

Networks, resources, political strategy and climate policy

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Abstract

This analysis is designed to show how policy network theory can be used to gain insights into the politics of climate change and climate policy. It begins by setting out a version of policy network theory based on the idea that policy networks are created and sustained by interdependencies among political actors. This is followed by descriptions of the main types of resources that, according to this theory, are exchanged, and the main types of political actors that are likely to engage in resource exchange in the field of climate policy. Policy network theory is then used to unpack the main strategic options, according to this version of the theory, that are available to governments. The analysis concludes by listing 10 specific implications for governments that want to take more effective action against climate change while avoiding significant political damage.

Introduction

Governments are agreed that climate change is under way (IPCC 2007), we know many economically viable ways to reduce greenhouse gas emissions (Stern 2006), yet emissions are still rising. This suggests that the principal obstacles to quicker progress may be political, and that new political strategies need to be identified to enable activist governments to take more effective action against climate change while avoiding significant loss of political support.

My aim here is to apply a particular version of one of the dominant theories of policy making today, policy network theory, to the task of identifying political strategies that may make it easier for governments to take stronger action against climate change while avoiding significant political damage. The analysis begins by describing this version of policy network theory, which is based on the idea that policy networks are created and sustained by interdependencies among political actors. This is followed by descriptions of the main types of resources that, according to this theory, are exchanged, and the main types of political actors that are likely to engage in resource exchange in the field of climate policy. In the next section political strategy is defined and policy network theory is used to unpack the main strategic options for governments that want to take stronger action on climate change. The final section draws out the ten main implications of this for identifying political strategies for governments that wish to take more effective action against climate change.

Policy network theory and resource exchange

The term ‘policy network’ has been used in political science at least since the 1970s, although the phenomena to which it refers have of course been described in other terms before this. In its most basic sense it refers to the set of political actors inside and outside of government who are involved in, or take an interest in, the making of public policy and/or the relations between these actors. However political scientists have also used the term in more specific ways based on defining it more precisely and a literature has grown up in which it is one of the most central concepts, if not *the* most central concept. This literature, as one might expect from academic discourse, is rather disparate, so that there are many different versions of what exactly policy networks are.

One feature that many of these uses of the term share, however, is the idea that the relationships between network members are based on resource interdependencies: each actor wants something from one or more other actors and is prepared to exchange something of their own in order to get it. In her extensive survey of policy network literature, Tanja Börzel concludes that although the network concept varies considerably between and within different disciplines (1998, p. 254):

They all share a common understanding, a minimal or lowest common denominator definition of a policy network, as a set of relatively stable relationships which are of non-hierarchical and interdependent nature linking a variety of actors, who share common interests with regard to a policy and who exchange resources to pursue these shared interests acknowledging that co-operation is the best way to achieve common goals.

Perhaps the most prominent version of policy network theory in Britain is that put forward by Rod Rhodes. This picks up earlier American work in defining a policy network as ‘a complex of organizations connected to each other by resource dependencies’ (Benson 1982, p. 148) and views policy-making as consisting largely of a process of exchanges of resources using specific

political strategies within understood ‘rules of the game’ (Rhodes 1985, p. 4-5). Similarly, Van Waarden sees policy networks as arising from the interdependence of various actors: administrators need political support, legitimacy, information, coalition partners against bureaucratic rivals, and assistance with implementation, while interest groups want access to policy-making and implementation and concessions to their interests. This leads to resource exchange that, over time, may become institutionalized into networks (1992, p. 31).

Resource dependency is also central to the more recent literature on governance. Rhodes, for example, defines governance as self-organizing, interorganisational networks and again focuses on power dependence and the exchange of resources using strategies within known rules of the game (Rhodes 2000, pp. 60-61). Klijn and Koppenjan argue that the network approach presents public policy as the result of the interaction between a multitude of organizational actors each of which depends on other organizations for resources and therefore needs to exchange resources in order to survive and achieve its objectives (Klijn and Koppenjan 2000, p. 139). Stoker also sees governance as involving power dependence: ‘(a) organizations committed to collective action are dependent on other organizations; (b) in order to achieve goals, organizations have to exchange resources and negotiate common purposes; (c) the outcome of exchange is determined not only by the resources of the participants but also by the rules of the game and the context of the exchange’ (1998, p. 22).

The aim of this chapter is to unpack the logic of this resource dependency version of policy network theory as it relates to the politics of climate change and climate policy.

