

## Chapter 2: The Problem with Regulation

*"We must proactively address flaring with fair, predictable, commonsense regulations based on science and fact. If we don't, we can expect the anti-fossil fuel folks, including the EPA, to once again attempt to curtail oil and gas production in our state by using politically motivated rulemaking to implement their political agenda."*  
(Texas Railroad Commissioner David Porter, 2012)

Texas state regulators are strongly opposed to consider curtailing oil and gas production to force companies to eliminate routine venting and flaring. Right now, with the support of the Texas Railroad Commission (RRC), the state agency responsible for regulating the Texas oil and gas industry, routine flaring is permitted with little administrative costs. However, this has not always been the case. In the 1940s, the RRC implemented no-flare bans and curtailed or completely shut down production at wells that failed to cease flaring and venting activities. Essentially, the RRC went from banning routine flaring and enforcing bans by curtailing production in the early twentieth century, to permitting routine flaring throughout the late twentieth and early twenty-first century. So, what changed? Why and how did the RRC ban routine flaring in the past? Under what conditions does the RRC now allow routine flaring? How and why is the RRC tackling the problem differently? To answer these questions, we must explore the political economy of the environment more deeply.

### 2.1. Tragedy of the Commons in the Oil and Gas Industry

While Marxists have long argued environmental problems are linked to capitalism, this idea did not become popular among the general public in the United States until 1968 when Hardin published his famous article, "Tragedy of the Commons". Using a metaphor of shepherds sharing a common pasture while pursuing their unfettered self-interest, the article demonstrates how free-market systems are destined for ecological collapse.

As a rational being, each herdsman seeks to maximize his gain. Explicitly or implicitly, more or less consciously, he asks, "What is the utility to me of adding one more animal to my herd?" This utility has one negative and one positive component. (1) The positive component is a function of the increment of one animal. Since the herdsman receives all the proceeds from the sale of the additional animal, the positive utility is nearly +1. (2) The negative component is a function of the additional overgrazing created by one more animal. Since, however, the effects of overgrazing are shared by all the herdsmen, the negative utility for any decision-making herdsman is only a fraction of -1. Adding together the component partial utilities, the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another; and another.... But this is the conclusion reached by each and every rational herdsman sharing a commons. Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit--in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all. (Hardin, 1968: 1244)

The oil and gas industry faces its own tragedy of the commons. Numerous different producers with competing interests are each drawing from a shared field with a finite number of petrochemicals. Furthermore, as the field goes dry, it becomes costlier for producers to extract oil and gas. As such, a rational producer will attempt to extract more oil and gas faster than their competition. However, if everyone pursues their rational self-interest, the market would become flooded, the extracted resource would lose value, and the field would quickly run dry.

Due to the tragedy of the commons facing the industry, both industrial and citizen groups supported early efforts by the state to conserve oil and gas. These group efforts received common support, as the national conservationist movement neared its height. In response to growing concerns by the industry and conservationists alike, in 1917 the Texas state legislature proclaimed “...The *preservation and conservation of all natural resources* of the State are each and all hereby *declared public rights* and duties and the Legislature shall pass all such laws as may be appropriate thereto.” To create instruments to support their proclamation, the Texas Legislature passed Senate Bill 68, which provided the RRC with resources and authority to set and enforce regulation limiting wasteful practices in the Texas oil and gas industry. The bill gave the RRC the power to: (1) set punishments against those that violate conservation laws through fines and jail sentences, (2) control pricing rates for the transportation of crude petroleum and natural gas, and (3) levy taxes to support the agency’s efforts.

## 2.2. A Historical Approach to Class Power and Environmental Politics

While I have referred to the oil and gas industry as a group, it is not cohesive. The oil and gas industry is made up of numerous factions with competing interests. For example, since it is economically infeasible for producers to buy up the mineral rights to all lands where oil and gas is extracted, producers rely upon contracts with royalty owners to lease mineral rights. Royalty owners are the individuals that own the mineral rights of land, and lease out those rights to oil and gas companies for a portion of the profits. While this transaction requires agreement and cooperation, it is also riddled with conflict. It is within both groups’ interest to keep a larger share of the profit and it is a zero-sum game. If the producer keeps a larger share of the profit, the royalty owner receives less. The oil and gas industry is riddled with these types of within industry conflicts.

Political theorists have long debated how industrial competition relates to the regulatory state. Much of the debate centers around who has political power in the modern social system: the capitalist class or professional bureaucrats.

Class theorists such as Marx (1867), Lenin (1982), and Poulantzas (1973) claim the state functions to support the ruling economic class. The state provides legitimate coercive power for capitalists to better achieve their interests (Lenin 1982). Rules and regulations, such as those that established and protected private property, are made to create and reproduce modern class relations (Polanyi 1944). Even though the capitalist class is split and the state must maintain relative autonomy to resolve within class conflict, the capitalist class can politically dominate by forming a ruling power bloc consisting of a portion of leading industrial groups (Poulantzas 1973).

