

Greens, Browns and Water Policy Reform in Southern Alberta

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Canada is not typically regarded as an arid, water scarce country, but water scarcity is a perennial and pressing concern in a number of Canadian regions, particularly those with irrigation economies. The largest irrigation economy in Canada is found in southern Alberta, and the allocation and governance of the region's scarce water resources has been a major policy concern for well over a century. Until the 1990s, water policy in southern Alberta was based largely on a 'dam and divert' philosophy: governments sought to get as much water as possible into productive agricultural use through permissive water allocation regimes and publicly funded dam and diversion infrastructure to make water available. Since the *Water Act* (1999), however, this 'dam and divert' policy has been eclipsed by a new 'cap and trade' policy with much different aims. The 'cap and trade' approach places limits on water licences and water diversions, puts an emphasis on redistributing existing water licences as opposed to issuing new water licences, and even contains provisions for returning water to the environment.

The purpose of this paper is to explain the politics behind the transition from 'dam and divert' water policy to 'cap and trade' water policy in southern Alberta, a significant policy change that is thus far unexplored in the Canadian public policy literature. It does so by utilizing the advocacy coalition framework (ACF) developed by Paul Sabatier and Hank Jenkins-Smith in combination with Joseph Nye's notions of 'hard power' and 'soft power' most commonly used in international relations scholarship. It identifies two main advocacy coalitions in the southern Alberta water policy subsystem, an environmentally-based advocacy coalition (the 'Greens') and an agriculturally-based advocacy coalition (the 'Browns'). Until the 1980s, the Browns enjoyed a virtual monopoly on both hard and soft power in the southern Alberta water policy subsystem, allowing them to maintain decades of 'dam and divert' water policies. The controversy over the construction of the Oldman Dam in the late 1980s, however, served as the catalyst for the formation of the Greens and gained them a considerable degree of soft power. Since then, the Greens have built on their soft power and used it to initiate policy-oriented learning amongst the Browns who still maintain a near-monopoly on hard power in the policy subsystem. In this way, the Greens have initiated and the Browns have consented to the introduction of 'cap and trade' policies in recent years, explaining this major water policy transition.

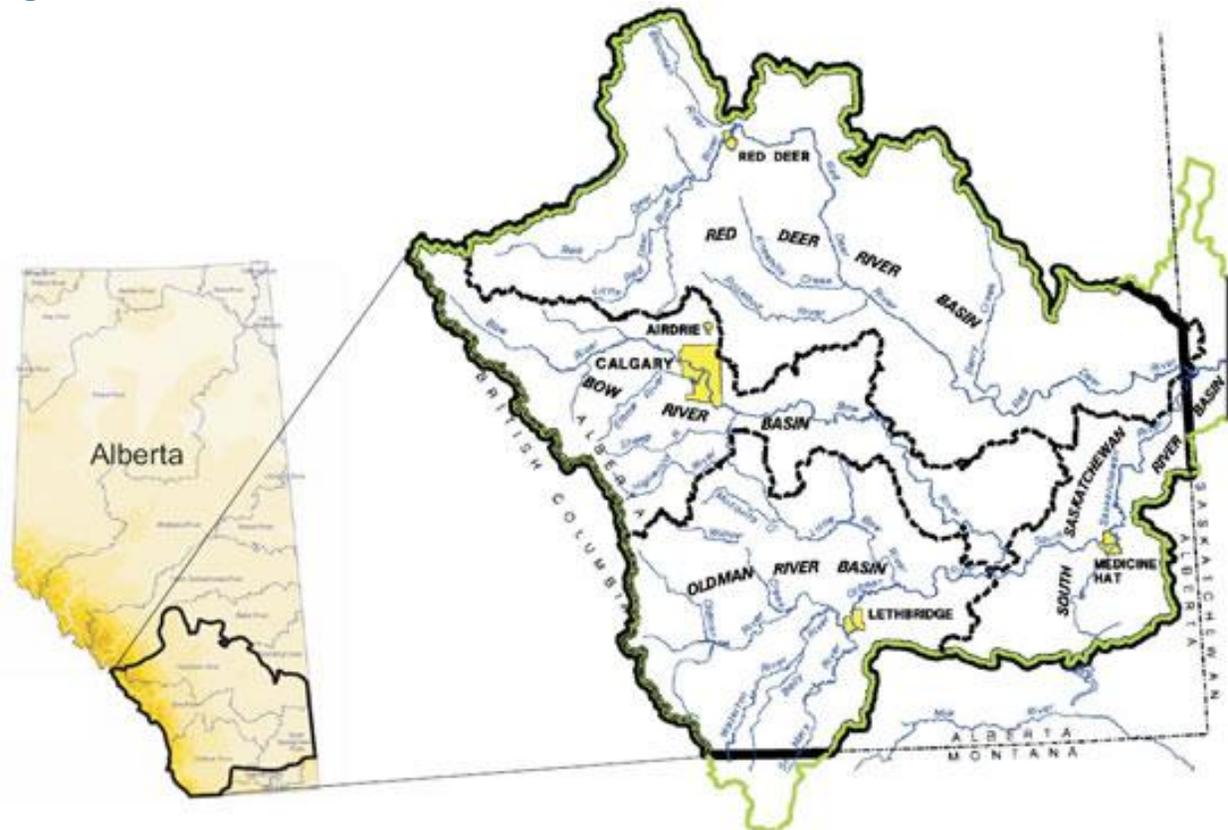
Alberta's Irrigation Economy

Although Canada is not one of the world's irrigation powerhouses – that distinction is reserved to countries such as the US, China, India and Pakistan – irrigation is essential to a number of Canadian regional economies, particularly on the Prairies and in the BC interior (Postel 1999, 42) (Statistics Canada 2001, 166). The largest irrigation economy in Canada is in southern Alberta, mostly in the area south and east of Calgary. As of 2009, nearly 690,000 hectares of land was being irrigated in this region growing cereals, forages, and oil seeds along with a variety of specialty crops. Most of the Alberta irrigation economy is based in the province's thirteen irrigation districts which account for 80% of the province's irrigation (Alberta Agriculture 2010). The districts own and operate off-stream water storage and diversion infrastructure on behalf of their irrigators, and although most of the irrigation districts were government owned and operated in the past, they now operate as farmer-run cooperatives, funded largely by dues-paying members. The rest of the irrigation economy is comprised of private operations that operate their own diversion works and are typically much smaller than their district counterparts.

Like most irrigation economies, southern Alberta has to cope with a limited water supply. The region has an arid to semi-arid climate with precipitation averaging between 300 and 500 mm annually.