Policy network theory is therefore defined and delimited as the ensemble of two elements.

The first of these is a definition of a policy network as ‘a set of political actors who engage in resource exchange over public policy (policy decisions) as a consequence of their resource interdependencies’. Note that this definition includes within it a causal dynamic, namely the dependence of political actors on each other for resources that pushes them to engage in resource exchange over public policy.

The second element consists of those propositions that are either presupposed or entailed by this definition, as follows.

1. There are policy decisions

As a theory about how policy decisions are made, policy network theory obviously presupposes the existence of policy decisions, understood as authoritative choices about policy instruments and their settings. This in turn presupposes the existence of legal rules that specify who is authorised to take decisions in any given area, under what conditions and using which procedures.

2. There are individuals and/or groups who possess (perceived) tradable resources

Defining policy making in terms of resource exchange presupposes that there are individuals or groups (policy actors for short) who possess resources that can be exchanged. To some extent the nature of tradable resources can be deduced from the nature of policy decisions. If there are policy decisions that are legally binding then there must be an actor or actors who possess the legal authority to take these decisions and therefore the capacity to exchange policy amendments for resources that this actor or actors want, such as the formal approval of other public actors, cooperation with implementation, and political support.

3. Policy actors have distinct policy preferences

Engagement in resource exchange presupposes that network members have distinct preferences about what the content of policy decisions (policy instruments and settings) should be. Otherwise why bother engaging?

4. There are (perceived) policy problems and solutions

Policy preferences and the existence of resource exchange presuppose that one or more actors consider that there are problems in the world to which policy decisions can provide solutions.

However the complexity of reality and the limited cognitive resources of human beings mean that understanding the causal relations in the world that underlie conceptions of problems and solutions must necessarily involve simplifying and relating new information to existing ideas in order to produce meaningful and structured interpretations. Sociological institutionalists argue that information is selected and processed by cognitive structures (variously named schemas, frames or inferential sets) that determine ‘what information will receive attention; how it will be encoded; how it will be retained, retrieved and organised into memory; and how it will be interpreted, thus affecting evaluations, judgments, predictions and inferences’ (Scott 2001, p. 38).

What this means is that the problems as identified by policy actors are not objective descriptions of events and conditions in the world but rather perceptions of these, defining ‘perceptions’ in the dictionary sense of ‘ways of regarding, understanding, or interpreting’ (Concise Oxford Dictionary). Proposed solutions to these problems, of course, are constructions from the start because they do not purport to describe situations in the world but rather refer to what an actor claims would happen if a certain policy decision was taken.

5. Policy actors have strategies designed to maximise their chances of realising their policy preferences

If resource exchange is to be used by a policy actor to help them achieve their policy preferences, it follows that they must have a strategy, defined as a plan of action designed to maximise their chances of realizing these preferences.

6. There are incentives for policy actors to regulate their interaction

To the extent that policy actors remain dependent on each other for resources, they have an incentive to exchange resources on a continuing basis and therefore an incentive to establish mutually recognised procedures (legal rules or informal norms) that facilitate interaction.

To sum up, policy network theory as defined holds that policy change is largely determined by resource exchange involving political actors and their resources, preferences and strategies, and that these in turn are necessarily influenced by perceptions of problems and solutions and, more contingently, by policy network-specific rules and norms.

Resources and resource exchange

As resource exchange is central to the resource dependency version of policy network theory, it is vital to be quite clear about what this means before going on to look at strategy.

Theories of power dependency and resource exchange have a longer history in sociology and social psychology than in political science (see, for example, Emerson 1962, Blau 1964).

Although analyses in these traditions pay little attention to policy networks as such, they do make some relevant points.

In particular, power is conceptualised in terms of dependency. The argument is as follows.

A depends on B if he aspires to goals or gratifications whose achievement is facilitated by appropriate actions on B's part (Emerson 1962, p. 32).

Where this is the case, B is in a position to grant, deny, facilitate or hinder A's gratifications, putting B in a position to make demands of A that A has to accede to if he or she is to obtain gratification.

Thus, it would appear that the power to control or influence the other resides in control over the things he values... In short, *power resides implicitly in the other's dependency* (Emerson 1962, p. 32).