On the other hand, state autonomy theorists claim that professional bureaucrats (i.e., state managers) have the power to transcend class structures and control the regulatory state (Block 1980; Evans, Reuschmeyer and, Skocpol 1985). The interests of state managers are not the same as capitalists. State managers seek to use their knowledge and position to improve their status, sometimes

using their political power to act in their own interests, regardless of powerful industrial actors. As such, the regulatory state cannot be reduced to the interests of the capitalist class. Because state managers are more unified and hold bureaucratic power, they can independently influence the structure and routines of the regulatory state, despite opposition from the capitalist class.

Historical contingency theory provides nuance to the debate by conceptualizing capitalist class power and state autonomy as two extremes on a continuum (Prechel 1991). While under some conditions state autonomy theory better explains political outcomes and class theory provides less, under other conditions the opposite occurs. From the historical contingency theory perspective, the political power of the capitalist class over state managers is related to how unified the industry is (i.e., when the industry is unified it can have power over the state), and business unity varies over time (Akard 1992). Some of the historical conditions affecting the distribution of power include economic downturns, as it provides urgency for organizations to create structures that will resolve immediate economic needs (Prechel 1991). Both the state and corporations are organizations that require economic resources and legitimacy to survive. When historical conditions increase capital dependence and uncertainty (like during economic downturns), corporations unify around prevailing public policy, to change it in such a way that it better suits immediate economic interests. State regulation reflects historical conflicts, where, during times of economic expansion and stability, state managers exercise control over the industry and during economic crises, the industry unifies to create state structures that better serve immediate capitalist interests.

Likewise, the development of Texas oil and gas conservation regulation is the result of historical conflicts where the dominating political groups varies over time. In the early 20<sup>th</sup> century, the RRC maintained regulatory dominance over a highly fractured industry. However, as the global economy grew, the power of the RRC over the industry decreased. During an economic crisis in the late 1980s, the industry exercised its power to push the agency to deemphasize conservation and instead create flaring policy that better serves the immediate economic interests of the industry.

## 2.3. Historical Analysis

### 2.3.1. Texas Oil and Gas Industry Regulatory Origins (1880s)

The oil boom in the early twentieth century transformed Texas, providing significant economic growth for the state. Exploration of gas began in 1892 when exploratory drilling was conducted on Spindletop Hill. Around this same time, U.S. motor companies began to produce automobiles. As the automobile industry began to expand, demand for and value of crude oil increased. The oil industry in Texas exploded in 1901 in Spindletop with the eruption of Lucas Gusher. Shortly after, numerous new fields were opened, exploration and production expanded, and refineries were build. By the 1930s, Texas produced twice as much oil as any other state (Brown 2010).

However, the emerging industry was constrained by anti-trust laws and regulatory agencies established from populist triumphs throughout the late 1800s. One key agency established from the populist movement was the RRC. After winning the governorship upon campaigning to better regulate railroad monopolies, Governor Jim Hogg worked with the state legislature to establish the RRC in 1881. Governor Hogg aimed to avoid situations where the industry could buy elections by creating the RRC as an appointive agency. He appointed the first three commissioners: Senator John Reagan, Judge W.P. McLean, and L.L. Foster. However, a few years after the agency was established the Texas Constitution was amended to change the agency to be run by three elected commissioners. Each commissioner holds

a six-year term and there are elections every two years. If a commissioner steps down, the governor has the power to appoint a commissioner to serve until the next election. The establishment of the RRC as an elected agency rather than appointive one had long-term consequences, especially with big money in modern politics. Governor Hogg's fears have come to life, yet, because the agency later functioned to primarily regulate oil and gas rather than railroads, it is the oil and gas industry, not the railroads, that pour money into elections so that industry candidates dominate. In short, the creation of the RRC as an elected agency regulating railroad ended up having long-term consequences on the regulation of the oil and gas industry.

### 2.3.2. Political Conflict During the Gusher Age (1900s-1930s)

While regulation is often viewed as bad for capitalists, upon the establishment of the oil and gas industry in Texas, capitalists supported regulation to enforce contracts and coordinate a fragmented market to prevent over production. During the first Texas oil boom the state served the function of mediating conflict among capitalists, rather than between capitalists and the working communities in which capitalist facilities are located. In an attempt to juggle competing capitalist interests, early venting and flaring policies continuously changed.

