
Corporate power and US economic and environmental policy, 1978–2008

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The analysis here critically evaluates the ‘new corporate environmentalism’ and elaborates a relational theory of the state to explain policy formation in the US electrical energy industry. There are several findings. Firstly, corporations mobilize politically to advance their economic agendas and weaken environmental policy. Secondly, after state structures are created to enforce public policy, they provide the socio-political legitimacy for corporations to further advance their economic interests. Thirdly, in contrast to neoliberal claims, corporate–state relations during the era of re-regulation resulted in higher energy cost for consumers in several regions.

Keywords: environmental and economic policy, political capitalism, corporate–state relations, US electrical energy industry

JEL Classifications: L22, L43, L94, Q4

Introduction

The ‘new corporate environmentalism’ that elaborates the role of business in achieving both economic growth and environmental sustainability has become a central component of how corporations present themselves to the public. However, critics maintain that corporations employ this rhetoric to conceal their environmental pollution and preserve organizational viability (Beamish, 2000, 2002; Crane et al., 2008). Others suggest that greater attention should be given to organizations because they are among the most intensive environmental polluters (Perrow, 1997) and there has been an exponential increase in the use of environmental pollutants in industrial production in recent years (Beck, 1992). Research that focuses on organizations also suggests that there is

a need to move beyond taken for granted assumptions in existing organizational theories, which limit inquiry into environmental issues (Jermier, 2008). Still others suggest that understanding environmental degradation requires an examination of the ‘asymmetry of hierarch or power between polluters and polluted’ (Held et al., 1999, 381) and greater attention should be given to the formation of environmental policy (Freudenburg et al., 2009). Critics also maintain that understanding the relationship between the political behaviour of corporations and environmental pollution is hampered by theories that assume that environmental policies are the outcome of an autonomous state (Kraft and Vig, 2000).

To address the political dimension of environmental pollution, the analysis here examines the exercise of corporate power in the policy formation

process (Prechel, 2011; Prechel and Zheng, forthcoming; van Oosterhout, 2008). It contributes to the 'new ecological paradigm' (Dunlap and Catton, 1979; Jermier, 2008) by examining how environmental policy is defined and redefined over time. Like regions and countries, corporations have ecological footprints and the historically specific form of political embeddedness defines the extent to which corporations are held responsible for their ecological footprint.¹ This focus on the policy formation process also evaluates the extent to which the 'new corporate environmentalism' represents a substantive change in corporate behaviour or is part of a strategy to appease the public.

The empirical analysis focuses on the policy formation process in the US electrical energy industry for the following reasons. Firstly, the power to contain environmental degradation continues to exist at the nation–state level and the USA is the largest economy in the world whose ecological footprint dwarfs that of most other countries both in terms of total and per capita ecological footprint. Secondly, the electrical energy industry is a major source of the U.S. ecological footprint; coal-fired electrical generators are primary sources of (i) carbon dioxide (that is, CO₂) and other greenhouse gas emission that contribute to global warming and (ii) toxic emissions that have adverse effects on public health. Thirdly, given population growth predictions, current energy sources and consumption patterns, this industry will impact larger geographical spaces more intensively in the future. Fourthly, a large portion of environmental pollution is from a few industries (Freudenburg, 2005) and the electrical energy industry is the second highest source of toxic emission in the USA. To illustrate, in 2006, the Environmental Protection Agency's (EPA's) Toxic Release Inventory listed the electrical energy industry as responsible for 24% of total toxic emissions, which was just behind metal mining at 29%.

This study focuses on the period between the mid-1970s and the early 21st century when rapid globalization accelerated the 'treadmill of production', which results in ever increasing levels of production and higher rates of natural resource extraction and labour exploitation (Buttel, 2004;

Catton, 1980; Dunlap and Catton, 1979; Freudenberg et al., 2009; Gould et al., 2008; Schnaiberg, 1980). This drive for economic growth and increased production displaces labour with technology where each advance generates ever higher levels of environmental damage (Schnaiberg, 1980).²

Theoretical framework

The theoretical framework draws from traditions in the social sciences that conceptualize dimensions of the social structure as intrinsically intertwined that cannot be understood in isolation from one another (Marx, 1867 [1977]; Mills, 1956; Polanyi, 1944 [2001]; Schumpeter, [1950], 1962; Weber, 1921 [1978]). The framework developed here integrates organizational and environmental sociology with interdisciplinary political economy, which conceptualizes the state as 'relational' (that is, the state is part of society) (Jessop, 1982; Poulantzas, 1978) where social actors including classes, class fractions, corporations and regional states exercise political power to define and redefine capital–state relations. Although capitalists are always concerned with how public policies affect their capital accumulation agendas, they become more political active in response to capital accumulation constraints. Under this historical contingency, capitalists attempt to transform corporate–state relations in ways that improve their capital accumulation opportunities. After state structures governing economic activity are established, these structures (i) establish sociopolitical legitimacy for corporations to intervene in the political process and (ii) become a focus of future political behaviour (Prechel, 1990).³

The expansion of state structures is the outcome of political capitalism where businesses pressure elected and appointed government officials to intervene in economic activity in ways that create the conditions for capitalist growth and development (Kolko, 1963; Prechel, 2000).⁴ Recent research in this tradition suggests that as state structures expand over time, they create a more prominent and less autonomous state where capitalist class fractions compete with each other to influence the policy formation process. In modern society,

political capitalism is manifested as the exercise of power to influence politics and public policies to achieve predictable capitalist growth and development and preserve the class relations essential to capitalist society. Although the capitalist and managerial classes do not always have a coherent conception of the relationships between their economic goals and the means necessary to achieve those goals, they exercise political power to establish public policies that are intended to facilitate their capital accumulation agendas (Prechel and Morris, 2010).⁵

Several interrelated propositions are derived from this conceptual framework. First, after public policies were passed and state structures were created to limit environmental pollution, they became the focus of future corporate political behaviour. Second, in response to economic crisis in the early 1980s, corporations mobilized politically to weaken environmental policy and advocate for economic policies that advanced their economic agenda. Third, the state structures defining environment enforcement in the late 20th and early 21st centuries represents a departure from the embedded liberalism of the middle decades of the 20th century, which acknowledged the need to establish political–legal arrangements that define the outside parameters of corporate behaviour (Daly, 1996; Ruggie, 1992). Embedded liberalism was replaced with neoliberalism, which advances an individualistic conception of society and advocates for free markets (Harvey, 2005; Stiglitz, 2002; Yergin and Stanislaw, 1998). Neoliberal advocates are critical of government intervention in markets as inherently undermining individual freedom and economic efficiency (Kotz and McDonough, 2010, 94). This emphasis on individual choice implicitly or explicitly suggests that the ecological footprint is not an outcome of corporate behaviour. Instead, neoliberalism considers the ecological footprint an outcome of individual choices where corporations provide individuals with a range of alternatives to choose from.