Emerson then distinguishes between two dimensions of dependence:

The dependence of actor A upon actor B is (1) directly proportional to A's *motivational investment* in goals mediated by B, and (2) inversely proportional to the *availability* of those goals to A outside of the A-B relation (1962, p. 32).

Resource dependency, then, means that a policy actor wants or needs something that is controlled by another actor. Resource exchange presupposes that the relevant resource is transferable. On the basis of this we can define a resource in the context of policy network theory as being anything that (a) is controlled by a policy actor, (b) is desired by another policy actor, and (c) can be transferred or exchanged in some relevant sense.

The political science and corporate management literatures are replete with references to political resources in the sense of characteristics that help political actors get their own way (see, for example, Rhodes 2006, p. 431; Pappi and Henning 1998, p. 557; Scharpf 1997, p. 43; Dahan 1995). But not all of these are tradable in any direct sense. Public actors, for example, do not formally transfer legal authority to the actors with which they are exchanging resources. What are really being exchanged for other resources are policy amendments. The significance of legal authority is that this is what enables the relevant public actor to trade policy amendments: it is an enabling resource rather than a tradable resource.

For this reason it is necessary to distinguish tradable resources from other types of resources. Table 1 sets out a list of political resources based on surveying the relevant literature with a view to identifying exactly what it is that is being exchanged, and grouping the resources identified into a manageable number of general categories (Compston 2009, chapter 2).

It is important to note that the resources listed are arranged according to the type of actor that controls them *before* any resource exchange takes place. *After* resource exchange the situation may be quite different: private actors, for example, may have received the policy amendments that they want while public actors may have received the resources that they want, such as political support.

It is also important to note that the exact terms of any resource exchange depend not only on the resources that each party to the exchange actually controls but also on how they are perceived: threats by firms to disinvest, for example, are only political resources if they are believed.

Table 1. Main tradable resources of policy network members

Controlled by:	Resource	Comments
Public actors alone	1. Policy amendments	The perceived need to grant policy amendments depends on the perceived need for other resources
	2. Access	Being granted access creates the opportunity to persuade
Public and private actors	3. Veto power	
	4. Information	
	5. Cooperation with implementation	
	6. Recourse to the courts	
	7. Political support	
	8. Patronage	
Private actors alone	9. Private investment	
	10. Fluid funds	

Furthermore, by their nature each of these types of resources has a reward side and a punishment side. Public actors may reward other actors for their cooperation by granting them policy concessions, for example, or may punish them by withholding these or even by making the policy less palatable to these actors than it was originally. By the same token private actors may provide public actors with political support if they get the policy amendments that they want, or may mobilise against the government if they don't.

Let's have a closer look at these tradable resources, starting with those that only public actors possess.

1. Policy amendments

By 'policy amendment' as a tradable resource is meant a change in the choice of policy instrument(s) and/or settings in areas such as regulation, funding and taxation in the direction desired by the actor with whom the relevant resource exchange is taking place. Only public actors with the legal authority to make binding decisions in the relevant policy area are in a position to use policy amendments as a tradable resource, which means that legal authority is the enabling resource.

One complication here is that the legal authority to make decisions in a certain policy area may be divided among two or more public actors. In such cases policy amendments may be traded among these actors in order to reach agreement on the decision.

2. Access

By 'access to policy-making' is meant inclusion on distribution lists, two-way communication with officials and/members of the political executive, inclusion on relevant committees, and in general the opportunity to submit arguments in the knowledge that they will be considered. Access is valuable for policy actors because it gives them information about what public actors are doing and thinking, plus the chance to put their arguments to these public actors. In some cases access is mandated by law. Otherwise the power to grant or deny access is the prerogative of the public actors that possess the legal power of decision in any given policy area.

The next few types of tradable resources may be held and exchanged by both public and private actors.

3. Veto power

Policy actors with veto power, such as opposition parties that control powerful upper houses of legislatures, may use this to block decisions unless certain policy amendments are made. This means that the precise tradable resource consists of refraining to exercise their veto power.

4. Information

There are at least three ways in which information can be used as a resource. Actors with key information that they and only they control may exchange this directly for policy amendments. Information may influence policy decisions directly by changing the policy preferences of the public actor(s) with the legal authority to make the relevant policy decisions when these decisions are taken without engaging in resource exchange. Policy learning may also alter the nature of any resource exchange that takes place, and thus the policy decision that emerges, via altering the policy preferences of one or more actors.