In the early days of the industry, the state and industry battled over what is considered waste, especially in regards to venting and flaring. At oil and gas wells, companies extract a mix of oil, non-associated gas (i.e., raw natural gas), associated gas well gas (i.e., raw natural gas mixed with oil and other hydrocarbons at a gas well) and/or casinghead gas (i.e., raw natural gas mixed with oil and other hydrocarbons at an oil well). While oil is considered "black gold" because of its high value, natural gas extracted along with the oil held little value in the early marketplace. In attempt to extract the most amount of oil, fastest, and with the least amount of initial expense, rather than purchasing the equipment to collect, store, and transport the extracted natural gas, many operators chose to waste the finite natural resource through venting or flaring.

Early venting and flaring policy developed as the state served the function of mitigating conflict between competing class segments within the oil and gas industry. For instance, the first regulations developed as an attempt to ease conflict between producers and royalty owners (i.e., those who own the rights to drill on Texas land). Conflict between these two groups was divided over what was considered necessary waste. You see, companies do not always own the mineral rights for the geographic areas where oil and gas is extracted. Some companies must compensate the owners of the mineral rights through royalty payments. While operators profit from quickly (and not always carefully) drilling, extracting, and collecting the more valuable oil and gas and moving on once the well goes dry, royalties owners can only profit from selling the finite number of natural resources on their land. In short, natural gas royalty owners saw flaring non-associated gas (i.e., the primary commodity of a natural gas well) as unnecessary waste that they could not profit from. On the other hand, production companies saw flaring non-associated gas as a sometimes acceptable waste in pursuit of immediate profits. Consequently, royalty owners urged state leaders to ban the venting and flaring of non-associated gas at gas wells so that the natural resources they owned could be better protected from production company waste through venting or flaring. State managers supported the royalty owners because vented or flared gas also resulted in lost state revenue. Gas that was vented or flared was not subject to state tax; the valuable natural resource is simply released into the air. In short, once released into the atmosphere through venting or flaring, the natural resource lost all economic value. For this

reason, in 1899 Robert Prince of Corsicana led the state legislature to ban the venting and flaring of non-associated gas 10 days after a gas well's completion (Texas Congress 1899).

Competing for profits in the expanding industry, throughout 1918 and 1919, royalty owners, federal regulators, gas refineries (who would profit from processing associated gas that was currently being flared), and some conservationist independent producers pressured state managers to expand flaring policies to better enforce early natural gas and oil conservation regulations by questioning the adequacy of state-level environmental governance. For example, the United States Fuel Administration named inspectors to investigate the waste of natural gas in Texas (*Dallas Morning News* 1918). In another public act criticizing the adequacy of state regulation, the Wichita County Producers and Refiners' Association announced producers would be working with local police departments to enforce conservation laws since state-level enforcement was inadequate (*Dallas Morning News* 1919).

With legitimacy at risk, the state reacted by enhancing and exercising their authority to regulate oil and gas. In 1919, Senator Carlock of Fort Worth introduced Senate Bill 350, which gave the RRC the authority to regulate Texas oil and gas production practices (Texas Congress 1919). This law mandated each company provide the RRC with thorough records of oil and gas operation, production, and disposal activities. Furthermore, the bill forced organizations to obtain a certificate of compliance to RRC regulation to lawfully operate in the state. This law allowed the RRC to regulate oil and gas production and limit production to minimize waste. Since until the Organization of the Petroleum Exporting Countries (OPEC) was established in the 1960s Texas controlled a major portion of the world's discovered oil and gas reserves, this law empowered the RRC to significantly influence world gas prices (Prindle 1981). In 1931, RRC's first proration order (i.e. a legal order limiting well production) went into effect. Although oil and gas production company leaders defied state regulatory efforts, Governor Sterling (1931) declared martial law, forcing corporate compliance.

Despite state efforts to better conserve gas, throughout the 1920s, the oil industry successfully resisted the efforts of state managers, royalty owners, pipeline companies, and refinery companies to ensure state policy provided legal opportunities to flare gas at oil wells. For example, in 1925 after a royalty owner filed suit against an oil production company, the resulting legal rulings required producers pay royalties for sold casinghead gas, yet producers are not liable for economic losses to royalty owners from wasted gas (*Livingston Oil Corp v. Waggoner*). Because of state laws which explicitly prohibited flaring at gas wells but not oil wells, state managers were met with the difficult task of differentiating between oil and gas wells and then only enforcing flaring bans at designated gas wells.

