

**The Influence of the Quality of Democracy on Reactions to Climate Change:  
Why Dealing with Climate Change Means Democratizing Climate Governance**

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Paper\* presented at

2016 Berlin Conference on Global Environmental Change:

Transformative Global Climate Governance “après Paris”

The paper analyses how the quality of democracy influences the climate performance of established democracies. Two analyses compare established democracies based on their level of democracy and detect internal mechanisms to understand their different reactions to climate change. Therewith, the paper contributes to the question how transformative global climate governance “après Paris” can be translated successfully into national circumstances. Findings demonstrate that a higher quality of democracy influences climate performance for the most part positively. The positive influence of the quality of democracy, evaluated by empirical translations of control, equality and freedom, can be observed regarding output (policy targets etc.) and with certain limitations regarding outcome (GHG emission development). Research results are robust and show synergy in terms of detailed mechanisms verifying statistical trends. An initially outlined concept of democratic efficacy explains these findings by theorizing that democracy’s ability to produce desired and intended climate performances rises with increasing quality of democracy. Empirical analysis is conducted by applying an explanatory mixed methods design. Firstly, panel regressions deliver trends on the influence of the quality of democracy, as measured by the Democracy Barometer, on climate performance, as measured by the Climate Change Performance Index. Depending on combination of data, the number of countries ranges from 39 to 41 in 2004 to 2012 resulting in 193 to 326 country-years. Secondly, a case study of Canada’s Kyoto Protocol process from 1995 to 2012 follows, providing detailed insights into the mechanisms of the quality of democracy and climate performance. The findings are based on documentary analysis and 27 interviews with former ministers, MPs, NGOs, Think Tanks etc. The fundamental practical implication of the paper can be translated into specific policy recommendations but is as simple as complex: to overcome democratic shortcomings and thus democratize climate governance to make it more efficacious.

*Keywords:* Quality of Democracy, Climate Performance, Established Democracies, Canada, Democratic Efficacy

*\*This paper is a short version of the monograph “Democracy and Climate Change” that will be published later this year including support material.*

## 1. Introduction

The wicked problem climate change combines a set of characteristics making it very hard to deal with, such as latency, a long time horizon, scientific complexity and free-riding problems. These call in sum for a broad-scale transformation of contemporary societies in many fields, such as energy, land use or urbanization (WBGU, 2011). However, taking a look at established democracies separately, some appear to be more successful in dealing with climate change than others. While the United Kingdom, e.g., ranks 6th in the Climate Change Performance Index (CCPI) 2015, Canada ranks 58th out of 61 with other democracies in-between (Germanwatch, 2015).

A reason for their different climate performances may be found in the way democracies in the face of climate change deal with unintended consequences they inherently produce, such as the periodicity of elections leading to short-termism, “cycling issue attention” threatening “enlightened understanding” and dilatory as well as incremental procedures weakening their problem-solving capacities (see, e.g., Brodocz, 2008; Held, 2014). Though characteristics of climate change and unintended consequences of democracy might contradict each other to different degrees, some democracies may find better solutions than others to overcome their short-termism to be able to deal with the long time horizon of climate change. Hence, different levels of democracy might be an explanatory factor for differences in the climate performances of established democracies.

Existent research cannot explain this observation (see, e.g., Bernauer, 2013; Burnell, 2012; Cao, Milner, Prakash, & Ward, 2014; Held, 2014). The possibly most comprehensive and relevant study in this context merely delivers insights on trends regarding the spectrum of autocracy to democracy (Bättig & Bernauer, 2009). The authors study a cross-section of 185 countries between 1990-2004, arguing that democratic institutions provide public goods more successfully than autocratic ones. Their empirical results demonstrate that the effect of democracy on climate policy commitments is positive but ambiguous in terms of GHG emissions. However, the empirical data used is not able to differentiate between democracies. The methods used are not capable of providing insights into detailed mechanisms verifying statistical trends. The theoretical literature on political institutions referred to might explain the different influence of democratic and autocratic institutions but provides only limited explanation for established democracies. To close this research gap, this paper asks: how does democratic quality influence climate performance in established democracies? The research question can be separated into three elements.

Firstly, findings on “robust inferences about the factors that cause variation across political units in forms and ambition levels of climate policies” are missing, studying policy output and outcome side by side (Bättig & Bernauer, 2009, pp. 823-824; Bernauer, 2013, p. 435; Burnell, 2012). This gap leads to panel regressions of the Democracy Barometer and the Climate Change Performance Index (“Analysis I”). Secondly, since spatial statistics and numeral coding will always miss nuances that are

important for dynamic policy processes, “qualitative case studies based on ‘thick description’ of climate policy making remain crucial” (Bernauer, 2013, p. 436). In particular, studies do not explain comprehensively what mechanisms exist inside democracies to understand different reactions to climate change. Such mechanisms can also verify or reject the previously detected trends. This gap results in a case study on Canada’s Kyoto Protocol process 1995-2012 asking what mechanisms underlie democratic quality and climate performance (“Analysis II”). Thirdly, the focus of research has so far been placed on description rather than on explanation and development of applicable theory (Cao et al., 2014, p. 293). Thus, arguments regarding the democracy-climate-nexus are fragmentary and require a generalizable explanatory approach. This gap leads to the initial outline of the concept of democratic efficacy assuming that the ability to produce desired and intended climate performance rises with increasing levels of democratic quality.