5. Cooperation with implementation

There is no point in adopting a policy if it cannot be implemented properly, so where actors have the capability to impede or block implementation, public actors have an incentive to exchange policy amendments for cooperation with implementation.

6. Recourse to the courts

Where public or private actors are in a position to go to court to block or at least delay a policy decision or its implementation, refraining to use this legal option becomes a resource that can be traded for policy amendments.

7. Political support

The type of policy actor most in need of political support is the political executive, that is, the leadership of the party or parties in government, as governments in democratic countries must submit themselves to elections every few years.

Political support as a tradable resource comes in a number of forms.

First, and following Pappi and Henning (1998, p. 557), private actors may be in a position to mobilise the public or specific groups in favour of policy proposals, or at least to refrain from mobilising them against policy proposals. Political mobilisation in this sense includes media campaigns, strikes, petitions and demonstrations.

Second, public actors may seek the approval of relevant private actors even where political mobilisation is not an issue in order to give the chosen policy more (apparent) legitimacy. Here

the enabling resource for such private actors is a good reputation in the eyes of the groups and voters that public actors wish to get or keep onside.

Third, members of the political executive are individually and collectively dependent on the support of other politicians to stay in office. The government as a whole needs the support of the legislature. Ministers need the support of the head of government. The head of government needs the support of the party. As a consequence legislators outside the government may be able to trade political support for policy amendments, the head of government may trade his or her support for policy amendments by ministers, and the party as a whole may trade political support for policy amendments by the political executive.

Fourth, where the public is aware of an issue and cares, public actors may in effect deal directly with voters by making policy amendments designed to elicit higher opinion poll ratings in return.

The significance of political support as a tradable resource depends on how much the relevant public actor wants or needs it. A minister who is popular with colleagues and sits in a government with a secure legislative majority that is riding high in the opinion polls, for example, does not need to trade policy amendments for more political support as much as an unpopular minister in a minority government facing an election well behind in the polls.

The significance of political support as a tradable resource also depends on perceptions: whether environmentalists can mobilise voters against a particular government, for example, is uncertain ahead of its being demonstrated (or not), so its value as a tradable resource prior to this depends on whether the relevant public actors believe that environmental organisations have this capacity.

8. Patronage

Both public and private actors may exchange patronage for other resources. Public actors may grant positions in the government or administration, or honours, in exchange for benefits such as investment, campaign contributions or bribes. Private actors, especially corporations, may give ex-ministers, ex-officials and/or their family members positions in their own or related organizations, such as well-paid directorships, in exchange for policy amendments while they are still in office. Both forms of patronage constitute corruption: the exchange of personal favours for policy amendments or other benefits.

9. Private investment

As Lindblom points out (1977, ch.13), governments are held responsible for economic success but do not control the investment needed to ensure this. For this reason decisions about the location and type of private investment can be used by firms as a tradable resource. Perceptions are very important here: a threat to disinvest, for example, is only effective if the relevant public actors believe that it would be carried out if they refuse to give the relevant firm(s) what they want.

10. Fluid funds

Fluid funds – cash and other easily transferred financial assets – can be used as a tradable resource in a number of ways. They can be used to bribe politicians and officials to grant policy amendments. They can be traded in the form of campaign contributions for specific policy commitments. And they can be used as an enabling resource to buy expertise, lobbying services and other tradable and enabling resources.

Network members

The conscious agents within policy networks are individual men and women, most of whom are acting as representatives of organisations of some sort. In abstract discussions of policy networks it is convenient to identify these organisations as the policy actors, but in reality what we have are ‘composite actors’ in which intentional action above the level of the individual is produced by internal interactions (Scharpf 1997, p. 52). To this we might add the observation that the nature of composite actors changes over time, so that what we have in fact are evolving composite actors.

The wide ramifications of climate change mean that a wide range of policy actors take an interest in the problem and possible policy responses to it. Among the most prominent of these are environment ministers and economic ministers together with related departments and agencies, big energy producers and users, and climate change scientists. It is also worth noting that much decision making on climate policy now takes place not at national level but at EU level and, to a lesser extent, at global level with agreements such as the Kyoto Protocol. Among other things this implies that national climate policies are influenced not only by domestic actors but also by the preferences, resources and strategies of foreign governments, and thus indirectly by whatever actors influence these governments. Finally, the fact that democratic governments (political executives) live under the shadow of the next election brings the electorate into play as a sort of quasi-policy actor in that public actors may in effect deal directly with voters by making policy amendments designed to elicit higher opinion poll ratings in return.