Despite resistance from state managers, due to oil industry lobbyist efforts, the state legislature continued to develop and support state laws which excluded oil wells from flaring regulations. For example, in 1931, prominent Texas state officials, including Governor Neff (1931) and Railroad Commissioner Parker (1931) testified to the state legislature in support of more stringent conservation laws. However, oil producers opposed regulatory efforts; they argued that regulating flaring at oil wells would stop the economic boom occurring within the state (*Dallas Morning News* 1931). Texas was reliant upon the oil industry's tax revenue. In 1931, the tax revenue directly from the oil industry brought in over \$82 million, almost 30% of all state revenue (Texas Almanac 1931). Therefore, the newly emerging Texas oil industry held significant power over state legislatures, who greatly benefitted from the economic growth of the industry. Despite the resistance of state managers, economic dependence and oil industry arguments motivated the state legislature to support the oil industry over

conservationists. Texas legislature passed House Bill 25, which emphasized the RRC's authority to regulate flaring at gas wells, but not oil wells (Texas Congress 1931).

In sum, during the first oil boom, the oil and gas industry was split into various factions. Oil and gas conservation policy regularly changed as competing industrial groups conflicted over regulation. The RRC played the role of managing conflict within a resistant industry. This conflict resulted in laws that provided the RRC with the power to curtail production to minimize waste, yet excluded oil wells from flaring regulations.

### 2.3.3. The Advancement of Conservationist State Leadership, 1930s-1950s

As the Texas oil boom peaked, capitalists continued to be split over regulation. Since the capitalist class was not unified, the state had greater regulatory power over capitalist resistance to environmental regulation. With prevailing state policy and without unified political resistance, during this period, state managers had the power to force companies to invest in the technologies and infrastructures necessary to minimize flaring, which it exercised through scientific and legal means.

Despite oil industry resistance, state managers could expand their authority to regulate flaring at wells by supporting the development of scientific knowledge in the newly emerging industry and transforming legal context through litigation. For example, the RRC hired chemists from the University of Texas to test water-white oil and determine if the substance should continue to be classified as oil (Prindle 1981). Upon raising the temperature and pressure, the chemists found the white-water oil turned into natural gas. This new scientific discovery resulted in hundreds of oil wells being reclassified as gas wells. Since at this point of time, flaring was banned at gas wells, but not oil wells, by reclassifying facilities as gas wells, facilities were no longer legally allowed to flare gas. As a result, the RRC issued "no flare orders" which forced operating companies to shut down well production until the company built adequate infrastructure to capture the gas. In 1932 (*Henderson v. Railroad Commission*), upon being sued by an independent producer for shutting down the wells, the RRC argued regardless of the well's classification, flaring is an economic waste and within the RRC's regulatory jurisdiction. The court agreed.

Although the courts held legal precedent for the RRC to enforce policies to minimize waste at both oil and gas wells, conflict within the industry resulted in inconsistent state legislation. For instance, although policy instituted in 1931 banned flaring gas at gas wells, after pressure from gas stripping companies in East Texas, the state legislature passed Senate Bill 92 (1933). The bill permitted operators to flare gas at gas wells when there is "no reasonable market available" (Texas Congress 1933:222). However, the industry did not cohesively support the bill. Pipeline companies, who economically benefitted from the state forcing companies to transport gas, resisted through an anti-waste lobbying campaign (Prindle 1981). In response, the state legislature held hearings from April 9-12, 1934. Land owners, pipeline companies, refineries, royalty owners, producers, and other industry representatives attended the hearings regarding wasteful flaring practices (Texas Congress 1934).

In 1935, the RRC teamed up with pipeline companies, land owners, refineries, and royalty owners to implement a consistent policy that explicitly banned flaring. With the support of land owners, royalty owners, refineries, and gas pipeline companies, in 1935 the Texas Congress overturned Senate Bill 92 by passing House Bills 266 and 782. The policies enhanced the RRC's authority to prevent waste by shutting down gas wells that flare gas after 10 days of completion. But still, due to the power of the

oil industry over the state legislature, the state legislature avoided conflict with the industry by excluding discussion regarding flaring at oil wells. When the RRC exercised its power by shutting down flaring gas wells, producers responded by filing suit. However, the courts maintained the legality of the shutdown orders (*Clymore Production Co. et al. v. Thompson et al.* 1936).

After this point, state law regarding oil and gas flaring regulation remained unchanged until the 1970s. In short, by 1935, state policy was institutionalized through three mechanisms: (1) the state legislature explicitly banned flaring gas as gas wells without mention of flaring at oil wells, (2) the RRC held the authority to regulate production and waste in the oil and gas industry, and (3) state courts provided legal precedence for the RRC to shut down wells that fail to cease wasteful practices (such as routine flaring), regardless of the well's classification.

In the mid to late 1940s, anti-waste activists used prevailing state policy to institute a strong anti-flaring campaign within the RRC. The campaign gained steam in 1944 during a hearing, when anti-flaring activist and former RRC employee, William Murray, vigorously argued RRC official figures on waste were grossly underestimated; tax payers and royalty owners only knew of a fraction of the total amount of natural gas wasted from routine flaring practices. Forced to respond to his scientifically informed, public critique, the RRC appointed Murray to chair a committee to investigate waste from industry production practices. Once completed, the Murray Committee report revealed the large amount of gas wasted through flaring.