There are two interrelated parts of the empirical analysis. First, it examines how the long-term political strategy of the electrical energy industry kept this economic sector near the disembedded end of a politically embedded–disembedded continuum with

regard to federal economic and environmental policy. Although the economic policies that were enacted during the study period were legitimated by free market arguments, the emergent form of political embeddedness cannot be dissociated from environmental policies. Second, the analysis examines the exercise of power in the state of Texas because the federalist state structure allocates power to regional states, which have a substantial degree of authority and discretion over implementing and enforcing environmental policies. Texas deserves attention in its own right because it ranks fourth among regional states in the release of toxic chemicals. Texas also produces 294 million metric tons of CO₂ and other greenhouse gases, which is more than twice the amount of the second ranked regional US state; coal-fired power plants account for 61% of the greenhouse gas emission in the state (EPA, 2011; Natural Resources Defense Council, 2011).

The historical context and corporate structure

The political–legal arrangements in which US corporations are embedded have their origins in the late 19th and early 20th centuries when capitalists mobilized politically to extend corporate property rights. Led by lawyers representing the Standard Oil Trust, big business pressured the state legislature in New Jersey to pass the New Jersey Holding Company Acts of 1888 and 1896. Together with court decisions, these regional state laws of incorporation granted property rights to corporations that were previously reserved for individuals (for example, the right to own stock in other corporations). The creation of this corporate property right paved the way to establish corporate structures that held multiple corporate entities controlled by a single holding company. The most common corporate entity in this organizational structure is ‘subsidiaries’: a legally independent entity (for example, corporation, partnership or joint venture) in which the parent company owns more than 50% of the stock.

The political embeddedness of the early holding company placed few restrictions on corporations, which permitted capitalists and their managers to

engage in a wide range of behaviours that financially weakened the corporation (Berle and Means, [1932], 1991; Haney, 1920). Early critics of the holding company, which included New York Governor Franklin D. Roosevelt, criticized this corporate form for permitting capitalists to create monopolies, manipulate finances, and deceive the investing public. After his election to the presidency in 1933, Roosevelt established a ‘Brain Trust’ that linked the holding company structure to the Great Depression. Subsequent New Deal legislation deinstitutionalized the holding company by taxing capital transfers between subsidiaries and the holding company. This tax was important not because it increased the cost of using this organizational structure (that is, the tax rate was low), but because it provided a record of capital transfers inside the corporation (Prechel, 2000). Soon after this legislation was passed, the holding company was replaced by the multidivisional form in most economic sectors where all corporate entities (that is, divisions) are part of a single legal entity. Some corporations in the manufacturing sector continued to use the holding company structure. However, subsidiaries in these corporations tended to operate independent of the parent company (for example, capital was not transferred between subsidiaries and the parent company).⁶

New Deal policies also permitted business firms to continue using the holding company in economic sectors that were considered vital to capitalist growth and development, which included banks and public utilities. However, Congress enacted the ‘Public Utility Holding Company Act’ of 1935 to regulate ‘utility monopolies’: energy companies engaged in the generation, transmission, and distribution of electricity and natural gas.⁷ This public policy gave regional states the authority to set prices using a cost-of-service model, which tied prices to costs (for example, construction costs and type of fuel) plus a profit. Although these regulated monopolies fought for higher prices and profits, this form of political embeddedness remained intact during the middle decades of the 20th century.

The regulation of energy companies was extended to include environmental control in the 1950s and 1960s when environmental groups orga-

nized in an effort to retake the ‘commons’: things that belong to everyone including air, water, and public spaces (Walljasper, 2010). With support from the Johnson Administration, these non-government organizations (NGOs) succeeded in pressuring Congress to pass the Clean Air Act in 1963. Environmental organizations also pressured the federal government to create an agency to enforce environmental policies. This political strategy succeeded in 1970 when the Nixon Administration created the EPA and amended the Clean Air Act. These policies and state structures are important because they redefined corporate–state relations by legitimating government intervention in economic activity to limit environmental pollution.

A shift in the historical trajectory

In response to increased global competition and declining profits in the late-1970s, corporations mobilized politically to advance their capital accumulation agendas. By the early 1980s, many corporate advocates supported the neoliberal agenda and asserted the superiority of unregulated markets and criticized the embedded liberalism of the 1960s and 1970s when corporate–state relations attempted to protect the commons. These corporate activists asserted that market incentives provided a more efficient means to organize production and government regulations constrained corporations’ capacity to realize profits (Mirowski and Plehwe, 2009). The electrical energy industry attempted to align its agenda with the state’s agenda to reduce dependence on foreign sources of energy by asserting that government regulation undermined its capacity to invest in new forms of energy, develop new energy markets and expand domestic energy production.

In response to political pressure from inside and outside the state, in 1978, Congress passed the ‘Public Utility Regulatory Policies Act’ of 1978 (PURPA). The rationale for PURPA was to reduce dependence on foreign energy and create incentives to develop domestic renewable energy. To achieve this agenda, PURPA transformed the political embeddedness of the energy industry in important ways. Firstly, PURPA created a market for electrical

energy from independent power producers (IPPs) by requiring public utility monopolies to purchase energy that IPPs produced. IPPs may be owned by private companies, public corporations and cooperatives that produce electrical energy, and non-energy firms capable of transferring electrical energy onto the transmission system.⁸ Prior to 1978, few IPPs existed and many of them were small co-generators that harnessed byproducts of the production process (for example, thermal energy in the form of steam) and converted it into electrical energy (Abel, 1998). Much of this energy was consumed by the firm that owned the generator.

Secondly, PURPA created a new category of NUGs known as ‘qualifying facilities’ (QFs): electrical generators that are controlled by utilities and permitted to sell electrical energy on the wholesale market (that is, large customers such as corporations, municipalities, and school districts) that are exempt from numerous state and federal regulations. QFs were exempted from regulatory control because they engage only in the production of electricity and, therefore, are not under the jurisdiction of the utility holding company laws that govern vertically integrated monopolies engaged in the generation, transmission and distribution of energy. Because regional variation in energy needs exist, although PURPA is a Federal law, the authority to implement it was allocated to states.

