Climate VISION – sets voluntary targets for energy-intensive sectors.

Climate Registry – registers non-binding GHG inventories of business.

FreedomCAR – initiative expands fuel cell research.

Major Congressional Bills Proposed on Transport Emissions:

Source: Pew Center on Climate Change website

H.R. 6: Energy Independence and Security Act of 2007 (*Energy Policy*).

Sponsor: Rep. Nick Rahall (D-WV) **(198 Cosponsors)**

<http://www.govtrack.us/congress/bill.xpd?bill=h110-6>

S. 339: Dependence Reduction through Innovation in Vehicles and Energy (DRIVE) Act. Sponsor: Sen. Evan Bayh (D-IN) **(24 Cosponsors)**

S. RES. 30: Expressing the sense of the Senate regarding the need for the United States to participate in international climate change negotiations. **(25 Cosponsors)**

H.R. 1300: Program for Real Energy Security (PROGRESS) Act. Sponsor: Rep. Steny Hoyer (D-MD) **(108 Cosponsors)**

H.R. 1945: Energy for Our Future Act. Sponsor: Rep. Christopher Shays (R-CT) (15 Cosponsors)

H.R. 2208: Coal Liquid Fuel Act. Sponsor: Rep. Richard Boucher (D-VA) (15 Cosponsors)

H.R. 2215: To provide a reduction in the aggregate greenhouse gas emissions per unit of energy consumed by vehicles and aircraft, and for other purposes. Sponsor: Rep. Jay Inslee (D-WA) **(19 Cosponsors)**

H.R. 2447: Energy and Environment Block Grant Act of 2007. This bill directs the Secretary of Energy to establish a block grant program for local governments and the states to support energy efficiency and greenhouse gas (GHG) emission reduction strategies. **(23 Cosponsors)**

H.R. 2701: Transportation Energy Security and Climate Change Mitigation Act of 2007. This bill, among other provisions, mandates the establishment of a Center for Climate Change and Environment within the Department of Transportation. Sponsor: Rep. James Oberstar (D-MN) (15 Cosponsors)

H.R. 2809: New Apollo Energy Act of 2007. This bill contains many provisions intended to promote new energy technologies, instructs the National Institute of Building Sciences to establish standards for the

construction of new commercial and residential buildings that will reduce CO2 emissions Sponsor: Rep. Jay Inslee (D-WA) **(23 Cosponsors)**

H.R. 2881: FAA Reauthorization Act of 2007. Among other provisions, this bill directs the Secretary of Transportation to establish a pilot program to carry out not more than 6 environmental mitigation demonstration projects at public-use airports, and makes measuring greenhouse gas (GHG) emission reductions a criterion of project selection. Sponsor: Rep. James Oberstar (D-MN) **(33 Cosponsors)**

H.R. 2927: To increase the corporate average fuel economy standards for automobiles, to promote the domestic development and production of advanced technology vehicles, and for other purposes. Sponsor: Rep. Baron Hill (D-IN) **(162 Cosponsors)**

H.R. 3221: New Direction for Energy Independence, National Security, and Consumer Protection Act. This is the House of Representatives' energy bill for 2007. Rep. Nancy Pelosi (D-CA) **(18 Cosponsors)**

H.R. 670: Dependence Reduction through Innovation in Vehicles and Energy (DRIVE) Act. The Act is designed to “promote the national security and stability of the United States economy by reducing the dependence of the United States on foreign oil through the use of alternative fuels and new vehicle technologies.” Sponsor: Rep. Eliot Engel (D-NY) **(79 Cosponsors)**

H.R. 6 (Energy Bill as passed into law): Renewable Fuels, Consumer Protection, and Energy Efficiency Act of 2007. This is the final energy bill that was produced after negotiation among the White House, Senate, and House of Representatives. It incorporates elements of both H.R. 3221 and H.R. 6. Sponsor: Rep. Nick Rahall (D-WV) **(198 Cosponsors)**

Appendix II. Other State and Regional Initiatives

California's AB1493 (or Pavley Law) of 2002

The first legally binding US regulation strictly dealing with GHG vehicular emissions without any establishment of a cap-and-trade system.

www.arb.ca.gov/cc/ccms/documents/ab1493.pdf

Regional Greenhouse Gas Initiative (RGGI) of 2003

The first mandatory, intra-state climate initiative comprising of Northeast and Mid-Atlantic states. Strictly deals with GHG emissions from the power sector and based a market-oriented cap-and-trade system.

<http://www.rggi.org/>

West Coast Governor's Global Warming Initiative (WCGGI) of 2003

A list of broad (non-binding) recommendations developed by the Governors of California, Oregon, and Washington to develop climate mitigation strategies.

<http://www.ef.org/westcoastclimate/>

California's AB32 (or Global Warming Solutions Act) of 2005

Established rules and regulations for reporting and compliance for all sectors that affect air pollution.

www.arb.ca.gov/cc/docs/ab32text.pdf

Western Climate Initiative (WCI) of 2007

Launched by the Governors of Arizona, California, New Mexico, Oregon and Washington to find regional, market-based solutions to broadly address climate change. Since its inception, two American states, four Canadian provinces have joined as partners and several Mexican states have signed on as observers.