Although some industry representatives resented the Murray Committee report, the industry was not unified in opposition to strong state-level anti-flaring efforts. For example, Dan Moran, the president of Conoco, provided public support for the Murray Committee and argued that for the sake of the long-term interests of the industry, flaring had to stop (Prindle 1981). Public support by some industry leaders legitimized RRC anti-flaring efforts.

The Murray Committee report increased national concern with the waste of natural gas, prompting federal government involvement. In 1946, the Federal Power Commission held hearings regarding gas waste in Texas. Out of fear of federal intervention, industry opposition began to support strong state-level anti-flaring regulation. Supported by industry leaders, governors around the United States formed a coalition to support state-level regulatory control: The Interstate Oil Compact Commission. The Interstate Oil Compact Commission directly lobbied for states to support strong state-level anti-flaring efforts. In response to increased pressure from both within the state and across the nation, the Texas Governor appointed William Murray to serve in a vacant RRC Commissioner seat, an action supported by the Interstate Oil Compact Commission (Morehead 1947).

Shortly after William Murray was appointed to the vacant RRC Commissioner post, the RRC began to implement strong conservationist policies, curtailing production until producers ceased wasteful flaring practices. The RRC issued an order to shut down 615 oil wells in South Texas until corporations built the infrastructure to prevent flaring casinghead gas (Wells 2014; Prindle 1981). Corporations filed suit. The Texas Supreme Court held the RRC could shut down flaring oil and gas wells since state legislation authorized the RRC to implement policy to minimize waste in the oil and gas industry (*Railroad Commission v. Shell Oil* 1947).

In brief, Texas state policy regulating flaring at oil and gas wells emerged before the turn of twentieth century. Responding to threats of federal intervention during a period of economic growth,

the governor appointed a conservationist anti-flaring activist engineer as a RRC Commissioner, William Murray. With the support of key state and industry leaders, Murray emerged as a strong conservationist leader who used the power of the state to shut down wells until they built the infrastructure necessary to eliminate routine flaring. Because of Murray's efforts, the industry was legally forced to minimize flaring practices by investing in the equipment necessary to capture natural gas and either reinject it into an underground reservoir or build the infrastructure necessary to transport natural gas to consumers.

#### 2.3.4. State Responses in the Global Era (1960s-1990s)

While prior to globalization, Texas controlled most of the known oil reserves, upon the rise of the global marketplace, the RRC is no longer the regulatory powerhouse it once was. As the result of busts, increased completion, and industry cohesion, RRC policy became increasingly influenced by capitalists. Thus, during this period, policy shifted to increase the legal opportunities for oil and gas companies to flare natural gas.

In 1960, the Organization of the Petroleum Exporting Countries (OPEC) was established, overtaking the RRC's power in setting gas prices by regulating a major portion of the world's oil production (Prindle 1981). As the oil and gas industry globalized, the RRC no longer held regulatory control over most of the known oil and gas reserves. In this way, globalization decreased the power of Texas state managers. By the late twentieth century, oil companies exercised their power to change RRC policy to allow legitimate routine flaring at oil wells.

The power of OPEC to influence oil and gas prices created new industry pressures. The 1970s Middle East crisis resulted in an OPEC oil embargo and gas prices rose (Cross 1970). As the nation faced a natural gas shortage, producers were pressured to supply national demand. However, Texas oil and gas producers aimed to avoid federal regulation, specifically the 1938 Natural Gas Act, which gave the federal government authority to set prices and sales for all gas transported through interstate pipelines. As a result, although Texas faced an oversupply of gas, producers failed to sell the gas to customers across state lines during a period of national shortage.

The 1970s oil and gas crisis also created new risks for the RRC. The RRC came under intense scrutiny because, while the nation faced a shortage, Texas dealt with a surplus because producers refused to sell gas across state lines to avoid the 1938 Natural Gas Act. To manage oversupply, the RRC ordered a prorationing of gas, limiting Texas gas production. This regulatory action acquired national attention in 1978, when, on the popular national news program "Face the Nation," Senator Henry Jackson directly accused the RRC of price fixing and suggested federal control of Texas gas (Prindle 1981). The RRC and the industry were forced to do something in response.

In response to external political and economic pressures, the oil and gas industry politically unified to claim prevailing state regulation established organizational complexities which created legal and economic disincentives for the industry to meet national needs. Industry representatives argued that failures to supply natural gas were the result of inflexible and unclear regulations impeding the discovery of new gas wells and deterring sales of gas across state lines. The federal government conceded to industry arguments and amended the 1938 Natural Gas Act to end federal regulation of natural gas prices sold across state lines (Walden 2008).