This change in political embeddedness generated a political response by utility holding company executives who maintained that these organizational and political–legal arrangements created unfair competition that undermined profits. The industry pursued three interrelated political strategies. First, after Ronald Reagan was elected to the presidency in 1980, the electrical industry argued that implementing environmental policies such as the Clean Air Act were burdensome and costly, especially during a period of slow economic growth. In response, the Reagan Administration cut the budgets of consumer and environmental agencies, which reduced their capacity to enforce environmental policies. Second, the industry argued that eliminating unnecessary and costly regulatory controls would create more jobs and generate higher profits necessary for reinvest-

ment and expansion. Third, executives aligned their profit making agenda with the Reagan Administration’s agendas to expand domestic energy production and shift more regulatory responsibility to the states (Clawson et al., 1992, 2–7; *Congressional Quarterly*, 1985).

Although the industry’s strategy succeeded, transferring authority from the federal government to state governments had an unintended consequence. Historically, the federal government allowed regulated utilities to pass the costs associated with excess capacity, construction overruns and higher fuel prices onto consumers. However, state regulators were less willing to pass these costs on and, instead, held utilities and their stockholders responsible for them (US Department of Energy, 1993). As a result, the new corporate–state relations resulted in higher operating costs, which lowered profits.

A parallel corporate form: the multilayer-subsidary form

In a separate policy arena, corporations mobilized politically to redefine the laws governing how management could structure the corporation. The rationale for this public policy was to make greater use of ‘equity financing’ (that is, issuances of corporate securities) in order to reduce corporations’ dependence on banks for financing. This political strategy was motivated by the (i) the back-to-back recessions in the mid-1970s and early 1980s that lowered the availability of internally generate investment capital; (ii) increased global competition requiring modernization of inefficient manufacturing facilities; and (iii) the high cost of carrying debt cause by record level interest rates, an increased from approximately 5% in 1972 to more than 18% in the early 1980s.

During this same time period, financial analysts and business scholars argued that stock markets undervalued corporate assets and the sum of the parts was more valuable than the whole (Jensen and Meckling, 1976; LeBaron and Speidel, 1987; Porter, 1987). This argument was confirmed by wealthy investors who made fortunes taking over

corporations and selling their parts. Thus, the task for management was to establish an organizational structure that allowed them to unlock capital without increasing costs. Although the existing political–legal arrangements permitted management to create subsidiaries, issue stock in them and transfer this capital to the parent company. Under current tax laws, this structure created an additional cost and a record of internal capital transfers.

To create political–legal arrangements that facilitated the use of the subsidiary structure, a political coalition of large corporations pressured the Reagan Administration and Congress to revise corporate tax laws. Among the most important outcomes of this lobbying effort was a little known provision in the mid-1980s tax law that eliminated the tax on capital transfers between subsidiaries and the parent company. Soon after this legislation was enacted, many large US corporations began to transform their divisions into subsidiaries and issue stock in them (Boies and Prechel, 2002; Prechel and Boies, 1998).⁹

By the early 1990s, the majority of the largest US corporations changed to the ‘multilayer-subsidary form’. This corporate form has a parent company at the top of the organizational hierarchy that operates as a financial management company with two or more levels of legally separate subsidiary corporations embedded in it (Prechel, 2000, 12). Because the parent company owns more than 50% of a subsidiary’s stock, this structure allows management to retain ‘ownership control’: control through majority voting interest typically determined by common stock ownership. These organizational and political–legal arrangements are important because they made it viable for corporations to organize in ways that exercised corporate property rights defined by late 19th-century public policies and court decisions.

These organizational and political arrangements had particularly important effects on the energy industry because they made it viable for IPPs to rapidly expand and dominate regional energy markets. In addition to permitting IPPs to raise capital by creating subsidiaries and issuing stock in them, this corporate form facilitated merging and acquiring other NUGs. Overtime, IPPs, which are not as closely regulated as

utility holding companies, consolidated production under a single ownership by organizing operating facilities that are located in separate states—where different regional political–legal arrangements exist—under separate first-level subsidiary corporations. To illustrate, by 2000, Dominion Resources Inc., organized its 40 subsidiaries into a hierarchy of 9 first-level subsidiaries, 21 second-level subsidiaries, 5 third-level subsidiaries, 4 fourth-level subsidiaries, and 1 fifth-level subsidiary (see Figure 1). Most important, these political–legal arrangements permitted management to organize corporate entities in a way that is similar to the utility holding company, but without many of the regulatory controls.

A contested terrain: market competition and public policy

After IPPs began to compete for energy markets, utility holding companies renewed their political strategy to reduce regulatory control. They maintained that deregulation would increase the production of electrical energy, ‘stimulate competitive market efficiencies’, and lower cost to consumers (Abel, 1999; US Department of Energy, 1993). In 1989, Democratic Senator Bennett Johnston from Louisiana, a regional state where tax revenues and jobs are heavily dependent on the energy industry, proposed legislation to advance the industry’s agenda. This proposal focused on two key aspects of the Public Utility Holding Company Act of 1935: distribution and price controls. Under the current corporate–state relations, utility companies could only market energy to customers in their franchise region, and rate price differences were determined by production costs, which depended on the age of the production facility and the source of fuel (for example, coal, natural gas, oil, water).

Opposition to this proposed legislation quickly emerged from other energy producers with high sunk costs (for example, nuclear). Also, residential consumers opposed the proposed legislation because they were concerned that utility companies would ignore the retail market and focus on the easier-to-serve wholesale market (that is, industrial and commercial consumers).