Most irrigation water comes from modestly sized Prairie rivers in four sub-basins: the Red Deer, the Bow, the Oldman, and the South Saskatchewan – see Figure 1 below (Matthews and Morrow Jr. 1985, 38). The region's rivers are fed by a mixture of glacial melt, snowmelt, and rainfall run-off, their flows highest during the spring freshet and lowest in late summer. There is also a substantial degree of inter-annual variability in river flows with some years experiencing flood conditions and other years experiencing severe droughts depending on weather conditions. The most dependable source of flows – glacial melt from the Rocky Mountains – is now threatened by climate change, as warming temperatures melt the glaciers and threaten their disappearance in just a few decades.

Figure 1 – The Sub-Basins of Southern Alberta¹



From its earliest days, government support and regulation has been integral to the Alberta irrigation economy, but this is not unusual: extensive state involvement and state assistance has been a common feature of just about every irrigation economy, for a couple of reasons. First, only the state has the authority to allocate and direct the large volumes of water needed for large-scale irrigation to take place. In Alberta, the first law governing water allocation in the region was the federal *Northwest Irrigation Act* (1894), but authority over water allocation was transferred to the province in 1930 and Ottawa has played little role in this area since. Second, only the state has the organizational capacity and financial capital needed to construct the dams, canals, and other infrastructure essential to large-scale irrigation (Worster 1985). In Alberta, both levels of government were actively involved in developing and supporting large-scale irrigation projects up to the early 1970s when Ottawa got out of the irrigation business, leaving it exclusively to the province. In short, government water policy has

¹ Source: <http://srb.environment.alberta.ca/>

been crucial in shaping the fate of the Alberta irrigation economy, though only the provincial government is still active in this area.

Over the last twenty years or so, provincial water policy in southern Alberta has undergone a significant transformation, shifting from a long-time 'dam and divert' approach to a nascent 'cap and trade' approach. For irrigators and other water users in the region, this has amounted to a major structural change that is reshaping water use patterns and practices.

For nearly a century, the provincial (and federal) governments pursued 'dam and divert' water policies as a means of getting as much water as possible into productive agricultural use. Governments stimulated demand for irrigation water through the design of the water allocation system and through state subsidization of dam, diversion and irrigation projects. The federal *Northwest Irrigation Act* (1894), for instance, introduced a water allocation system known as 'prior allocation' that allowed would-be irrigators easy access to large quantities of water and protected their water use from encroachment by future water users. When prior allocation alone proved unsuccessful in stimulating water demand, governments stepped in further to support and construct irrigation projects with public money. The growing demand for irrigation water was met by drawing down the natural flows of southern Alberta's rivers and, where this proved insufficient, through the construction of government owned and operated dam, diversion and storage infrastructure to augment and store natural flows. Altogether, these 'dam and divert' policies resulted in a period of massive irrigation growth, from just under 100,000 hectares in the early 1920s to almost 500,000 hectares by the early 1990s.

Since the early 1990s, incremental policy changes have shifted the focus of water policy in southern Alberta from 'dam and divert' to 'cap and trade'. Although the Alberta government continues to support the maintenance and refurbishment of existing dams and diversions, funding for new dam projects has completely dried up. More importantly, moratoria on the issuance of new water licences have been introduced in three of southern Alberta's four sub-basins, effectively capping water licences at the status quo. Water entitlement trading was introduced for the first time and the environment was recognized as a legitimate water user through the establishment of water conservation objectives and the introduction of conservations holdbacks from water trades. This is clearly a major policy change deserving of explanation.

Although the shift from 'dam and divert' to 'cap and trade' water policy in southern Alberta has yet to be explained in the academic literature, such policy changes are typically explained using either functionalist or rationalist approaches.

Functionalist approaches would explain the shift to 'cap and trade' as a necessary and inevitable response to growing water scarcity; in other words, policy change occurred because southern Alberta was running out of water (see, for instance (Randall 1981)). However, while the relevance of growing water scarcity is undeniable, this explanation is unsatisfactory because a continuation of 'dam and divert' policies as a means of coping with growing water scarcity was perfectly viable: there were plenty of opportunities for further dam and inter-basin diversion construction to augment dwindling water supplies in southern Alberta and many other irrigation economies – in Australia, China, Israel, and the American west, for instance – have gone this route. Yet, Alberta opted for 'cap and trade' policies rather than pursue 'dam and divert' options further and this requires explanation.

Rationalist approaches would explain the shift to 'cap and trade' as resulting from the rational, utility maximizing behaviour of resource users. The economic theory of property rights, for instance, argues that resource scarcity increases the potential value of resource rights, creating incentives for self-

interested resource users to push for the specification and protection of their resource rights (Libecap 1989). In southern Alberta, this would mean that the adoption of 'cap and trade' was initiated and pursued by existing water licence holders. Again, the relevance of existing water users is undeniable, but rationalist explanations tend to overlook the role of environmentalists and other actors who do not act as rational utility maximizers in policy processes. Yet, we know – intuitively and empirically – that these actors are important and, indeed, they played a major role in the shift from 'dam and divert' to 'cap and trade' policy in southern Alberta.

Given the limitations of the functionalist and rationalist approaches, this paper uses a different approach – the advocacy coalition framework (ACF) – to explain water policy reform in southern Alberta. The ACF provides an analytical framework that accommodates such factors as increasing water scarcity and the interests of water users while also incorporating other potentially important factors, such as the role of environmentalists, in explaining policy development. In this way, it allows for a more empirically fulsome explanation of water policy reform in southern Alberta than either the functionalist or rationalist approaches.

The Advocacy Coalition Framework

The primary unit of analysis in the ACF is the policy subsystem. The ACF assumes the central importance of policy subsystems based on the sheer complexity of modern policy-making and the tendency of actors to specialize and concentrate their efforts in one (or a few) policy areas. The ACF further assumes that most (or all) policy development occurs within policy subsystems, so understanding the political dynamics of policy subsystems is essential to explaining policy change. Empirically, policy subsystems have both functional/substantive boundaries and territorial boundaries, though these boundaries are often fuzzy and overlap between related subsystems is inevitable (Sabatier and Weible, *The Advocacy Coalition Framework - Innovations and Clarifications* 2007, 192-193). In this paper, the functional/substantive boundaries are those pertaining to water, while the territorial boundaries are those that coincide with the irrigation economy of southern Alberta; together these boundaries help define the southern Alberta water policy subsystem.² Within this policy subsystem are the various politicians, bureaucrats, interest groups, journalists, scientists, and private citizens who claim an interest or a stake in the policy area and who regularly participate in water policy processes.