Under pressure to better regulate the industry and facilitate growth, the RRC was also forced to respond. However, with the industry unified, corporate hegemony (i.e. corporate dominance over ways of thought) limited the viable options of state actors. Furthermore, as elections started to become more expensive, RRC leaders became increasingly dependent upon industry financial support for political elections. Accordingly, the RRC responded by regurgitating industry framing of the problem. Statewide Rule 32 was passed, “to provide needed flexibility in gas operations,” (Texas Register 1978: 1020). Like previous regulation, Statewide Rule 32 banned flaring of gas at gas wells after 10 days of a well’s completion. However, the rules provided the opportunities for bureaucratic exemptions; gas well operators were required to file a request to flare gas due to cleaning and repair needs. The RRC held the responsibility of implementing a permit system and fining gas wells that flared without obtaining a permit. However, the RRC did not receive adequate funding to manage their increased administrative burdens.

Throughout the 1980s, oil and gas companies were again under threat from RRC anti-flaring regulatory actions. Without administrative code regulating flaring casinghead gas at oil wells, legal precedent provided state managers with the capacity to restrict the production of flaring oil wells. Due to increased flaring activity, RRC engineers recommended operators cease wasteful flaring practices (Singletary 1982). Examiners found, despite adequate pipeline infrastructure, operators were flaring gas in the Giddens Field area (Singletary 1982). In response, regulators issued no flare orders for Giddens Field, limiting the production of wells in the area (RRC 1982). In 1986, due to continued waste, the RRC limited the production of oil wells throughout the entire state (RRC 1986).

The RRC was pressured to initiate strong anti-flaring actions out of fear for loss or dual regulatory control by other state and federal agencies. For instance, the Environmental Protection Agency (EPA), began to pressure the Texas Air Control Board (TACB) to meet federal ozone standards. As part of its response, TACB scrutinized emissions from oil and gas flaring practices and contacted the RRC (Bradford 1986). The RRC feared external intervention into their affairs and took actions to protect its regulatory authority. RRC officials contacted the TACB against dual regulation by arguing RRC flaring policy focusing on minimizing oil and gas waste should not be interfered by the TACB (Hall 1986:2). To maintain their authority and legitimacy as the sole regulator of Texas oil and gas well flares, the RRC was again pressured to respond. “In order to prevent avoidable physical waste” (RRC 1987: 1), rather than simply limit production, the RRC issued shut down orders for flaring gas. Thus, the oil industry faced increased threats of the start of a new wave of strong anti-flaring regulatory actions.

Economic and political threats motivated the oil and gas industry to unify and cohesively respond in opposition to strong RRC anti-flaring policy. After increased production in response to the oil shortage of the 1970s, an oil glut created economic turmoil for oil and gas production companies in the 1980s. Strong anti-flaring state policy threatened corporate profits, as companies with few liquid assets preferred to expediently extract oil and burn excess gas, rather than invest in the infrastructure and technology necessary to bring extracted natural gas to the market. Accordingly, companies mobilized to erode prevailing state policy which allowed the RRC to shut down flaring oil wells.

Economic and legal threats motivated corporations to unify politically to erode flaring regulations within the RRC. The RRC responded to industry opposition to strong anti-flaring regulatory actions by inviting interested parties to speak at public hearings. During the hearings, the industry

cohesively argued flaring regulations were too burdensome. Industry officials focused on economic expediency and the currently low gas prices (Shook 1985:16):

Dan H. Montgomery, president of Houston-based Commet Resources, is concerned that producers' inability to sell gas is going to affect oil production. Montgomery explained that TXRRC regulations prohibit producers from flaring the casinghead gas produced by many oil wells and reinjecting the gas into the oil reservoir may not be possible. "Casinghead gas can't be sold, it can't be transported and it can't be flared," he said. "Producers are going to have only two choices: shut in an oil well or give the gas away. They lose money either way because they still have to pay the land owners royalties on the production."

By employing economic rationality throughout the hearing, industry leaders claimed immediate economic interests must supersede RRC anti-waste efforts. Even after the hearings, industry officials continued to publicly argue that state anti-flaring regulations threatened state revenues (Shook 1988).

The oil and gas industry used prevailing public policy as a tool to increase legitimate opportunities to waste gas through flaring. Industry efforts in opposition to strong anti-flaring state policy centered on amending Statewide Rule 32. Following industry recommendations, the RRC announced plans to amend policy to include rules for flaring casinghead gas and extend the conditions under which flaring is considered necessary. The proposed amendment expanded the conditions to include the "unavailability of a pipeline or other marketing facility, or other legal uses" (Texas Register 1990a:1680). Upon the passage of the amendment, a permit is approved not just for cleaning and repair (like previous policy), but if the producer claims because pipelines have not been built, not flaring would result in economic delay.