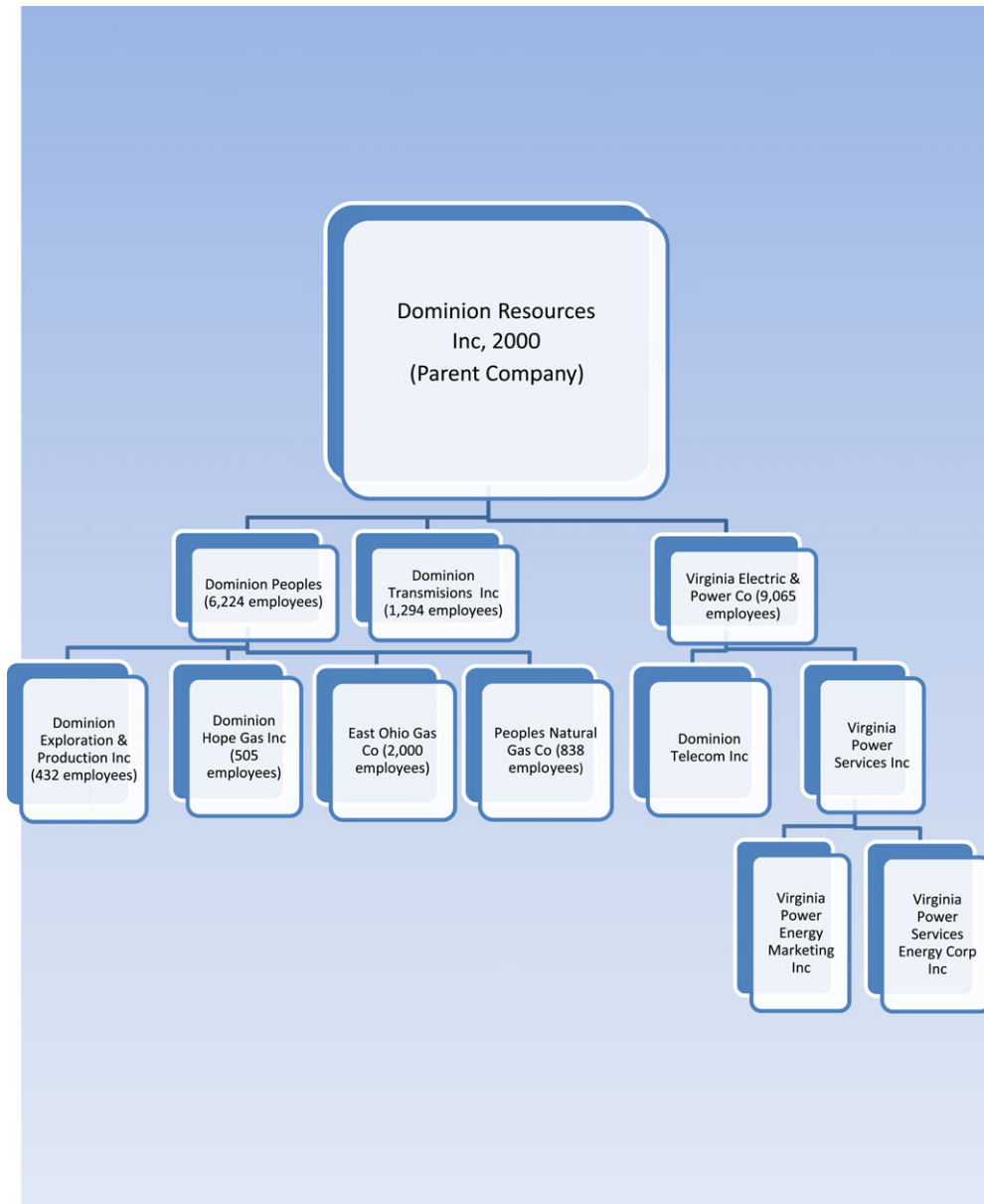


Figure 1. Dominion Resources Inc., 2000 (Parent Company).

In response, utility companies further stressed their alignment with the state's agenda to increase domestic energy production. In addition, they created a political coalition with other business groups who shared their economic interest. Firstly,

the manufacturing sector and other large consumers of electrical power aligned with the utility lobby because they claimed that this policy would lower energy costs by permitting users to purchase energy from suppliers that were located outside their

franchise region. Secondly, the new category of IPPs that were created under the 1978 legislation unified politically with utility companies because they anticipated that the proposed legislation would increase profits by permitting them to sell energy on the national market (that is, grid). Thirdly, the natural gas industry joined this political coalition because they believed that the proposed policy would provide opportunities to sell natural gas to an expanding electrical energy industry.

After these class fractions aligned politically, the proposed legislation received widespread support from the Executive Branch and Congress, in part, because it was consistent with their agenda to reduce dependence on foreign energy and increase the use of cleaner fuels (for example, natural gas). Although Congress did not pass this legislation when it was initially proposed as part of President George H. W. Bush's 1991 Energy Policy Act (EPAct), it was enacted in the following year as the EPAct of 1992.

EPAct further re-regulated the North American energy market, which changed the structure of energy companies in several ways.¹⁰ Firstly, it required utility companies to allow other energy companies to access their electrical transmission lines, which was necessary to create a market-based pricing system. Secondly, it exempted another category of energy producers (that is, exempt wholesale generators (EWGs)) from the 1935 Public Utility Holding Company Act and allowed them to generate electrical energy without regard for efficiency. This exemption assumed that the market-based pricing system would create competition and ensure efficiency. Thirdly, although its proponents claimed that this legislation would permit customers to choose their electricity supplier, only large customers such as corporations, municipalities, and school districts could choose their suppliers because residential customers do not have the power to negotiate prices. Most important, these political–legal arrangements permitted a single parent company to own different types of energy producing facilities that were dispersed over a wider geographic region.

These organizational and political–legal arrangements also eliminated many differences between regulated utility monopolies and IPPs. On the one

hand, like energy companies that operate EWGs, regulated utilities could own unregulated energy producing subsidiary corporations even if they were located outside their franchise area as defined under the 1935 legislation (US Department of Energy 1993, 68). In some cases, power plants were simply reorganized under an unregulated subsidiary of the regulated parent company (Slocum, 2007). On the other, IPPs could own and operate utility companies. To illustrate, Enron Corp., which began as a natural gas pipeline company and diversified into energy trading, was permitted to acquire Portland General, a utility holding company. The emergent organizational structures also increased complexity, which made energy companies more difficult to monitor and oversee.

Economic benefit–cost analysis: limiting enforcement of environmental policy

Another component of the energy industry's political strategy entailed a long-term lobby effort to pressure Congress and the Executive Branch to subject environmental controls to benefit–cost analysis. The political strategy entail a public relations campaign by the energy industry maintaining that economic growth would suffer if environmental policies were implemented.

In response to this corporate agenda, the Carter Administration began to use benefit–cost analysis in the late 1970s to evaluate public policies. Every subsequent president including Bill Clinton—whose presidential campaign promises included increased environmental protection—signed Presidential executive orders that made benefit–cost analysis a central component of environmental regulation (Sunstein, 1996; Yeager, 1991). These executive orders subjected economic policies to a lower level of environmental scrutiny and environmental policies to a higher level of economic scrutiny (Daynes, 1999; Soden and Steel, 1999; Stavins, 2000). To illustrate, despite the wide range of public health and environmental costs from mercury pollution, the EPA's cost–benefit analysis is limited to the effects of neurological damage to children from mercury polluting

coal-burning electrical generators on future wage losses for those children (Krugman, 2011).

The political behaviour of the energy industry did not go unnoticed by the public who became increasingly concerned with the growing power of corporations and the implications of economic policies that benefit corporations at the expense of the natural environment and public health. Public awareness of the imbalance between government power and corporate power was manifested as widespread political and financial support of non-profit environmental organizations. By the 1990s, the USA had the world's largest environmental advocacy organizations; some U.S. NGOs had several million members and their budgets were much larger than their counterparts in other countries (Johnson and Frickel, 1962–1998; Schreurs, 2002, 2011, 25). However, U.S. environmental NGOs had limited success in slowing the expansion of corporate power.