In the ACF, actors in policy subsystems are fundamentally driven by their beliefs and their desire to see their beliefs reflected in policy. The ACF assumes that actors' beliefs can be understood as operating at three different levels. At the deepest level are deep core beliefs, which are quite broad in scope, predominantly normative, and very slow to change in response to empirical contradiction. These beliefs are relevant across a broad range of policy subsystems and include such things as one's left-right ideological orientation and one's attitude toward nature, amongst others. At the next deepest level are policy core beliefs which are intermediate in scope because they involve the application of deep core beliefs to a specific policy subsystem. Irrigators and environmentalists, for instance, have different deep core beliefs about the value of nature, and when these beliefs are applied in the southern Alberta water policy subsystem, they form the basis for their very different water policy preferences. Policy core beliefs tend to be resistant to change, "...but are more likely to adjust in response to verification and refutation from new experience and information than deep core beliefs" (Weible, Sabatier and

² It is important to note that, the water policy subsystem for northern Alberta is distinct from that of southern Alberta. The northern Alberta water policy subsystem deals mostly with issues related to the oil sands, while the southern Alberta water policy subsystem deals mostly with issues related to irrigation. Some actors overlap between the two subsystems, but the two regions have distinctive water policy processes and different water policy designs.

McQueen 2009, 123). At the shallowest level are secondary beliefs which are narrowest in scope and pertain to the details of various policy issues, such as policy instrument selection. Although secondary beliefs are linked to policy core beliefs, they are more empirically-based and are therefore more amenable to change (Sabatier and Weible, *The Advocacy Coalition Framework - Innovations and Clarifications* 2007, 194-196).

Understanding actors' beliefs is important because these beliefs form the basis of advocacy coalitions, the central explanatory factor in the ACF. Like-minded actors in policy subsystems very often make common cause in pursuit of their policy preferences simply because they are more effective working together than working in isolation. When a group of actors shares a set of policy core beliefs and engages in a non-trivial degree of collective action, they form an advocacy coalition (Sabatier and Weible, *The Advocacy Coalition Framework - Innovations and Clarifications* 2007, 196). Most policy subsystems are characterized by two or more competing advocacy coalitions. The southern Alberta water policy subsystem, for instance, has been characterized by two competing advocacy coalitions: the 'Greens' who believe that ecosystem protection should be the first priority of water policy, and the 'Browns' who believe that economic development should be the first priority of water policy.

Typically, one advocacy coalition tends to be more powerful than the others, allowing it to dominate a policy subsystem and introduce policies that are relatively close to its beliefs; when the dominant advocacy coalition is displaced or when the dominant advocacy coalition changes its beliefs, then policy change follows (Sabatier, *Policy Change Over a Decade or More* 1993, 28-29). Accordingly, in the Alberta water policy subsystem, policy change is explained by the shifting relative power of Greens and Browns. Until the 1980s, the Browns dominated the Alberta water policy subsystem, virtually unopposed. Since then, the Greens have gained in relative power – though the Browns still remain the dominant advocacy coalition – explaining the incremental but significant transition from 'dam and divert' to 'cap and trade' water policies.

One of the research frontiers of the ACF involves identifying and operationalizing the power resources that advocacy coalitions may draw upon as they compete for policy influence. Currently, the list of identified power resources includes: formal legal authority to make policy decisions, financial resources, public opinion, information, mobilizable troops, and skilful leadership (Sabatier and Weible, *The Advocacy Coalition Framework - Innovations and Clarifications* 2007, 201-203). Another way of understanding these power resources is through Joseph Nye's distinction between 'hard' and 'soft' power (Nye 2011). Hard power tends to be authoritative and coercive in nature, allowing those who have it to compel or force actions. From the above list, formal legal authority to make policy decisions and financial resources would be examples of hard power. Soft power is more about persuasion and legitimacy; it is the ability to make other actors redefine their interests or beliefs so that they more closely align with yours. Information, public opinion, mobilizable troops and skilful leadership can be sources of soft power.

The distinction between hard and soft power is potentially very useful to the ACF because it helps to clearly explain why some advocacy coalitions are dominant and how some less dominant advocacy coalitions can still substantially influence policy development. Dominant advocacy coalitions are those that hold hard power. The Browns, for instance, continue to be the dominant advocacy coalition in the southern Alberta water policy subsystem because its membership substantially controls the formal legal authority to make water policy and because it can draw upon substantial financial resources. Holding hard power, however, does not guarantee that a coalition will hold soft power. Less dominant advocacy coalitions, such as the Greens, can hold and use soft power to gain substantial influence in policy development even though they have virtually no hard power. This, in effect, is what

has happened over the past twenty-five years in the Alberta water policy subsystem: the Browns continue to hold hard power and remain the dominant advocacy coalition, but the Greens have gained soft power and used it to initiate the shift from 'dam and divert' to 'cap and trade' policy.

While policy subsystems are the primary unit of analysis in the ACF and advocacy coalitions are its main explanatory variable, the ACF recognizes that policy subsystems are significantly impacted by external factors. These external factors are categorized as either 'relatively stable parameters' or 'external events'. The relatively stable parameters refer to features in the natural, social, and legal context that are relatively constant such as the distribution of natural resources, the prevailing sociocultural values, and the basic constitutional structure. Significant changes in any of these factors – which are relatively rare – can have a major impact on policy subsystems and the advocacy coalitions within them. External events refer to factors outside of policy subsystems that are somewhat more changeable but can still have a significant impact on a policy subsystem. These include changes in socioeconomic conditions, changes in public opinion, changes in government, and policy decisions and impacts from other policy subsystems. In this way, the ACF situates policy subsystems within their ecological, social, and political contexts and is cognizant of how changes in the world outside of policy subsystems can significantly impact policy development. Yet, the impact of these external factors is indirect as they are refracted through policy subsystems (Sabatier and Weible, *The Advocacy Coalition Framework - Innovations and Clarifications* 2007, 193).

Altogether, the ACF recognizes four typical paths of policy change, differentiated according to their origins. The first path originates outside of a policy subsystem when external events - such as an election – impact a policy subsystem by shifting coalitions' power resources or changing coalitions' beliefs, creating the conditions for policy change. The second path of policy change is through policy-oriented learning. This occurs when a dominant advocacy coalition is confronted with evidence that challenges or falsifies some its secondary beliefs, prompting them to revise their secondary beliefs and to change policy accordingly. The third path of policy change is similar to first, but the event stimulating policy change is internal to the policy subsystem rather than external. One example of this might be a dramatic policy failure that shifts coalition power resources or beliefs, resulting in policy change. Finally, the fourth path of policy change involves negotiated agreement between competing advocacy coalitions, typically in the context of a hurting stalemate (Weible, Sabatier and McQueen 2009, 124).