Table 2 lists the main types of policy actors that would be expected to be members of national-level policy networks relating to climate change.

Table 2 about here

Policy networks, political strategy and climate policy

If resource exchange is to be used by a policy actor to help them achieve their policy preferences, it follows that they must have a strategy, defined as a plan of action designed to maximise their chances of realizing their policy preferences. Since policy network theory specifies that policy decisions are determined mainly by resource exchange, it follows that actors’ strategies must include decisions about how available resources are to be deployed. Strategies must also include communicating to other actors their policy preferences, diagnoses of problems and solutions, and (at least to some extent) their intentions in relation to deployment of resources, as well as the collection of information about others actors’ preferences, resources, conceptions of problems and solutions, and strategies. Forms that this communication may take include provision of information, argument, bargaining, and the making of threats and promises.

In terms of resource exchange and other policy network variables, at least five main types of political strategy can be identified:

1. Unilateral decision making without resource exchange;
2. Simple resource exchange within existing network parameters;
3. Moves to facilitate agreement on policy by facilitating resource exchange;
4. Moves to change the policy preferences of other actors;
5. Moves to change the terms of resource exchange.

This section draws out at least some of the implications of each of these strategic options for governments looking for ways to strengthen climate policies while avoiding significant political damage.

1. Unilateral decision making

Unilateral action is what many of those demanding more vigorous action on climate change tend to expect: the government works out what is technically and economically viable and then goes ahead and makes it happen.

But there is a problem. Most of these policies impose costs on someone and at least some of those affected are likely to try to block or weaken whatever policies impose these costs and to work to remove governments that introduce them. Such opponents are likely to include those industries that currently produce the lion's share of industrial greenhouse gas emissions and which therefore would be the most affected by the strengthening of climate policies. It is also clear that voters object to policies that obviously impose additional costs on them, such as higher fuel taxes and road pricing.

In terms of resource exchange what this means is that governments that take unilateral action are likely to lose any political resources that they possess by virtue of previous resource exchanges with these actors.

If we examine the resources that such actors could withhold from the government, however, it appears that the only resources that, in general, governments really could not do without are political support, cooperation with implementation, and private investment. Legal vetoes are a problem for government in countries such as the US, where there is a constitutional separation of powers, but much less of a problem in others, such as Britain. Policy actors might withhold information from the government, but it is not clear that this would create significant problems. Court action will only succeed if governments have exceeded their authority, which is unlikely to apply to many climate policies. And patronage and cash could be withheld, but this would only impose serious costs on governments that are quite corrupt. It is to be hoped that this is not relevant in very many cases.

For democratic governments, however, loss of political support could lead to the prime movers of more radical climate policies losing office as a result of a successful leadership challenge, defeat in a legislative vote of confidence, or defeat at the next election. Worse still, this could come at the hands of opponents who have pledged to reverse any new climate policies in order to win, so that any noble sacrifice would be in vain. Withdrawal of cooperation with implementation would wreck policies such as those designed to expand energy production from renewable sources. Loss of private investment, in the form of short-term capital flight or more long term drying up of new real investment in production facilities and/or transfer of existing investment to other countries, would cause economic problems that in turn would be likely to damage governments' prospects of re-election.

Conversely, of course, providing that a proposed climate policy does not threaten significant loss of political support, cooperation with implementation or business confidence, unilateral action would be a viable option.

Tactics that could be used by governments that do decide to take unilateral action include:

- Introducing unpopular policies during the early years of an administration to allow time for opposition to subside and for the benefits of such policies to become apparent before the next election arrives;
- Targeting measures on particular industries while leaving others alone in order to make progress while keeping most of business onside, although the extent to which governments can do this may be limited by norms of equity of treatment, and if the government targets your industry today, it might be mine tomorrow;
- Targeting economic sectors that are able to pass on at least a proportion of their extra costs to consumers, as this may facilitate the internalization of environmental costs without government being blamed directly, although the media is often quick to publicize how carbon/energy taxes, for example, lead to higher prices for consumers; and
- Adopting policies that target losses on small sections of society, and in particular on those groups that are least able to inflict political damage via the ballot box, impede implementation, or withdraw investment from the country.