The expanding political influence of Independent Power Producers, 1996–2008

After a market niche in the electrically energy industry was created for IPPs, they mobilized politically to further advance their capital accumulation agendas. A key component of their political strategy used existing state structures that were established to allow individual and community consumers of energy to resolve complaints against energy companies. IPPs used this mechanism to file complaints with the Federal Energy Regulatory Commission (FERC) asserting that current organizational and political–legal arrangements created asymmetrical information in energy markets. Their primary complaint was against vertically integrated utility companies that had access to demand and scheduling information through their subsidiaries that owned transmission lines. IPPs maintained that greater access to market information gave utilities an unfair advantage.

When it became apparent that the FERC would respond to these complaints, both types of energy companies became more politically active. On the one hand, the mean value of political action committee (PAC) contributions by electrical energy corpora-

tions in the US Standard and Poor's 500 almost doubled between 1997 (\$57,000) and 2001 (\$102,000) (Center for Responsive Politics, 2002). On the other, led by Enron Corp., IPPs increased their spending on lobbyists who pressured members of Congress and the FERC to revise corporate–state relations in ways that provided them with better access to electrical transmission lines.

IPPs legitimated this political strategy by employing efficiency arguments to claim that access to transmission lines would increase competition and provide consumers with low-cost energy. Unwilling to give up their market advantage, utility companies mobilized politically to oppose the change. However, IPPs prevailed. In 1996, the FERC issued Orders 888 and 889 requiring utility companies to make information on access to transmission lines available to IPPs (*Congressional Quarterly Weekly*, 2006, 3). This public policy is important because it eliminated another important difference between regulated utility companies and unregulated IPPs. Now, both categories of energy companies could use the parent-company subsidiary structure, own production facilities and access information on transmission lines.

Initially, this public policy resulted in an expansion of IPPs, which increased the supply of energy. However, as production capacity and market competition increased, several states became concerned that deregulation would make vertically integrated utility companies uncompetitive and force them into bankruptcy. To avoid the potential loss of energy production capacity, California and 24 other states revised their pricing models for utility companies. However, this change came too late and by 2000 many utility companies filed for bankruptcy or were forced to sell some of their parts (that is, subsidiaries) to survive.

The bankruptcy and subsequent breakup of some utility companies occurred, in part, because elected government officials in regional states did not understand the linkages among policies governing the production, transmission and sale of electrical energy. A critical part of these corporate–state relations was the Supreme Court's interpretation of the '1935 Public Utility Holding Company Act' to limit the regulatory authority of states to the retail sale of

electricity (that is, residential consumers). As a result, states did not have authority to directly regulate the wholesale market, which sells to (i) commercial customers who are large enough to negotiate energy prices, and (ii) intermediary organizations that sell to retail customers. However, approximately 92% of households in the retail market obtain electrical energy from intermediary suppliers who purchase it on the wholesale market (Slocum, 2007). Thus, these corporate–state relations had the effect of indirectly regulating the wholesale market by directly regulating the retail market. When states deregulate the retail market, wholesale suppliers were largely unregulated.

Many of the public utility companies that did not survive this historical transition were acquired by IPPs. As a result, the size, complexity and market share of the energy firms that survived this transition increased. To illustrate, the mean number of subsidiaries held by energy producing parent companies in the US Standard and Poor's 500 increased from 30 in 1999 to 42 in 2001 (Dun and Bradstreet, 2000–2002). The increased size and complexity of IPPs quickly overwhelmed states' regulatory capacity. However, free market advocates continued to assert that the market would coordinate production, transmission and sales, thereby, increase efficiency and lower prices.

However, by 2001, energy blackouts occurred in California and other states. Some of the California blackouts were caused by Enron, which now controlled a large portion of energy distribution system and made most of its profits (and losses) trading energy (that is, operating as a broker between producers and consumers). However, many blackouts were caused by energy suppliers moving electricity across multiple transmission system in search of the highest price, thereby loading transmission lines beyond their carrying capacity. Both problems were an outcome of the provision in Orders 888 and 889 that made information on transmission lines available to all energy companies who used it to transfer energy to the point on the grid that generated the highest profit.

To solve this market failure (for example, blackouts), the North American Electric Reliability Corporation re-regulated the energy market by introducing

a system that tagged all transactions from their origin to their end point. To further stabilize the grid, the FERC issued Order 2000 to replace state-level regulatory agencies with regional non-government organizations to coordinate the distribution of energy and determine whether energy rates are reasonable. However, soon after these non-government regulatory organizations were created, energy companies began to pressure them to lobby the federal government for additional regulatory changes that advance their capital accumulation agendas (Slocum, 2007).

As capital accumulation opportunities continue to increase in the expanding energy industry, in 2005, corporate political activists created Compete Coalition. The stated agenda of this political coalition was to further deregulate regional electrical energy markets and ensure economic and environmental benefits. Between 2005 and 2007, Compete Coalition spent \$1.8 million lobbying government officials (Slocum, 2007). By 2010, this political coalition included more than 400 organizations from a wide range of industries including energy producers, transmission providers, trade associations, economic development corporations, commercial customers and investment banks (for example, Constellation Energy, Exelon, Goldman Sachs, Mirant, Public Service Energy Group and Reliant Energy). Despite opposition from environmental NGOs, Compete Coalition achieved an important political victory when Congress passed the EPAct of 2005. After President George W. Bush signed this legislation, it completely dismantled the Public Utility Holding Company Act of 1935. The emergent political–legal arrangements allowed virtually any type of corporation to acquire an energy company and enter the energy market. Now, in addition to utility companies and IPPs, private equity funds and investment banks could acquire power plants and organize them as subsidiaries under the parent company (see Figure 1). These corporate–state relations resulted in further consolidation within the energy industry. To illustrate, Baltimore Gas & Electric, which is the largest distribution utility in Maryland, is controlled by the parent company, Constellation Energy. Similarly, the parent company Exelon holds ownership control over the largest distribution utility in Illinois.

The transformation of corporate–state relations in this economic sector created a few giant corporations that consolidated control over the production, transmission and distribution of electrical energy with few regulatory controls; between 1997 and 2001, the mean assets of electrical energy companies in the US Standard and Poor’s 500 increased from \$14.9 to \$24.2 billion. As their size increased, their market power also increased, which allowed them to engage in market manipulation. To illustrate, despite the exposure of market manipulations by Enron and other energy companies in the early 2000s, these behaviours continued: between 2005 and 2007 Compete Coalition members paid more than \$1.83 billion to settle market manipulation allegations (Slocum, 2007, 7).