In the southern Alberta water policy subsystem, recent policy change has occurred largely through the second path of policy-oriented learning. Since the 1980s, the Greens have repeatedly and continuously used soft power to confront the Browns with the negative environmental effects of 'dam and divert' policies. Over time, many Browns came to recognize these environmental concerns as legitimate, gradually becoming more open to some policy measures to address them. In this way, the Greens were able to achieve an incremental transition to 'cap and trade,' not by displacing the Browns as the dominant advocacy coalition, but by stimulating policy-oriented learning amongst them.

The Browns and 'Dam and Divert' Water Policy

The nascent elements of a Brown advocacy coalition in Prairie water development first emerged in the 1880s. Outside of government, the first politically influential Browns were land speculation and development companies such as the Canadian Pacific Railway (CPR). In 1880, the CPR agreed to construct the transcontinental railway in exchange for \$25 million in cash and 10.1 million hectares in land grants from the Canadian government. Much of this land was in the Prairies and the CPR wanted to add value to it by constructing irrigation projects; however, to do so, they needed secure access to large quantities of water and they pushed for government water policies to provide this (Prairie Farm Rehabilitation Administration 1982, 11). Inside of government, the strongest proponents of irrigation

were found in the Department of the Interior, led by William Pearce (the Superintendent of Mines) and J.S. Dennis (Chief Inspector of Surveys). In the early 1890s, Pearce and Dennis were directed to investigate potential policy options for encouraging irrigation development on the southern Prairies, and they cast their investigations far and wide to Australia and the American West, borrowing water policy ideas from both (Gross and Kramer 1985, 133-134).

Pearce and Dennis were the main architects of the *Northwest Irrigation Act* (1894), the first major piece water legislation in the Canadian Prairies. The *Northwest Irrigation Act* was designed to allow would-be irrigators ready and secure access to as much water as they could put into productive agricultural use. It did this through three main provisions. First, it extinguished almost all riparian rights in the Prairie region³ and vested all water use rights in the Crown, allowing government – first the federal government and later the Alberta government – to allocate and regulate water use through licensing (Percy, *Seventy-Five Years of Alberta Water Law: Maturity, Demise and Rebirth* 1996-97, 223) (Percy, *Responding to Water Scarcity in Western Canada* 2005, 2094). Second, it established the ‘first in time, first in right’ principle of water use – also known as prior allocation – providing a high degree of water security and substantial incentive for prospective irrigators to develop and secure licenses early. Third, the act provided that licencees would only keep their water entitlements so long as they put their water to productive use. Accordingly, there was little incentive for irrigators to invest in water conservation technologies: any water conserved and left in the rivers could be taken from them by the government or claimed by other water users, so it was best in their best interest to use as much of their entitlements as they could (Percy, *Seventy-Five Years of Alberta Water Law: Maturity, Demise and Rebirth* 1996-97, 226).

While the *Northwest Irrigation Act* clearly reflected Brown policy core values, the federal government did not (yet) adopt an activist role irrigation expansion. Instead, its role was limited to providing a supportive institutional framework for irrigation expansion and technical support in the form of land and water surveys conducted by the Department of Interior (Irrigation Water Management Study Committee 2002, 9). Actual irrigation development was left to private enterprise, but, by 1913-14, most of the private irrigation projects in southern Alberta were either failed or failing. Most Browns began to realize that for irrigation to have any future, additional and extensive governmental involvement would be needed.

Though it is difficult to pinpoint the exact time and place when a fully-fledged Brown advocacy coalition came into being, the formation of the Western Canada Irrigation Congress would be a good bet. As Jack Glenn describes it in his book, *Once Upon an Oldman*:

This happy band of politicians, railway officials, land developers, and government engineers reached its prime in the years immediately before and after the First World War. Its executive was composed of cabinet-rank politicians and senior officials of the government of Canada and the four western provinces and representatives of the railway and land development companies. The interlocking nature of this relationship was reinforced when Pearce and Dennis moved from their government posts to senior positions with the CPR (Glenn 1999, 21).

The members of the Western Canada Irrigation Congress were brought together by their mutual and abiding faith in irrigation, and their collective goal was to use government to expand irrigation. They occupied key policy-making positions and had massive financial resources at their disposal – both public

³ The only vestigial riparian rights remaining after the *Northwest Irrigation Act* were rights for riparians to use water for domestic purposes.

and private – giving them the hard power they needed to dominate the water policy subsystem and introduce policies almost at will. For decades, they also enjoyed a considerable degree of soft power as the legitimacy of expanding irrigation was virtually unchallenged; no other advocacy coalitions mobilized to oppose them, so the economic and social benefits of expanding irrigation were regarded as self-evident.

In 1914, the Alberta government attempted to address the dire economic situation of the private irrigation projects through the *Irrigation Districts Act*. This legislation was intended to help farmers organize into local cooperatives for the purposes of irrigation project construction and management. The districts were empowered to issue bonds to finance construction and to levy local taxes for the operation and maintenance of irrigation systems (Alberta Agriculture 2000, 4). In addition, the provincial and federal governments committed to assisting with the construction of project headworks and provided guarantees to help farmers mortgage their lands. This was the Alberta government's first major foray into 'dam and divert' water policies, and it wouldn't be the last.

In 1926, the Alberta government intervened to save the Lethbridge Northern Irrigation District from bankruptcy, taking on its debt and administering the district through a provincially-appointed trustee. Similarly, as the CPR gradually lost interest in its money-losing irrigation projects, these assets were sold to the Alberta government or to the project farmers, most of whom eventually came to the Alberta government for financial assistance (Glenn 1999, 21-23). By the early 1940s, provincial ownership and administration of irrigation districts, many operating as Crown corporations, had become the norm. By the 1960s, most of Alberta's irrigation districts were either provincially owned or had been in the recent past, and all of them had been greatly expanded through public construction of dam and diversion infrastructure (Prairie Farm Rehabilitation Administration 1982, 15-34).