2. Simple resource exchange within existing network parameters

If the main problem with unilateral action on climate policy is loss of political support, cooperation with implementation and business investment, the obvious alternative is to trade policy amendments for these resources, but only the minimum of policy amendments.

In a situation in which public policy is being determined by resource exchange among interdependent actors with distinctive policy preferences, strategy can be conceptualised, as mentioned above, as consisting of (1) communication of preferences and associated argumentation, (2) the selection, combination and sequence of resource deployments, and (3) whatever other actions are necessary to make this happen.

What each actor does is, of course, influenced by what others do: players ‘gear their actions and the objectives which they pursue to the strategic behaviour and objectives of other actors. A strategy is thus a cohesive series of actions whereby one’s own desires and ambitions are linked to the assessment of the desires and ambitions of other actors’ (Klijn et al 1995, p. 440).

Within this general framework there are at least two major strategic choices that public actors bent on further action on climate change need to make.

First, public actors need to decide which actors must agree if significant losses of political support, cooperation with implementation, and investment are to be avoided, as in general we would expect that obtaining the agreement of more than the minimum number of actors would result in more significant policy concessions being made and thereby weaker climate policies.

Second, governments need to decide exactly what adjustments to their ideal policies they are prepared to make in return for the resources that they seek, bearing in mind that too many concessions would sabotage the policy concerned. This of course presupposes judgments about what policy amendments are necessary in order to keep business and the electorate sufficiently onside. If the policy concessions required for this are judged to be unacceptable, of course, the only option for an activist government would be to impose the relevant policy and accept any consequences in terms of political support, policy implementation and/or business investment.

Where policy amendments are made, these can relate either to the climate policy under consideration or, as part of a package, to policies elsewhere that affect the same political actors. Corporations, for instance, are affected not only by climate policies but also by policies in areas such as taxation, business regulation and labour law. Thus policy linkages may provide ways in which opponents of particular climate policies can, in effect, be bought off.

3. Moves to facilitate agreement on policy by facilitating resource exchange

As well as playing the game within the prevailing network parameters, public actors who wish to obtain the agreement of other actors on climate policies have the option of trying to manage the network with the aim of facilitating resource exchange by means such as selective activation of the actors necessary to tackle a particular task; arranging interaction (formalising the agreements and rules that regulate interaction, for example by establishing conflict regulating mechanisms); matching problems, solutions and actors; facilitating interaction by making sure that appropriate procedures are in place; and mediation and arbitration (Kickert and Koppenjan 1997, pp. 47-51). Of these the most relevant to a government trying to secure agreement on stronger climate policies appear to be moves to establish procedures that facilitate easy interaction with other actors by means such as creating committees, putting relevant individuals in touch, and establishing norms of interaction so that actors know what they can expect from each other, for example clear recognition of agreements if and when they are reached.

4. Moves to change the policy preferences of other actors

A fourth strategy is to try to change the policy preferences of other actors by altering their perceptions of problems, solutions or other aspects of the policy process. Here of course the role of the media is central, as almost all political communication aimed at mass audiences is received as coverage in the media rather than direct and unmediated. This means that the nature of media coverage is seen, rightly or wrongly, as being critical in shaping public attitudes to climate change and climate policy (see Gavin, this volume).

Perhaps the most obvious communication strategy is the provision of information about climate change and the threat it poses, along with information about effective and practical responses. Another tactic is to stress the contribution of proposed climate policies to the achievement of other social and economic objectives such as energy security and employment. Messages aimed at citizens need to be simple and clear, which implies focusing on just a few selected indicators of climate change and its impacts, along with a small number of proposed solutions, and deploying metaphors and analogies to make it easier for citizens to understand complex ideas. Messages also need to be tailored to particular audiences and repeated as often as possible (Pralle, this volume).

Related to these points is the idea that political actors compete to secure support for their definition of reality by telling stories in which narrative devices such as plot and characterization are at least as important as evidence and logic (see, for example, Hajer 1995). Issues that need exploring here include how to devise frames for climate change and climate policies that are credible and salient, and how best to promote these frames. Recent innovations in this area include the concept of a Green New Deal, while in the US the Apollo Project likens the task of controlling climate change to the effort during the 1960s to get a man on the moon (Pralle, this volume).