Efficiency claims versus the reality of higher energy costs

Despite the claim that re-regulation would increase efficiency, create competitive markets and lower prices, the emergent corporate–state relations had the opposite effect in many retail markets. Although re-regulation entailed a shift from cost-based pricing to market-based pricing, it also replaced a single regulated supplier (that is, utility companies) with a single unregulated supplier (that is, IPPs) in many regional markets. In some regions the cost of electricity was so high that state governments took legal action against energy companies. For example, in 2007, the Illinois Attorney General filed a complaint against Exelon, a Compete Coalition member, for charging 260% above costs for electrical energy.

Although the previous two decades of economic policy in the energy industry was legitimated by claiming that it would create a market-based pricing system, after these policies were passed energy companies used existing policies and the Courts to obtain approval to pass on higher energy charges to residential customers. For example, the corporate lobby succeeded in retaining the ‘stranded cost’ provision that allowed regulated utilities to recover maintenance and construction costs. In 2004, CenterPoint Energy, Inc., took advantage of this regulatory structure when it made a request to the Texas Public Utility Com-

mission to permit one of its subsidiaries (that is, Centerpoint Houston) to pass construction costs on to its customers. In response, the Commission approved a monthly charge of \$5.10 to residential customers to recover \$2.3 billion. Then, CenterPoint Energy argued that this amount was inadequate and filed lawsuits with the Texas Third Court of Appeals and the Texas Supreme Court to recover an additional \$2 billion. In September 2011, the Texas Supreme Court ruled in favour of CenterPoint Energy, Inc., and permitted its subsidiary to impose an additional \$2.20 monthly rate increase on Houston residents for the next 14 years. Residents of Houston, Texas, where the rhetoric of deregulation was aggressively used by large IPPs such as Enron and Dynegy, pay among the highest rates for electricity in the USA (Steffy, 2011a).

Another contested terrain: the federalist state structure and environmental pollution rules

Throughout the G. W. Bush presidency, environmental NGOs had little success pressuring the federal government to enforce the Clean Air Act. With the election of President Barak Obama in 2008, who vowed to place a high priority on containing environment pollution, environmental organizations renewed their political effort and pressured the President and the EPA to enforce the Clean Air Act and other environmental laws. By 2011, the EPA developed policies to enforce environmental pollution standards that focused on (i) reducing mercury and other toxic emissions, (ii) establishing standards for toxic waste from coal and (iii) enacting a Cross-State Air Pollution Rule to reduce smog and soot pollution. These policies were designed to limit pollution that damaged public health and contributed to global warming, in part, by lowering toxic emissions and exhaust fumes from electrical power plants and other high pollution industries.

The Cross-State Air Pollution Rule quickly became a contested terrain. This conflict emerged because the federalist state structure in the USA allocates enforcement authority over environmental regulations to regional states, which resulted in

substantial variation in environmental pollution rates across states. In addition to the higher CO₂ emission in some states, regional states with lower toxic pollution enforcement standards contributed to public health problems in surrounding states because mercury and other toxic chemicals are transmitted across state lines. Regional variation in the enforcement of the Clean Air Act is partially a response to the early 1980s economic crisis when some regional states attempted to attract business by placing a high priority on economic growth and a low priority environmental health. Further, after the electrical energy industry was re-regulated and IPPs were permitted to enter this market, these parent companies could construct production facilities in states with low environmental pollution standards and sell electrical energy produced in them on the grid where it is transported to other states.

Over the long term, the federalist state structure resulted in substantial variation in regional states' environmental policy enforcement. To illustrate, the Green Index was developed to create a score that evaluates regional states' environmental enforcement. The score is derived by summing 77 environment policy related indicators, including four on Congressional voting records and 73 on state policy initiatives pertaining to environmental issues (Hall and Kerr, 1991). By 1991–1992, regional state green policies scores varied from 764 for California to 2843 for Tennessee; the higher number indicates lower environmental standards.

Regional variation in environmental pollution is, at least, partially an outcome of the federalist state structure that allows states to grant 'flexible' permits to electrical power plants, chemical plants, petroleum refineries and other production facilities. These flexible permits specify the levels of toxic emissions that can be released into the environment from an entire facility, but allows variation for generating units within a facility (Fikac, 2010). In the state of Texas, these permits are issued by the Texas Commission on Environmental Quality, which is the largest environmental regulatory agency in the world behind the EPA. Republican Governor Rick Perry, who has a record of placing a high priority on economic over environmental concerns and receiving political nota-

tions from energy producers, appointed the current commissioners on this state agency. This state agency set the standards so low that the EPA repeatedly warned that Texas emissions levels were a threat to public health and in violation of the Clean Air Act, the Clean Water Act, the Superfund Act and the Resources Conservation Recovery Act (Cusolito, 2010). Environmental pollution levels in Texas are affected, in part, by decisions to permit corporations to build coal-fired electrical generators. Although coal-fired plants generate high profits initially, profit margins decline when pollution emission technology is incorporated into the production process. The recent drop in natural gas prices further undermined the capacity of coal-fired plants to compete in energy markets.

After the US Supreme Court ruled in 2007 that greenhouse gases can be regulated under the Clean Air Act, the EPA notified state regulatory agencies if production facilities located in their states were violation of the Act. The EPA also instructed these states to develop plans to meet federal environmental and public health standards. Although Texas has more greenhouse gas emissions and industrial pollution than any other US state, it is the only one that refused to modify its permit-granting process (Carlton, 2010). Moreover, in 2006, Governor Perry signed an Executive Order that fast-tracked permits requesting construction of new coal-fuelled power plants. In response, environmental organizations such as the Environmental Defence Fund filed a lawsuit asserting that Governor's Perry's actions were unconstitutional. Although the initial court ruling supported the environmental organizations, four coal-fired power plants were constructed. In addition, the Public Utility Commission and the Texas Commission on Environmental Quality approved permit requests for nine additional coal-fired plants (Hart, 2012). Although supporters maintained that coal-fired plants would result in economic growth in Texas, critics pointed out that much of the coal to fuel these plants is transported from Wyoming while Texas has ample natural gas resources, an environmentally cleaner alternative to coal.

Throughout this dispute, Texas regulators, corporations and the Texas Association of Business

asserted that the EPA was encroaching on the state's regulatory programme. These organizations also claimed that production facilities in the state were within the required emission limits (Fikac, 2010). With support from rejuvenated environmental organizations, the EPA continued to pressure the Texas Commission on Environmental Quality to align its permit issuing guidelines with federal pollution and health standards. After a long dispute, in late 2010, the EPA invalidated the permits of more than 120 production facilities in Texas. In response, Governor Perry asserted that the EPA was treading on states' rights.