At the federal level, 'dam and divert' policies came somewhat later than at the provincial level and were closely tied to the work of the Prairie Farm Rehabilitation Administration (PFRA). The PFRA was created in 1935 in the midst of the Great Depression and the Prairie Dustbowl with a mandate to preserve and improve the viability of Prairie agriculture. The PFRA identified irrigation as a priority area and proved to be an important part of the Brown advocacy coalition. The PFRA constructed water control infrastructure to supply the irrigation districts, and also played an important role in rehabilitating and expanding the St. Mary Irrigation District and the Bow River Irrigation District, two of the largest districts in Alberta (Irrigation Water Management Study Committee 2002, 16). In total, between 1935 and 1978, the PFRA spent around \$600 million on water control infrastructure on the Canadian Prairies, much of it directed to southern Alberta (Prairie Farm Rehabilitation Administration 1982, 13).

In the early 1970s, Ottawa decided to get out of the irrigation business, reshaping the water policy subsystem so that it was centered entirely on the Alberta government. For the most part, this worked to the advantage of Browns as they enjoyed more political influence at the provincial level than at the federal level. By that time, irrigation constituted an important part of the Alberta economy and provincial politicians were acutely sensitive to this. One reason for their sensitivity was the distribution of seats in the Alberta legislature which over-represented rural areas compared to urban areas, so that winning the irrigation belt was important to any political party hoping to form government (Brownsey 2008, 150). Within the Alberta legislature, there was also an Irrigation Caucus Committee of irrigation belt MLAs closely connected to the irrigation districts and provincial irrigation bureaucrats. So, when Ottawa withdrew from the policy subsystem, the Browns' hard power – particularly its stranglehold on the formal legal authority to make water policy decisions – was strengthened. Not surprisingly, the 'dam and divert' water policies continued.

In fact, the 1970s was a decade of unprecedented irrigation growth in southern Alberta. Part of this rapid expansion can be attributed to improvements in irrigation technology. Large-scale sprinkler systems first became viable in the late 1960s, making it possible to irrigate hilly land that couldn't be irrigated when only flood technology was available. The Alberta government also stepped up its irrigation support, compensating for Ottawa's withdrawal, through its Water Management for Irrigation Use policy. Most notably, this included a cost-sharing program with the irrigation districts (the districts paying 14 percent and the province paying 86 percent) to refurbish and expand aging water infrastructure within the districts and a fully-funded program to refurbish and operate the major headworks supplying the districts (Irrigation Water Management Study Committee 2002, 17) (Glenn 1999, 23). As a result, irrigation grew in southern Alberta from 279,877 hectares in 1970 to 419,730 hectares in 1980, an increase of almost 50 percent (Irrigation Water Management Study Committee 2002, 17).

The Greens and the Oldman Dam Controversy

Despite periodic and localized opposition to Alberta's 'dam and divert' water policies, a fully-fledged Green advocacy coalition did not emerge in the southern Alberta water policy subsystem until the late 1980s. The catalyst for the Greens was the Alberta government's decision, in August 1984, to construct a major dam on the Oldman River, already one of the most highly appropriated rivers in the province. Although the Greens were unsuccessful in their efforts to stop the Oldman Dam, the episode established them as a legitimate political force and marked the beginning of a relative shift in soft power from the Browns to the Greens that would later become very significant.

By the mid 1970s, many Green actors had emerged in Alberta, but their policy core beliefs differed so much and they were engaged in so little collective action that they could not be described as an advocacy coalition in any meaningful sense. According to Paehlke, the period from 1968 to 1976 marked the first wave of environmentalism in Canada, a period of heightened public concern for the environment (Paehlke 1992). One of the hallmarks of the first wave was the creation of environment departments both federally and provincially in the early 1970s. However, Environment Canada played almost no role in water allocation within the provinces, and Alberta Environment was dominated by Brown public servants just recently transferred from the Department of Agriculture, so neither government agency played much part in forming a Green advocacy coalition (Glenn 1999, 25-26). Various private interest groups with environmentalist concerns also emerged during the first wave, but most of these were small, ad hoc, and operating on a local level (Glenn 1999, 142). Larger, conservation-oriented groups, such as the Alberta Fish and Game Association, had existed for some time but counted many irrigators and farmers in their membership and offered little resistance to the government's 'dam and divert' policies (Glenn 1999, 142). In short, the elements of a Green advocacy coalition were emerging, but they had yet to come together as a political force.

The decision to build the Oldman Dam was a quintessential example of the Browns' hard power at work in water policy development. The dam was intended to serve irrigators in the area north of Fort MacLeod, particularly in the Lethbridge Northern Irrigation District. By damming the Oldman River just below its confluence with the Crowsnest and Castle rivers, enough water could be controlled to alleviate recurring water shortages and even provide enough water for further irrigation expansion. Studies in the 1970s by the province's Water Management Service, a division of Alberta Environment, showed the need for such a dam and even recommended a construction site. Politicians in the Progressive Conservative government saw the dam as an effective vote-getter in the irrigation belt, a rural and generally conservative band of seats crucial to the party's electoral fortunes. Thus, the Oldman Dam seemed reasonable and practical to Browns, who supported it almost reflexively (Glenn 1999, 130-140).

While the Browns regarded the dam as the next logical step in decades of 'dam and divert' policy, various Greens regarded it as the last straw in the ongoing destruction of southern Alberta's rivers, galvanizing them into collective action. Under the skilful leadership of environmentalist Martha Kostuch, Green opponents of the dam were brought together in an umbrella organization known as Friends of the Oldman River. Membership in Friends of the Oldman River peaked at about 500 individuals and organizations in 1991 and, significantly, brought together local Green groups (such as the Alberta Fish and Game Association, the Alberta Wilderness Association, the Federation of Alberta Naturalists, the Alberta Green Party, and Trout Unlimited) with national Green groups (such as the Sierra Club, the Canadian Nature Federation, the Canadian Environmental Defence Fund, and the Canadian Parks and Wilderness Society) (Glenn 1999, 147). A number of sympathetic government officials also counted amongst the group's membership, though Alberta Environment, in its official positions and actions was undoubtedly more Brown than Green. Friends of the Oldman River also allied itself with the local Peigan Indians whose traditional lands were threatened by the dam's reservoir, though the relationship between the Peigan and some of the Greens was fractious (Glenn 1999, 147).

As political realists, the Greens recognized that they could not hope to match the Browns in hard power, and they did not fight them on these terms. Rather than trying to unseat the Browns from their authoritative political and bureaucratic positions, the Greens endeavoured to chip away at the legitimacy of the Oldman Dam, using soft power to challenge the Browns' dominant position.