<http://www.westernclimateinitiative.org/>

Appendix III.

The following Appendix contains the background, significance, and outcomes of the three significant climate cases summarized in chapter five. In addition, it gives a brief description of *New State Ice Co. v. Liebmann*, whereas Justice Brandeis declared support for states as laboratories of innovation, an opinion that set a precedence in state-federal relations. Lastly, it provides a list of other notable cases involving climate change for further reference.

Clean Air Act suit

Massachusetts, et al. v. EPA - State v. Federal

Similar to the majority of other climate change cases, *Massachusetts, et al. v. EPA*, (hereinafter *Massachusetts*) stems both from EPA refusal to recognize CO₂ as an air pollutant under the CAA and California's anticipated waiver rejection by the EPA that finally materialized in 2007. Filed in Federal Supreme Court in 2003, a coalition of fourteen states, three cities, and several health and environmental groups joined forces as petitioners to compel the federal agency to regulate carbon dioxide as an 'air pollutant' under the Clean Air Act.¹ The EPA was supported by its own coalition of defendants representing automotive interests and states dependent upon them.¹ The questions in *Massachusetts* were presented in a narrow and strictly legal manner and by doing so, the court avoided concluding on the technical reality of the climate change debate. While judges are not scientific experts, their remarks would be significant in sparking public debate.

After rejection of several earlier petitions for the EPA to regulate vehicle GHG emissions, plaintiffs brought the case with the aim to address principally two substantive issues (discussed in chapter four). First of all, the EPA had determined in 2003 that it did not have the authority to regulate carbon dioxide and other greenhouse gases under the text of the Clean Air Act. Secondly, even if the EPA did have such an authority, the agency declined to regulate GHG as 'air pollutants' at the time for a 'different policy approach'. The EPA argued that other measures to improve fuel efficiency were currently being developed by the NHTSA and that incorporating GHG emissions from vehicles would conflict with the NHTSA's responsibility to set C.A.F.E. standards, the federal fuel efficiency approach that is supported by the EPA.

To lay basis for their position, the EPA drew upon the precedence set in the case of *FDA v. Brown & Williamson Tobacco*. The question of regulatory authority similarly arose in that case posing whether the FDA had the power to regulate tobacco. In short, the court ruled against the federal agency asserting it did not have authority to regulate tobacco as a 'food' product under the Food, Drug, and Cosmetic Act (FDCA) because the agency prior had disclaimed the authority to regulate tobacco (Heinzerling, 2007). In the case of regulating CO₂ as an air pollutant, the EPA argued that it did not want to risk the *Brown* outcome and, as a result, chose not to incorporate it into its framework. In contrast to the FDA experience though, EPA officials had acknowledged the potential ability of the agency to regulate as GHG under the directive of the

CAA in previous public statements (Heinzerling, 2007). *Massachusetts* revealed a critical technical question regarding the intent and authority vested by Congress in the CAA and the EPA's discretion in interpreting it. The EPA assigns ultimate decision-making power to its Administrator to determine the Agency's appropriate course of action based upon their '*judgment*'. In accordance with Section 202 (a) (1), the EPA must regulate any physical or chemical material if they, in Administrator's judgment, 'cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare'. The EPA decided to not recognize 'welfare', as defined by the CAA, as effects on both 'climate' and 'weather' (Winters, 2007).

After long deliberation, the court issued its ruling in April 2007 in favor of the plaintiffs compelling the EPA to regulate CO₂. Upon reviewing the statutory text, the Court held that the EPA does in fact have the ability to regulate such a pollutant within the CAA and can exercise the power to regulate. It asserted that the EPA could only decide to not regulate by providing reasonable explanation that CO₂ does not contribute to *climate change* and the rationale for which the EPA will use its discretion not to regulate (Heinzerling, 2007). The court determined the EPA's position was based on a political 'laundry list' (Heinzerling, 2007). Indeed, the political decision to not include CO₂ - further blocking Pavley - in favor of federal C.A.F.E. standards and the distorted definition of *welfare* provided sufficient evidence for the Supreme Court to rule in favor of states. Using political considerations as the foremost starting point as opposed to the actual statutory text was the fundamental error by the EPA. The court ultimately decided that since motor vehicles emit GHG - a form of physical and chemical matter - into the ambient air, the EPA has the responsibility to regulate them¹. However, the extent to which the *Massachusetts* decision pressures the EPA to regulate, it does not formally mandate them to. Almost two years later the EPA has yet to act.

Nuisance Suit

People of California v. GM Corp., et al. - State v. Automaker

According to US nuisance common law, parties can bring suit directly against private polluters. In 2006, the Attorney General of California, Bill Lockyear, on behalf of citizens, filed suit against the 'Big Six' automakers to hold them accountable for the impact inefficient cars produce on climate change¹. Nuisance suits have served as a successful arena more so for US state actors to instigate climate change action. *California v. GM Corp, et al.* (hereinafter *California*) is a clear example of California's defiance and exerting pressure not only in government spheres – EPA – but also on commercial actors – automakers – through judicial means. In fact, California is first state to sue automakers directly over emissions linked to climate change. *California* is also significant in that it raises questions surrounding the fragmentation of regulatory authority between the NHSTA, EPA, and state agencies (Gullo, K. and O., Alan, September 20, 2006).