In relation to changing policy preferences it is also worth mentioning that if climate change is really under way we can expect an increase in the incidence of weather-related natural disasters. To the extent that a disaster of this sort can be plausibly linked in the public mind with climate change we would expect public concern about climate change to increase in their wake and lead to increased public demand for appropriate climate policies. We have already seen this in relation to events such as Hurricane Katrina in the US. The strategic significance of this is that from time to time we can expect windows of opportunity to open during which governments can put through more vigorous climate policies at a lower cost in terms of political support than they would suffer at other times. For this reason any government which is serious about climate change will keep fully-prepared policy options to bring out each time that there is a spike in public concern about climate change.

5. Moves to change the terms of resource exchange

In his analysis of resource dependency, Emerson identifies a number of options for actors who wish to change the balance of power between themselves and other actors. Applying this analysis to the case of public actors wanting to change the balance of power within a policy network defined in terms of resource interdependencies implies that such actors have four main options (Emerson 1962, p. 35).

(1) Reduce motivational investment in the resources controlled by other actors

By this is meant caring less about whether these resources are forthcoming. One way of becoming less dependent on resources controlled by others would be to switch to policy goals that require fewer resources from other actors. Governments may be able to avoid legislative veto points, for example, by prioritising climate policies that do not require legislative approval. As this strategy means following the path of least resistance, however, it may well be that it is already being used by governments to its maximum extent.

(2) Cultivate alternative sources for obtaining these resources

This means seeking political support, help with implementation and business investment from new sources. New sections of the electorate might be cultivated to compensate for losses in electoral support due to the introduction of new climate policies, for example, while policies that would be crippled by lack of cooperation on implementation could be replaced by policies for which cooperation is forthcoming.

(3) Get other actors to increase their motivational investment in the resources that you control

One relevant move here would be to hold out the prospect of a favourable policy change elsewhere, such as a tax cut, if cooperation is forthcoming. Another would be to acquire new resources such as additional authoritative powers with which to coerce other actors. Moves by national governments to acquire additional legal powers over planning permission, for example, as happened recently in Britain, increase the resources of governments by enabling them to offer policy concessions to firms that a more restrictive or localised planning system would not allow, which might lead to agreement being secured in return for fewer other policy concessions than would otherwise be the case. Another possible move would be to take full control of selected private firms by nationalising them. Such moves are out of fashion at present, or were until the recent financial crisis, but extensions of regulatory powers may also have this effect. An alternative possibility would be to form state agencies to undertake needed tasks that private

firms are simply not carrying out, such as building coal-fired power stations that are equipped with carbon capture and storage.

(4) Deny to other actors alternative sources for obtaining the resources that they want from you

This implies actions such as imposing stricter controls on international transactions in order to make it harder for firms to shift investment elsewhere if they object to certain climate policies, although this particular move seems unlikely at present in view of current international trade rules. Another possibility would be to nurture cross-party consensus on climate change in order to limit the extent to which business groups or voters who object to certain climate policies are able to shift their political support to parties that oppose these measures.

A fifth strategic option derives from the Dutch school of network analysis (Klijn et al 1995, p. 448).

(5) Alter the structure of policy networks

There are a number of possibilities here.

First, public actors may introduce new actors and/or exclude others. This I interpret as giving new actors access to the policy making process – consultations, committees and so on – while excluding others, since our definition of policy networks means that network membership as such is determined by resource interdependence rather than formal access. In at least some cases granting access may create a more cooperative attitude on the part of the newly included actor which may increase the chances of their accepting new climate policies. While excluding an actor implies a more antagonistic relationship, which may have negative consequences if they can influence public support, implementation or business investment, in at least some circumstances excluding an actor may make it easier for public actors to introduce contested climate policies by removing any expectation that these must be agreed by the actor concerned.

Second, public actors may try to alter relations between actors by establishing or changing organisational arrangements such as consultation procedures and advisory bodies. In terms of our resource dependency version of policy network theory this means altering policy network-specific rules and norms. However it is not clear that such moves would be likely to significantly affect the likelihood of critical actors agreeing to climate policies that they had previously rejected.

Third, public actors may move to alter the distribution of resources by means such as improving information systems, recognising an organisation as an interlocutor, giving it access to permanent consultative bodies, granting subsidies, or granting it a legal monopoly. As mentioned above in relation to introducing new actors to the network, this may elicit greater cooperation from the actor(s) receiving these benefits.