One way in which the Greens used soft power was to challenge the legitimacy of the Oldman Dam in policy venues beyond Alberta. Most notably, the Greens succeeded in using the courts to force Ottawa to apply its Environmental Assessment and Review Process to the Oldman Dam project. Although the Oldman Dam Assessment Review Panel only had the power to make recommendations on the dam, it provided a strong critique of not only the Oldman Dam project but 'dam and divert' policies in general. The panel's first and "preferred" recommendation was to decommission the dam and restore natural flows; but, recognizing that this was unlikely, the panel also provided a secondary set of recommendations to mitigate the dam's adverse environmental effects once it came into operation (Oldman River Dam Environmental Assessment Panel 1992). In justifying its recommendations, the panel considered the dam in its wider historical and environmental context, lending considerable legitimacy to the Greens' growing critique of 'dam and divert' water policy:

In order to provide sufficient water for non-consumptive uses, the Panel concludes that specific reserves of water should be set aside for this purpose. Should all the proposed acres allocated for irrigation be developed, the Panel fears that the situation [of water shortage] would quickly become the same as it was in the early 1980s and pressures would develop for more dams and diversions to meet this "need" for more water. As long as water is provided to users without charge, and environmental protection is undervalued, as it was in the planning for this project, more environmentally damaging projects will be proposed. The Panel very much wishes to avoid such a future (Oldman River Dam Environmental Assessment Panel 1992, 12).

In the end, the recommendation for decommissioning was rejected and the dam was allowed to proceed; but, the report itself was a significant moral and public relations victory for the Greens, providing a neutral and authoritative voice in support of their cause.

The Greens also sought to exercise soft power by winning citizen and media support for their cause. The court challenges and the federal environmental assessment were an important part of this, but there were other efforts, as well. In June 1989, Friends of the Oldman River held a benefit concert that attracted about 10,000 people and raised over \$20,000 in funds for their cause (Glenn 1999, 66).

The Greens also proved adept at using the media to convey their message. A study by de Loe shows that coverage of the Oldman Dam in two major newspapers in Calgary and Edmonton was much more sympathetic to the Greens than the Browns, a major public relations victory for an underdog advocacy coalition (de Loe 1999, 231). The timing of the controversy also worked in the Greens' favour as it coincided with the "second wave" of environmentalism in Canada, making local and national populations particularly receptive to the Greens' message (Paehlke 1992).

Although Friends of the Oldman River was a single-issue group that gradually faded away, it left a legacy that has sustained a Green advocacy coalition in the southern Alberta water policy subsystem ever since. First and foremost, the Oldman Dam controversy brought the Greens together and left a network of personal and professional attachments that is still evident today. Just as importantly, it taught the Greens how to fight the Browns using soft power. The Greens could not hope to match the financial resources of the Browns, nor could they count many allies among the decision-makers in the Alberta government, most of whom had a decidedly Brown outlook. Instead, the Greens used other means to get their message heard, relying heavily on the use of information and the influence of public opinion. Through these largely rhetorical means, the Greens mounted a surprisingly strong resistance to the Oldman Dam and, in the process, chipped away at the legitimacy of 'dam and divert' water policies.

Soft Power, Policy-Oriented Learning and the Shift to 'Cap and Trade'⁴

Since the Oldman Dam controversy, the Greens have remained a political force in the southern Alberta water policy subsystem, playing a crucial role in the incremental introduction of 'cap and trade' water policy. With little hope of displacing the Browns from the authoritative policy-making positions in the policy subsystem, the Greens, instead, have relied on soft power to influence these decision-makers by prompting them to question and reconsider their policy preferences. The two sources of soft power most important to the Greens have been public support and scientific information. The Greens have skilfully used public support and public consultation processes to establish themselves as a legitimate and equal opposing camp to the Browns, forcing policy-makers to heed and consider their policy preferences. Furthermore, the Greens have used empirically-based, scientific information as credible evidence in support of their cause, making it extremely difficult for policy-makers to ignore Green policy preferences and prompting many Browns to engage in policy-oriented learning. So, although most Browns have not really change their policy core beliefs – they still believe that economic development should be the first priority of water policy – they came to accept 'cap and trade' as a means of coping with the region's water scarcity.

In 1990, the departments of Environment, Agriculture, Transportation, Public Works and Municipal Affairs advised the Alberta government that the *Water Resources Act* (1930), the main legislation governing water allocation in Alberta, was in need of review. The *Water Resources Act* was based on 'dam and divert' assumptions and its future viability was thrown into question after the Greens' surprisingly strong resistance to the Oldman Dam. Government officials realized that further dam and diversion construction had become too politically difficult and that it was time to contemplate a new water policy direction. The review of the *Water Resources Act* was taken up and spearheaded by Alberta Environment, led by a junior but ambitious minister named Ralph Klein.

The consultations that followed were unprecedented in scope and provided the Greens, for the first time, a real opportunity to participate in water policy development. The consultations were spread

⁴ Unless otherwise indicated, the information in this section is based on personal interviews with government officials and stakeholders conducted during July, 2010.

out over seven years and involved both multi-stakeholder consultations and open public consultations, both of which worked in the Greens' favour. In the multi-stakeholder consultations, a Water Management Review Committee was formed by Alberta Environment in 1994 to provide recommendations on the design of new water legislation. Comprised of 14 members representing a range of Green and Brown interests, the Water Management Review Committee provided the Greens a forum in which they could advocate their water policy preferences on a relatively equal footing with the Browns (Bankes and Kwasniak 2005, 5). Green and Brown differences on the committee had to be bridged to allow it to produce its consensus report, which it did in July, 1995. This was a sharp contrast with past practices in which water policies were deliberated behind closed doors, mostly between irrigators, their MLAs and water administrators. The open public consultations also served to support the Green cause as many public submissions called for environmental protection to be made a higher priority and to make environmental protection mandatory rather than discretionary in the new water legislation (Smith 1996, 13-14).

Although the multi-stakeholder and open public consultations enhanced the ability of Greens to influence policy design, they were still in the position of having to persuade (mostly) Brown policy-makers. The Browns held sway over the authoritative policy-making positions in the water policy subsystem and they used this hard power to protect their policy core values.