In *California*, the state of California is suing automakers for failing to manufacture vehicles that emit minimal amounts of CO₂ and as a result,

California argues that these inefficient, inadequate vehicles eventually cost the state billions of dollars in environmental externalities. Essentially, their claim is that GM and other automakers create a public nuisance by contributing huge quantities of GHG to the atmosphere causing climate change and posing a health risk to California's citizens. On the other hand, automakers rely on typical claims of the importance of a uniform national standard as a regulatory solution. GM argues that it is too demanding and cost-ineffective to design and produce cars for fifty different state standards. Instead, they advocate a reduction in fuel consumption and insist that a state not be allowed to carry out the federal job of fuel economy regulation. Furthermore, automakers see the definition of public nuisance itself as debatable because the degree of its effect can vary from one state's circumstances to another.

The case of *California* is actually the second nuisance case dealing with climate change. In the case of *Connecticut v. American Electric Power Co.*, eight states, the city of New York, and three land trusts, filed suit in 2005 to block the *business as usual* activities of the five major US energy companies who combine to be the largest national carbon dioxide emitters¹. According to the plaintiffs, these companies, led by American Electric Power Co., emit a combined 650 million tons of the gas each year (Dahl, 2007). However, they were not successful in their efforts to hold the polluters accountable and the case was eventually dismissed later that year on grounds of the political question doctrine. The judge claimed it was not the business of the court to decide public policy issues.

The case of *California*, however, is still ongoing and a favorable verdict for California is not likely taking into account the previous court's decision in *Connecticut*. Based on past environmental litigation, I would argue that it would be remarkably rare for a court to force a defendant to pay a large and rather incalculable amount of punitive damages when considering the externalities of climate change.

Pre-emption Suit

GM, et al. v California, Vermont, New Mexico, and Rhode Island - Automakers v. States

In 2004, a coalition of automakers filed separate injunctions in the federal courts of the states of California, Vermont, New Mexico, and Rhode Island to prevent the CARB, the defendant, from implementing the far-reaching emission reduction plan, the Pavley Law. The case *GM, et al. v California* (hereinafter *GM*), has been brought by automakers evoking federal pre-emption of state action. The group of thirteen automobile dealers from California's Central Valley came together with the Alliance of Automobile Manufacturers representing all major auto brands including GM, Ford, DaimlerChrysler, and Toyota and the Association of International Automobile Manufacturers, which represents Honda, Nissan, Hyundai to fight CARB's initiative, the Pavley Law. CARB was joined in support by environmental organizations including the Sierra Club, Natural Resources Defense Council,

and Environmental Defense, Bluewater Network, Global Exchange and Rainforest Action Network.

Many of the arguments raised in the case to challenge California's legislation are similar to past positions based on the recurring theme of state-federal relations and regulatory authority. According to the courts, automaker's main claim argues that Pavley conflicts with federal agencies' power to regulate fuel economy standards. Specifically, the NHTSA - the sole authority to manage mileage standards - and the EPA - the only regulator of air pollutants - are responsible regarding such an issue and state initiatives are pre-empted by federal legislation such as section 509 of the EPCA and section 209 of the CAA.

In addition, automakers claim that such a regulation would in fact increase air pollution by slowing the replacement of higher-emitting older vehicles, lowering traffic safety, and thrusting significant costs to manufacturers (ultimately passed onto consumers). In other words, their basis is located in how Pavley would turn market forces against consumers, effectively limiting the range of choices available to them and raising the retail purchase price. More importantly, the coalition attempted to delink the direct contribution of vehicle emissions to climate change and questioned the certainty of global warming as a problem as in previous statements.

Any verdict in *GM* was pending the final ruling in *Massachusetts*, similar to another important case, *Central Valley Chrysler-Plymouth v. Witherspoon* (CARB), referenced in the Appendix. In December 2007, following the *Massachusetts* decision, the California court ruled in favor of the people of California rejecting the automakers' claim. In effect, the *GM* decision was another victory for state initiatives reaffirming their position versus automakers.

Brandeis and States as laboratories of innovation

New State Ice Co. v. Liebmann, - The Supreme Court case in which Justice Brandeis asserted his support for states to serve as laboratories of innovation. His position was declared in dissenting from the court's opinion that prevented the Oklahoma state legislature from arbitrarily creating restrictions on new (ice) businesses only on the claim that their markets affected a public use.

Other notable climate cases:

*Central Valley Chrysler-Plymouth v. Witherspoon (CARB)

*City of LA v. NHTSA

Friends of the Earth v Mosbacher

Alliance of Automobile Manufacturers v. Sheehan

Association of International Automobile Manufacturers v. Sullivan

Center for Biodiversity v. NHTSA

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