Fourth, public actors may change interaction rules, such as decision making procedures, and thereby alter the distribution of resources by means such as altering which particular public bodies hold the formal power of decision. Moving responsibility for energy from an economic to an environmental ministry, for example, should shift the power of decision towards actors who would be expected to be more likely to favour strong action to reduce energy-related emissions than their colleagues in the economic ministry.

Lessons

The aim of this analysis has been to draw out some of the implications of a resource dependency version of policy network theory for identifying political strategies for governments that wish to take more vigorous action against climate change while avoiding serious political damage. The ten main implications that have emerged are as follows.

1. Democratic governments that want more action on climate change cannot do without political support, cooperation with implementation and the maintenance of business investment. For this reason an all-out unilateral strategy is impractical. Conversely, however, unilateral action is a viable option where a proposed climate policy does not threaten significant loss of political support, cooperation with implementation or business confidence.
2. Tactics that can be used by governments that decide to take unilateral action include introducing unpopular policies early in their terms of office, imposing measures on particular industries while leaving other industries alone, targeting sectors that can pass on any additional costs, and targeting those social groups that are least able to retaliate via the ballot box.
3. The main strategic choices for public actors operating within established parameters for resource exchange involve (1) identifying the minimum number of actors whose agreement is deemed to be necessary if unacceptable political damage is to be avoided, and (2) deciding exactly what policy concessions they are prepared to make in order to secure that agreement.
4. In some circumstances it may be possible to buy off opponents of particular climate policies by putting together package deals that include amendments to policies elsewhere.
5. In some circumstances it may be possible to improve the chances of securing an acceptable agreement by fine-tuning the formal and informal procedures that structure interaction among policy actors. Altering the distribution of formal decision making power within government, for example by moving responsibility for energy policy from an economic ministry to an environment ministry, may reduce the strength of opposition within government to taking more vigorous action against climate change. Giving new actors access to the policy making process may make them more likely to accept proposed policy changes, while excluding actors may make action more likely by removing any presumption that their agreement is a prerequisite.
6. The acquisition of new legal powers may enable governments to offer more to companies and other actors and thereby reduce the policy concessions necessary to obtain their agreement to new climate policies.
7. Cross-party agreement on climate policies should enable more radical policies to be put through because in such circumstances voters who oppose these policies have nowhere to go.
8. In some circumstances it may be possible to alter the policy preferences of other actors by means of communications strategies ranging from providing information and stressing how climate policies serve other objectives as well, such as energy security, to adoption of discourses that frame the issue of climate change in new ways.
9. If climate change is really under way we can expect increasingly frequent and serious weather-related natural disasters that are likely to lead to increased public demand for appropriate climate policies that temporarily reduces the political costs that such policies would otherwise incur and thereby opens repeated windows of opportunity for governments that keep fully-prepared policy options ready to go.

10. Opportunities for strategic action may be opened by seeking new sources of political support, help with implementation and business investment to replace any lost through imposing climate policies on those actors that currently provide these resources.

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Table 2. Generic policy network relating to climate change

Type of actor	Specific actor
Political executives and associated parties	Chief executives
	Environment ministers
	Economic, finance, industry, energy, transport and technology ministers
Non-government politicians	Opposition economic, environment, energy, transport, trade and technology spokespeople
	Legislative committees on the economy, environment, energy, industry, transport and technology
	Regional and local governments
	European Commissioners in areas relating to the economy, environment, industry, energy, transport and technology
	Foreign governments
Civil servants, special advisers and other public sector employees	Environment departments and agencies
	Economic departments and agencies, in particular energy, finance, industry, transport and technology
	European Commission Directorates-General relating to the economy, environment, industry, energy, transport and technology
	Regional and local administrations
	International organizations
Judges and regulators	Environmental, energy and transport regulators
Business	Fossil fuel producers and electricity generators: oil, gas, coal
	Renewable energy producers and electricity generators
	Nuclear energy producers and electricity generators
	Industrial users of energy such as steelworks
	Transport manufacturers and providers: road, air, rail, water
	Energy efficiency producers and services
	Trading firms of all sorts
Interest groups and non-government organizations	Business groups relating to energy, transport and industry
	Environmentalists
	Trade unions
	Motoring organizations
Media	National press and television; specialist environment, energy, transport and industry media
Experts	Climate change scientists, economists, and environmental, energy and transport experts in universities, think tanks and elsewhere
Electorate	Energy users, travellers, consumers of products produced using energy