The Browns objected most fiercely to any legislative provisions that could threaten existing water licences in the name of environmental protection. When such provisions were included in the first draft of the new *Water Act*, introduced in the legislature in February, 1996, agricultural interests responded by rallying the support of rural MLAs, the Minister of Agriculture, and the Department of Agriculture, eventually succeeding in having the offending provisions changed (Smith 1996, 14-15). The Browns were more accommodating to Green concerns when it came to the issuance of new water licences because their policy preferences somewhat overlapped on this issue: Greens objected to new licences on environmental grounds, while Browns were apprehensive that new licences could be a threat to the security of existing licences. Accordingly, a Green-Brown entente developed in this area and the design of the *Water Act* reflects this in a number of ways:

- Existing Licenses & New Licenses: The *Water Act* recognizes four classes of water entitlement holders, the two most important being existing licenses and new licenses. Existing licenses are those who held prior to the introduction of the *Water Act*, a category that includes just about all irrigators and accounts for most of the water diversions in southern Alberta. The act states that existing licensees "...can continue to divert water in accordance with their original priority, the terms and conditions of their original licence and the new Act. However, if there is a conflict between a term of a deemed licence and the new Act, the term of the licence prevails over the Act" (Percy, *Seventy-Five Years of Alberta Water Law: Maturity, Demise and Rebirth* 1996-97, 229). This, in effect, allows existing licensees – overwhelmingly Browns – to continue their water use practices under the *Water Act* almost exactly as before. New licensees, however, are not so fortunate. Any new water licences distributed under the *Water Act* are subject to a fixed term and can be denied on the grounds that they contravene an approved water management plan (discussed below) or would negatively impact a riverine environment. New licences are also subject to a public notification process and can be challenged in the Environmental Appeal Board (Percy, *Seventy-Five Years of Alberta Water Law: Maturity, Demise and Rebirth* 1996-97, 237-238). Altogether, the licensing provisions of the *Water Act* create a significant regulatory damper

on the distribution of new water licences, and thus further irrigation expansion, while clearly and strongly protecting the licensed status quo.

- **Ban on Inter-Basin Diversions:** New inter-basin diversions (and water withdrawals for the purposes of export) were explicitly banned by the *Water Act*. As recently as 1987, serious proposals to divert water from the Mackenzie River Basin in northern Alberta to support irrigation expansion in the south had been considered by the Alberta government, though none were actually built (Percy, *Responding to Water Scarcity in Western Canada* 2005, 2097). The ban on inter-basin diversions in the *Water Act* ensured that this would not happen, eliminating a key 'dam and divert' policy option but not threatening the licensed status quo.
- **Licensing Moratoria:** The *Water Act* empowered its Director to impose moratoria on the issuance of new water licences in heavily allocated streams and empowered the Environment Minister to reserve unallocated water for any purpose, including the preservation of instream flows (Percy, *Seventy-Five Years of Alberta Water Law: Maturity, Demise and Rebirth* 1996-97). Although licensing moratoria had been informally imposed by administrators in some parts of southern Alberta in the past, the formalization of this power in the *Water Act* was an important step towards the 'cap and trade' policy that would soon follow. As with other features of the *Water Act*, this power had much more effect on new licensees than on existing licensees.
- **Water Licence Trading:** Water licence trading was the subject of considerable debate during the multi-stakeholder and open public consultation processes and was an issue that cross-cut the Green and Brown advocacy coalitions, causing some division in both camps. In the end, most Greens and Browns came to accept water licence trading as a necessary means of accommodating new water demands in the basin without continuously resorting to the issuance of new licences. To this end, the act permitted both temporary and permanent transfers of water licences, but subject to authorization in a basin water management plan or, in the absence of such a plan, Cabinet approval (Percy, *Seventy-Five Years of Alberta Water Law: Maturity, Demise and Rebirth* 1996-97, 236). This was another important legislative prerequisite to the introduction of 'cap and trade'.
- **Conservation Holdbacks:** As a means of recovering water for environmental purposes, conservation holdbacks from water trades were included in the *Water Act*. Specifically, the Act's Director was empowered to withhold up to ten percent of the volume of any water transferred in order "...to protect the aquatic environment or to implement a water conservation objective, if the holdback is authorized in an approved water management plan" (Percy, *Seventy-Five Years of Alberta Water Law: Maturity, Demise and Rebirth* 1996-97, 239). This is the only provision in the *Water Act* which allows for any amount of water from existing licenses to be returned to the environment, and it was the price the Browns had to pay for the Greens' support of water licence trading.
- **Water Conservation Objectives (WCOs):** The WCOs are essentially instream flow targets intended to maintain or, in most cases, restore healthy riverine environments. The WCOs were important because, once introduced, all new water licences would be made conditional on their achievement; therefore, WCOs had significant potential to limit irrigation development in areas not already over-appropriated. Existing licences, however, are unaffected by WCOs and could carry on as before.
- **Basin Water Management Plans:** The basin water management plans are the vehicle used by the *Water Act* to put many of its provisions into effect. Specific rules and regulations relating to licensing moratoria, license trading, conservation holdbacks, and WCOs were to

be negotiated by stakeholders, and approved by Cabinet, at the basin level, allowing the general provisions of the *Water Act* to be adapted to different basins' various needs and challenges. It is through the basin water management plan for southern Alberta – the South Saskatchewan River Basin Water Management Plan – that the transition to 'cap and trade' water policy was ultimately completed.

The South Saskatchewan River Basin Water Management Plan was developed between 2000 and 2006 over two phases, the first dealing with mostly water trading issues and the second dealing with mostly water capping issues. Multi-stakeholder consultations were central in both phases, much to the advantage of the Greens who got to work on relatively equal terms with the Browns, once again. Stakeholders representing municipalities, First Nations, major water-using industries, recreation groups, fish and game organizations, environmentalist groups, irrigation districts, private irrigators and agricultural organizations were invited to sit on basin advisory committees (BACs) for each of the South Saskatchewan's four sub-basins to provide recommendations for a draft water management plan (Government of Alberta 2006, 28). Consensus was sought amongst stakeholders on each of the BACs and independent facilitators, contracted and paid by the Alberta government, were used to help bridge Green-Brown differences and to fairly represent areas of disagreement in the BAC reports. These reports and the requirements of the *Water Act* were then used by Alberta Environment officials to craft the draft plans which were presented to an interdepartmental steering committee and submitted to open public consultations before ultimately being approved by Cabinet.

Phase I of the water management planning process, dealing mostly with water trading issues, was expedient and, by most accounts, relatively uncontroversial. On the BACs, there was no strong ideological opposition to the introduction of water trading. Most Greens and Browns were generally in favour of water licence trading because each could find something to like about it. Browns liked it because their water licences would become potentially valuable assets and water trading would provide a means for some of them to secure additional water, which was increasingly scarce. Greens generally liked it because of the conservation holdback provision which, as described above, was the only way in which the *Water Act* allowed some water from existing licences – albeit a small amount of water – to be returned to the environment. Phase I was also helped by the presence of strong ministerial backing, particularly from the Environment Minister, Lorne Taylor. In the end, Phase I lasted little more than nine months and a Water Management Plan to introduce water licence trading and conservation holdbacks was approved by the Alberta Cabinet in June, 2002.