In addition to allowing flaring for immediate economic reasons, the proposed amendments minimized administrative burdens for routine flaring at low producing wells. The following section was added (Texas Register 1990a: 1680):

The Director of the Oil and Gas Division, or the director's delegate, may administratively grant exceptions in the manner authorized by subsections (a)(2), (b) and (c) of this section. Exceptions granted pursuant to this subsection may not exceed a period of ninety (90) days; provided that, the ninety-day limitation does not apply for volumes of casinghead gas less than or equal to 5 mcf per well per day.

This policy change minimized the administrative cost for wells flaring 5 mcf or less of gas *each day*. To put this number in context, in 1990, the average U.S. residential consumer used 95 mcf *each year* (United States Energy Information Administration 2010).

With industry push, RRC state managers again regurgitated oil industry economic framing of the problem while overlooking its anti-waste institutional foundation. For example, the RRC emphasized the need to minimize administrative burdens and acquiesced to Exxon's request for a higher exemption threshold. Corporate representatives wrote to the RRC (Hutchinson 1990:1):

Exxon Corporation supports the Commission's proposed changes to Statewide Rule 32 with one exception. Exxon recommends that Section (d) be revised to allow the Director of the Oil and Gas Division or his delegate to administratively approve exceptions to

subsections (a) (2), (b), and (c), without a ninety-day limitation for volumes of gas less than or equal to 25 Mcf/day. The volume limitation in the proposed rule will impose an undue administrative burden on both the Railroad Commission and industry.

As a result, the Commission appointed Mimi Winetroub to review the argument. Legitimizing Shell's argument, Winetroub (1990:1) recommended the changes be approved since it would limit the administrative burden of the permit process (for both state managers and corporations):

Only 23 leases per month (average) flare/vent volumes greater than 25 MCFD. On the other hand, the existing proposed rule with a cut-off of 5 MCFD would place a maximum of 80 cases before the Commission each month.... Exxon Company U.S.A. filed a comment in agreement with the staff recommendation.

Following Exxon's recommendation, the RRC increased the limit from 5 mcf/day to 25 mcf/day (Texas Register 1990b). In short, through direct lobbying, Exxon and other oil industry efforts increased the opportunities for producers to legally flare gas.

Statewide Rule 32 amendments minimized the risk and cost of corporate non-compliance. Flaring regulations shifted from issuing shut down orders to issuing fees for violating Statewide Rule 32. Fines can be issued for up to \$10,000 each day the well flares without a permit. However, fees are rarely issued (Hiller and Tedesco 2014). Instead, the RRC sends warnings to pressure violators to comply to state policy by filing for a flaring permit, which is rarely denied. Individual royalty owners and landowners surrounding a property can sue producers for negligent waste (Wells 2014), but state structure fails to enforce a strong, comprehensive, anti-flaring policy. Instead, current state structure provides corporations with the capacity to legitimately flare gas, and wells continue to flare gas when economically beneficial (McFarland 2014).

In conclusion, globalization decreased the power of state managers over the industry. By the 1970s, OPEC began to have greater control over oil and gas prices. Subsequently, economic downturns pressured state managers to work with the industry to change conservation policy to better meet the immediate economic interests of the industry. State managers employed economic framing to change policy to allow flaring for economic expediency.

#### 2.3.5. Modern Flaring Politics (2000s-2010s)

The change in policy in the 1990s had major consequences during the shale oil boom. With the legal opportunity to do so, many companies have chosen to immediately drill for oil and flare natural gas rather than wait to build the pipeline infrastructures necessary to collect gas in remote fields where gas had been inaccessible until the development of shale drilling technologies, such as fracking. As a result, during the shale oil boom, many communities have been plagued by flaring at oil and gas well sites.

Increased flaring activities during the shale oil boom resulted in increased public concern. Although the industry and state support an economic framing of the issue, environmental activists and health researchers continue to increase public awareness on the environmental, health and economic costs of flaring and venting by the oil and gas industry. Since the 1990s, companies continue to develop technology to reduce flaring and venting emissions (Montgomery 1996). However, many companies fail to invest in new technologies and venting and flaring continues to be a major problem facing local communities. As venting and flaring became more prevalent during the shale oil boom, communities

and corporate shareholders mobilized in opposition. Scientists and environmentalist groups released reports about the impact of flaring on local community health (Morris 1997). Increased citizen concern promoted private investors to call for corporate managers to address the issue (Hayes 2007). Furthermore, oil and gas lawyers have rallied for individuals to take companies to court to stop waste from corporate flaring practices (Wells 2014).