In 2011, the EPA presented a more comprehensive policy that required corporations in Texas and 26 other states to install pollution controls to reduce sulphur dioxide, nitrogen oxide and mercury emissions (Kollipara, 2011a). This policy was supported by a range of environmental and health organizations including the American Lung Association, Earthjustice, Environmental Defence Fund, Natural Resources Defence Council and the Union of Concerned Scientists. Studies supporting this policy showed that the new limits would save up to 12,000 lives by 2020 and 2.5 million work and school days each year that are lost due to environmental pollution (*The Economist*, 2011). Other studies suggest that the new limits would result in \$5.8–\$14 billion in health benefits in the state of Texas alone (Flower and Kollipara, 2011). In addition, in its annual report to Congress, the benefit–cost analysis conducted by the Office of Management and Budget concluded that the cost savings of these regulations substantially exceeded the cost to society; while costs ranged from \$23 to \$29 billion between 1 October 2000 and 30 September 2010, the annual benefit is estimated to be from \$82 to \$551 billion.

The new rules directly affected the chemical, electrical and petroleum industries, and indirectly affected manufacturing firms and other large consumers of electricity. Although corporate activists knew for years that the EPA was due to reset environmental pollution standards (for example, it was delayed by former President G. W. Bush), they formed a political coalition to oppose the policy. This

political coalition included the American Petroleum Institute, the Business Roundtable, the National Association of Manufacturers and the US Chamber of Commerce. Despite the government's comprehensive benefit–cost analyses, this coalition hired a lobby group to conduct a separate analysis, and continued to maintain that the policy placed a heavy financial burden on corporations and undermine job growth.

Opposition to this policy also emerged from Governor Perry, the Texas Attorney General and the Electrical Reliability Corporation of Texas. Unlike the other eight regional electrical reliability councils in North America that oversee the grid, which consist of a network of electrical power producers located in different US states and Canadian provinces, the Electrical Reliability Corporation of Texas operates its own grid. This grid is connected to 550 generators, carries 85% of the state's transmission load and supplies 23 million customers with electrical energy. Moreover, there is substantial corporate influence on the Electric Reliability Council of Texas whose board of directors includes executives in the largest energy firms in the state: CenterPoint Houston, Constellation Energy, Shell Energy of North America, South Texas Electric and Valero Energy Corporation.

In addition, some corporations launched their own strategies to block the EPA from enforcing the Clean Air Act. On such corporation is Energy Future Holdings Corp. Its subsidiary, Luminant Generation Co., operates some of the largest electrical power plants in the state and its Martin Lake plant is the largest emitter of environmental pollution in the state (for example, almost 19 million tons of CO₂ and other heat-trapping gases) (Tresaugue, 2012). In a lawsuit against the EPA, Luminant claimed that it was unable to absorb the cost associated with the proposed environmental standards and threatened to shut down two power plants that would result in a loss of 500 jobs. They also maintained that these plant shutdowns may result in a failure in the state's electrical grid. The EPA challenged many of Luminant's claims with its own study showing that Luminant could use existing technologies and purchased emissions credits to meet the new standards (Kollipara, 2011b). Despite this evidence, Luminant's parent

company, Energy Future Holdings Corp., spend approximately \$60,000 lobbying members of Congress on environmental legislation (*TexMessage*, 2011). Other parent companies with substantial investments in Texas (for example, ExxonMobil and CenterPoint Energy) joined Energy Future Holdings Corp. to lobby members of Congress.

Although Energy Future Holding Corp. and Luminant claimed that they had insufficient resources to update their production facilities, this cash-flow problem was, at least, partially due to the parent company's diversification strategy. In 2007, Energy Future Holding diversified into finance by acquiring two private equity firms for \$43 billion (Steffy, 2011b). However, the sharp decline in financial markets that followed the 2008 financial crisis left the parent company with high debt and low profits from these acquisitions. The subsequent Great Recession further strained the parent company's finances. In addition, Luminant's cash flows problems were exacerbated by an increase in the availability of lower priced natural gas, which lowered profit margins from its coal-fired plants compared to plants fuelled by natural gas.

In contrast to Luminant, NRG, which is the second-largest electrical producer in Texas, expects to comply with the EPA regulations without job losses or disruptions in service. Moreover, 60% of the nation's power plants already comply with the new EPA rule and several plants meet or exceed the goal of reducing emissions by 90% in 2015. Many of these corporations are located in states that previously adopted the EPA guidelines. For example, after Illinois adopt these federal guidelines in 2007, the amount of mercury and mercury compounds emitted by its 23 power plants dropped by 44% between 2008 and 2010 (*McClathy Newspapers*, 2011).

On the 2nd of September 2011, President Obama appeared to be prepared for a political compromise when he agreed to extend the lenient G. W. Bush era environmental enforcement standards. Despite this decision, Texas lawmakers filed a lawsuit in federal appeals court on September 21 to block implementation of the EPA rule. The business coalition also continued to lobby members of

Congress. This strategy succeeded in the House of Representatives when House members (for example, Bill Flores R-TX) representing states that opposed the EPA argued that the Cross-State Rule and the mercury pollution rule were impediments to job growth. On 23 September, the House passed the Transparency in Regulatory Analysis of Impacts on the Nation Act of 2011 (H.R. 2401) to prevent mercury, sulphur dioxide, nitrogen oxide emissions and cross-state pollution standards from being adopted. In its current form, this bill would dismantle core elements of the Clean Air Act. However, it will be met with strong opposition in the Democratic controlled Senate and President Obama's senior advisors recommend that he veto it. Despite the challenge from the Republican Party, on December 21, the EPA announced that it would proceed with enforcement of the Clean Air Act.

Discussion and conclusion

The historical analysis of economic and environmental policy in the US electrical energy industry supports the central tenets of the relational conception of the state. In response to declining capital accumulation opportunities in the 1970s, regulated utility companies mobilized politically to transform corporate-state relations. One component of the corporate response was to dismantle a central pillar of the state's regulatory structure: the 1935 Public Utilities Holding Company Act. To achieve this agenda, the energy industry aligned its economic agenda with the state's agenda to reduce dependence on foreign energy. By 1978, Congress enacted policies that exempted energy companies that were not organized as monopolies (that is, engaged in generation, transmission and distribution) from the Public Utilities Holding Company Act. Because these corporations (that is, IPPs) were structured in different ways than regulated monopolies, they had different economic and political interests. These competing economic interests were manifested as political conflict between these class fractions. To advance their economic interests, IPPs mobilized politically to create market advantages. Regulated monopolies, in turn, argued that they were unfairly

disadvantaged by these corporate–state relations and lobbied for additional policy changes. In addition to mediating this political conflict, after the state intervened in the economy it established socio-political legitimacy for other capitalist class fractions to mobilize politically to advance their interests.