Phase II, which dealt mostly with water capping issues, was not so expedient. The purpose of Phase II was to investigate the instream flow needs of the rivers in southern Alberta and to recommend water conservation objectives for each of the four sub-basins; this was a more complex process involving more issues than Phase I. To allow the BACs to come to terms with these issues and to provide a basis for their discussions, Alberta Environment commissioned a series of background studies, written by public servants and consultants, which included: 1) a study on international and inter-provincial water sharing arrangements and the contributions of the various rivers towards Alberta's compliance with its downstream obligations (Figliuzzi 2002); 2) a study of water allocations in the basin (Alberta Environment 2003); 3) a study of irrigation water uses in the basin (Irrigation Water Management Study Committee 2002); and, 4) a study of non-irrigation water uses in the basin (Clipperton, et al. 2003). These studies, particularly the latter, had a major impact on BAC decision-making, mostly to the advantage of the Greens.

Early in the Phase II deliberations, a somewhat surprising Green-Brown consensus emerged on the need to cap water licences in much of southern Alberta. The basis for this consensus was the study

of non-irrigation water uses which showed that, in three of the four sub-basins of southern Alberta, the water supply and demand curves were rapidly approaching each other and that current river flows were well below estimated instream flow needs (Clipperton, et al. 2003). These findings, based on scientific study by impartial water experts, seemed to empirically confirm Green policy preferences and immediately became a very important source of 'soft power' for them. The Greens used this study to initiate policy-oriented learning amongst the Browns, convincing both the irrigation districts and Alberta Agriculture of the need to close three of the four sub-basins to new water licences. The Oldman, Bow, and South Saskatchewan BACs each made recommendations to this effect, which were subsequently accepted by Cabinet, effectively capping water licences at the status quo for much of southern Alberta.

The other major issue in the Phase II deliberations concerned the establishment of water conservation objectives (WCOs) for each of the sub-basins, an issue that was characterized by contentious Green-Brown splits due to the potential impact of WCOs on planned irrigation development. In the Red Deer sub-basin, the sub-basin with the least amount of irrigation and the only one not closed to new water licences, the WCOs were very contentious because they would act as a 'hard' cap: new diversions (and therefore new licences) would only be allowed up to the WCO level and not beyond, acting as regulatory brake on irrigation development. In the other three sub-basins that were already closed to new licences, the WCOs were more of an aspirational 'soft' cap because existing diversion levels (based on existing licences that could not be cancelled) were already beyond most reasonably defined WCO levels. Yet, Greens and Browns still fought over these 'soft' cap levels because they were symbolic, they constituted an important precedent for future water policy negotiations, and they were an important consideration in the Director's decisions concerning conservation holdbacks from water trades.

The Green-Brown divide over WCO levels was eventually bridged by Alberta Environment officials in another important instance of science-based policy-oriented learning. The WCO dispute was especially contentious on the Red Deer BAC, where, as noted above, the WCO level would constitute a 'hard' cap on future diversions. Browns were determined to set a WCO that would allow for two irrigation projects that were still at the conception stage, while Greens were equally determined to prevent the sort of over-allocation in the Red Deer that already existed in the other three sub-basins. Computer flow modelling by Alberta Environment helped bridge this gap by showing that a WCO level of 45% of natural flow could protect most instream flow needs while accommodating the water needs of the planned irrigation projects. Both Greens and Browns (grudgingly) accepted this WCO level in the Red Deer and it became the basis for Green-Brown entente in the other three sub-basins, as well.⁵ Once again, scientifically-based, expert information stimulated policy-oriented learning and played a major role in water policy reform, helping to establish a water diversion cap in the Red Deer sub-basin to coincide with the water licensing caps already in place in the other three sub-basins.

Overall, Phase II of the water planning process lasted nearly four years, beginning with the commissioning of expert studies in mid 2002 and ending with Cabinet approval of the Water Management Plan in August, 2006. The final Plan, which combines the water trading and holdback provisions from Phase I with the licensing moratoria and WCOs from Phase II, effectively established a 'cap and trade' water policy for much of southern Alberta, an outcome that was not widely anticipated when the process began in 2000. As demonstrated above, the design of the Plan was heavily influenced by Green-Brown political struggles, particularly the Greens' use of multi-stakeholder consultation

⁵ It is important to note, though, that this WCO level will almost never be met in the Oldman, Bow, and South Saskatchewan sub-basins because diversion levels from existing licences already remove much more than 45% of natural flow, in most years.

processes and scientific reports as sources of soft power to influence Browns who were still the authoritative decision-makers, and thus held a preponderance of hard power, in the policy subsystem.

Conclusion

Managing water scarcity is a perennial policy challenge in southern Alberta. For almost a century, the standard policy response, from both federal and provincial governments, was to manage water scarcity through a 'dam and divert' approach, coping with scarcity through the construction of more and more water management infrastructure to allow more and more water to be accessed, stored and released as needed. While most of the dams and diversions in southern Alberta still remain, the dominant water policy approach has drastically shifted. Beginning in the 1990s, water policy in southern Alberta incrementally moved from a 'dam and divert' approach to a 'cap and trade' approach in which water is treated as a finite resource and new water demands have to be met through the redistribution of existing water licences rather than the distribution of new licences. This was a major policy reform affecting a major structural change for irrigators and other water users in the region, a change that they are still struggling to come to terms with.

By introducing the notions of hard and soft power into the advocacy coalition framework (ACF), this paper has provided a thorough yet parsimonious explanation of this major water policy change, one that does not rely on functionalist or rationalist assumptions of policy development. The incorporation of hard and soft power also seems to offer some potential in advancing the development of the ACF itself. The distinction between hard and soft power provides an effective means of distinguishing and operationalizing the relative balance of power between advocacy coalitions in a policy subsystem: the more hard power that a coalition possesses, the more dominant it tends to be. But, it also provides a means of identifying how less dominant advocacy coalitions can still have a significant influence on policy development, as the Greens did in the development of water policy in southern Alberta. Less dominant coalitions can use soft power to prompt more dominant coalitions to reconsider and redefine their values and interests, thereby initiating substantive policy change through policy-oriented learning. This helps to explain why environmentally and sustainability friendly policy reforms, such as 'cap and trade' in southern Alberta, have been introduced in many places, though Greens are almost never the dominant advocacy coalition in resource policy subsystems.

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