While anti-flaring activists have targeted corporations to minimize venting and flaring, corporate managers blame venting and flaring activities on federal regulations, specifically the EPA (Tedesco and Hiller 2014). Due to increased concern with global climate change, in 2011, the EPA set new greenhouse gas limits. Although, as a result of industry pressure, EPA policy exempted oil and gas wells and pipelines, the regulations still apply to other gas infrastructures, such as processing plants. While some companies overcome constraints by investing in new portable equipment, industry representatives publicly claim flaring is inevitable because EPA regulations prohibit companies from getting quick approval to build the infrastructure necessary to capture gas (Landers 2012).

Aiming to maintain their authority over an industry they are highly dependent upon, state managers within the RRC have aligned with corporate managers in opposition to federal regulation. In a testimony to Congress, RRC Chairman Barry Smitherman argued in support of industry and in opposition to federal environmental regulations (2013): “The key to keeping our nation’s natural gas momentum going is to limit interference from EPA.” Because of continued cohesive industry opposition to federal environmental regulations and in attempt to maintain state authority, Texas sued the EPA (Hiller and Tedesco 2014).

Whereas corporate-state relations were more contentious in the early twentieth century, the early twenty-first century corporate-state relations are more cooperative. State oil and gas regulations have shifted to support cooperative voluntary efforts established in coordination with the industry (*Dallas Morning News* 2013). These cooperative efforts between the state and corporations soothe environmentalist concerns without making significant structural changes. For example, in 2011, to address the problem of flaring, the RRC initiated the Eagle Ford Shale Task Force in coordination with industry officials and headed by RRC Commissioner David Porter. The Task Force was praised by industry leaders (McEwen 2012):

Robison [chairman of the Permian Basin Petroleum Association (PBPA)] praised Porter for taking the initiative on the issue, saying its important flaring is addressed within the state by state regulators before federal regulators step in and address the issue. Porter, he added, has done a good job of keeping the PBPA and other associations in the loop as he studies what can be done and what needs to be done to minimize flaring and its impact on the population.

However, the Task Force did not result in structural changes to limit flaring. Instead, the Task Force argued the flaring problem would be reduced if regulations were clearer and permits were granted at a faster rate (Vaughan 2013). Because of the Task Force’s findings, the state legislature provided the RRC with a \$24.7 million supplemental appropriation to digitize oil and gas reporting requirements and permit applications (Vaughan 2013). Although these administrative efforts speed the process of obtaining a flaring permit, changes do not limit routine flaring. Through membership on state-led environmental interest committees, corporate interests are achieved while placating environmentalist stakeholders.

In sum, regulations established in the 1990s created legitimate opportunities to flare gas. Many companies seized this opportunity during the shale oil boom. As a result, gas is frequently flared at well sites, and the once banned activity of flaring is now an industry norm. However, rather than forcing companies to not routinely flare gas from an adversarial standpoint, the RRC now works with the industry to enhance and maintain legitimate opportunities for companies to flare gas.

#### 2.4. Summary of the Problem with Texas Oil and Gas Venting and Flaring Regulations

Current Texas flaring regulations are problematic because they provide legitimate opportunities for companies to routinely flare gas. All companies can obtain a permit to legally flare gas. Furthermore, administrative burdens to routinely flare 25 mcf/day are minimal, as permits do not have to be renewed. In short, the RRC provides legitimacy for industry routine flaring practices while providing few burdens. Current policies significantly differ from the RRC's strong anti-flaring campaigns in the 1940s.

Research on organizations demonstrates that regulatory organizations shift from their intended purpose due to external institutional pressures (Selznick 1948). In this case, oil industry norms for minimal administrative costs and prioritization of immediate economic interests became increasingly accepted at the RRC, shifting it from its conservationist roots. As globalization decreased the regulatory power of the state, the RRC became increasingly reliant on industry support. As such, when the industry unified in opposition to prevailing policy, state managers adopted industry norms and language as they developed changes to conservationist policies. In short, RRC cooptation by the oil and gas industry is expected, as the agency relies on the industry to survive in the global political economy.

In conclusion, the power of the environmental state varies over time and does not reliably prioritize conservation over the immediate interests of the capitalist class. This is especially true in the modern globalized world. Because the state depends on tax income to survive and competes with others in the global economy, the neo-liberal global political economy has created a "race to the bottom" among state environmental regulators. While, in the 1940s when the industry was still booming, the RRC held the power to regulate a large portion of the world's producing oil and gas fields, that is no longer the case. Now the RRC is subject to regulatory competition. To entice development in the globally competitive industry during economic busts, the RRC shifted its administrative power to prioritize the immediate economic interest of the industry by increasing the legal opportunities for operators to vent or flare gas, despite the long-term environmental, health, and economic consequences.

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