The structure of the state also affected corporations' strategy to delay implementation of the Clean Air Act and other environmental legislation. In this policy arena, pro-business interests in some regional states used the federalist structure of the state to advance their economic agenda. In Texas, control of critically important regulatory organizations permitted elites to place a high priority on economic growth at the expense of environmental sustainability agendas. These priorities were manifested as permits to firms whose pollution rates exceeded EPA guidelines and licenses to construction coal-fired energy plants that pollute at a higher rate than alternative readily available fuels such as natural gas.

The analysis also shows that after policies and enforcement structures are established they become of focus of future political behaviour. During the early phase of re-regulation, the Carter administration expanded benefit–cost analysis to evaluate a wider range of government policies. After this policy was implemented, corporations pressured each subsequent president to make benefit–cost analysis a central component of environmental regulation. Over the long-term, incremental changes in this policy subjected economic policies to a lower level of environmental scrutiny and environmental policies to a higher level of economic scrutiny (Daynes, 1999; Soden and Steel, 1999; Sunstein, 1996).

Instead of creating market competition and increasing efficiency, corporate–state relations undermine efficiency in several ways. First, the introduction of market-based models created incentives for corporations to search for the highest price on the grid, which resulted in transmitting electricity through several transmission points over long distances. This practice contributes to overloading the grid, increases energy loss during transmission and raises the probabilities of blackouts. The inefficient transmission of electricity requires costly expansion and updating of the grid, which uses

more natural resources and increases corporations' ecological footprint. The inefficiency of this market-based model is one reason why the US accounts for a large portion of the world's CO₂ emissions. Second, by permitting energy companies to pursue 'financialization' strategies (that is, accumulating capital through financial transactions), these corporate–state relations resulted in the inefficient use of organizational resources. Lead by Enron Corp., independent energy producers succeeded in convincing Congress to pass legislation that permitted them to trade energy derivatives (Prechel, 2003). Despite the catastrophic failure of financial diversification at Enron, corporate–state relations continue to permit parent companies to diversify into finance. Dynegy, which also engaged in energy derivatives trading, verged on bankruptcy for much of the early 21st century and filed for bankruptcy in late 2011. Cash flow problem associated with diversification into finance also emerged at Energy Future Holdings whose profit margin declined after the 2008 financial crisis. When it became clear that the EPA would enforce the Clean Air Act, Energy Future Holdings Corp. and its subsidiary Luminant claimed that they did not have the capital to comply and mobilized politically to block enforcement of this 40-year-old policy. Third, the new corporate–state relations also permitted investment banks to diversify into energy that advanced their economic agenda at the expense of the natural environment and public health. To illustrate, in 1998, Goldman Sachs acquired Orion Power Holdings and its power plants in New York, Ohio and Pennsylvania. Although the sale of these assets to Reliant Energy in 2001 resulted in a \$1 billion profit for Goldman Sachs, few improvements occurred in either the environmental efficiency of these firms. In contrast to the neoliberal claim that corporations provide goods to individuals who exercise choices through their consumption decisions, this analysis shows that corporations exercise power in ways that both define the parameters of those choices and contributed to the inefficient use of natural resources.

The reconfiguration of corporate–state relations between 1978 and 2008 was the outcome of political

capitalism, which placed a high priority on economic growth and a low priority on environmental sustainability and public health. Corporate–state relations shifted firms in this industry towards the disembedded end of the embedded–disembedded continuum. The emergent organizational and political structures permit energy companies to create large and complex corporations that control a large share of regional energy markets. Moreover, there is little to suggest that the current corporate–state relations will limit further corporate expansion and market control. If the proposed merger of Duke Energy and Progress Energy is approved by the FERC, it will create a corporation that provides electrical energy to 7 million customers in 6 regional states.

The analysis provides little evident to support the rhetoric that energy firms are committed to the new ‘corporate environmentalism’. Instead of moving towards environmental sustainability, energy companies engaged in political capitalism to circumvent the Clean Air Act and other environmental legislation. The analysis also provides little evidence to support the neoliberal claim that energy firms are committed to establishing free markets. After the economic downturns in the 1970s and 1980s, corporations mobilized politically to change corporate–state relations in ways that allowed a small number of less-regulated energy companies to dominate energy markets. These new corporate–state relations resulted in higher energy prices in many residential markets; by 2007, the price of energy in the 14 states that most aggressively pursued deregulation was 52% higher than in states with more resolute regulatory controls (Slocum, 2007, 6).

Although environmental organizations maintain widespread support from the public and have carved out a political space where they attempt to advance policies that reduce environmental pollution and improve public health, this political space remains small. The prevailing corporate–state relations created an imbalance between corporate power and state power in ways that increase the power of the ‘managerial class’: managers who own a substantial amount of corporate stock. These political–legal arrangements limit the capacity of the working and middle classes to access the political process and

influence public policy in ways that advance their interests. As a result, policy debates in Congress are dominated by lobbyists who compete politically to advance the treadmill of production agendas of the capitalist class fractions that hire them.

Endnotes

¹ This formulation of embeddedness is consistent with Polanyi’s (1944 [2001]) now classic work that conceptualized political–legal arrangements that reinforce property rights as central.

² This recent expansion phase is part of the historical process where economic growth and expansion is cyclic, not linear, across time (Marx, 1867 [1977]; Polanyi, 1944 [2001]; Schumpeter (1950).

³ Relational conceptions of the state are in sharp contrast to state autonomy theory, which conceptualize state structures as providing state managers with the autonomy to pursue agendas that are independent of powerful political constituents outside the state (Skocpol, 1985).

⁴ Although important differences exist in their conception of capital–state relations, political capitalism is implicit or explicit in a wide range of writers in the classical theory tradition including Karl Marx, Max Weber, Karl Polanyi and C. Wright Mills.

⁵ Managerial class consists of managers who own large amounts of corporate stock (i.e. they are both managers and owners) (Prechel and Morris, 2011). Although many top managers of the largest corporations owned stock since the 1950s, this class rapidly expanded in the 1990s when stock options became a widespread form of executive compensation.

⁶ Research in organizational studies tends to ignore these political–legal arrangements and maintain that the multi-divisional form emerged because of the managerial efficiencies of this form (Chandler, 1962) or internal culture–political struggles (Fligstein, 1990).

⁷ Similarly, bank holding companies were regulated under separate New Deal polices.

⁸ These producers are also known as non-utility generators (NUGs).

⁹ These new corporate–state relations did not reduce corporate debt levels over the long term, because corporations issued large amounts of debt after the mid-1980s, in part, to finance their merger and acquisition strategies (Mizruchi et al., 2006; Remolona et al., 1992).

¹⁰ Re-regulation is used here because many of the policy changes in this economic sector did not entail deregulation as traditional understood: the shift from government regulation and oversight to markets. Instead, many policies embedded corporations and markets in different political–legal arrangements, which made different corporate behaviours viable.

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