Findings of the study demonstrate that more democratic quality influences climate performance in established democracies mostly positively. The positive influence can be observed regarding output but only with limitations regarding outcome. Research results of both analyses are robust and synergize in terms of detailed mechanisms verifying statistical trends. Furthermore, explored mechanisms indicate that the influence might become stronger and more predictable with increasing levels of democratic quality. The initially outlined concept of democratic efficacy can explain these findings by generalizing that democracy’s ability to produce desired and intended climate performances improves with increasing levels of democratic quality.

**2 Conceptual framework: definitions, concept and methods**

**2.1 Definitions**

To answer the question how democratic quality influences climate performance in established democracies, two basic definitions need to be outlined: democratic quality and general performance.

**TABLE: GENERAL PERFORMANCE AND DEMOCRATIC QUALITY**

	<b>substantive (meta-)dimensions</b>	<b>procedural dimensions</b>
<b>general performance</b>	<i>substantive general performance: climate performance (policy output, policy outcome)</i>	<i>procedural general performance (governmental capability, stability of government, efficiency and effectiveness)</i>
<b>democratic quality</b>	<i>substantive democratic quality (control, equality, freedom)</i>	<i>procedural democratic quality (accountability, independence, stability of democratic institutions, inclusiveness, participation, transparency, creativity, liberty, publicity)</i>

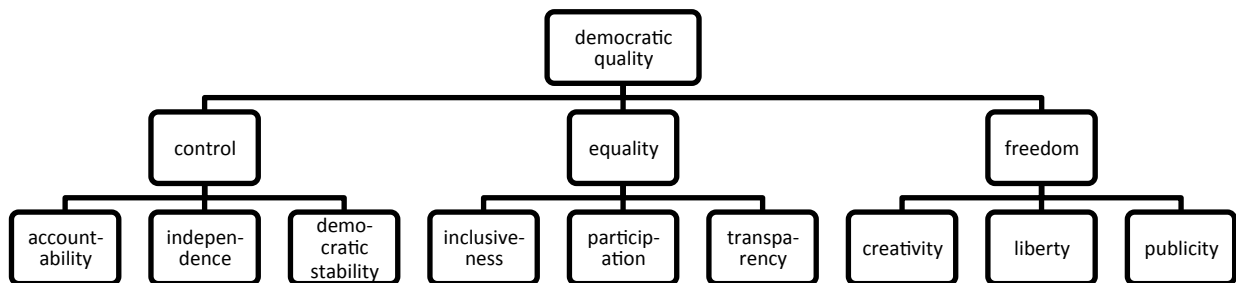
Source: own composition based on (Roller, 2005, p. 24).

## Democratic Quality

Democratic quality indicates the level of democracy and relies on a “pure” understanding of democracy. Applied to Lincoln’s famous distinction, a pure understanding has to be vastly understood as “government of the people” and “by the people”.

Having identified (1) meta-dimensions as overall guiding principles, (2) dimensions of democratic quality as conceptual criteria can be empirically translated into (3) evaluative standards stipulating what counts as high or low democratic quality (D. Thompson, 2008, p. 501). Lastly, evaluative standards can be differentiated into (4) indicators as empirically evaluable conditions for democratic quality (D. Thompson, 2008, p. 501).

**FIGURE:** ASSIGNMENT OF META-DIMENSIONS TO DIMENSIONS OF DEMOCRATIC QUALITY



Source: own composition.

Freedom, equality and control as meta-dimensions seem to be the “boundary contested principles” of the “boundary contested concept” democracy (Gallie, 1956; Lord, 2004 (quotation 12)). Freedom is a basic principle since it ensures that individual rights are guaranteed but also enables that creative forces can develop democracy further. However, to ensure that citizens have the same possibility to make use of their rights, political equality must ensure that citizens have similar chances of influence on political power. Thus, freedom and equality are interrelated; e.g. to decide what equality means to them and how it should be realized, citizens need the right to speak about it freely and to have equal opportunities to do so. Control as the third principle ensures that the will of the demos is accountably implemented under rule of law, so that their understanding of equality is actually put into effect. Thus, freedom, control and equality are much more enabling than contradicting each other.

More precisely, control as a meta-dimension of democratic quality means an accountable, independent and stable exercise of power. Clear lines of accountability ensure control of decision-makers because it is their obligation to give reasons for their political decisions when demanded by citizens, constitutional bodies, state institutions, officials etc. (see, e.g., Bühlmann & Kriesi, 2013, pp. 53-57; Diamond & Morlino, 2004, pp. 25-26; Morlino, 2012, pp. 199-202). Accountability can be

divided into a vertical and a horizontal part. Vertical accountability is the kind of accountability that “decision-takers” or electors in representative democracies can demand from decision-makers or those elected for the decisions and policies made (see, e.g., Przeworski, Stokes, & Manin, 1999). Horizontal control is the control of decision-makers by other (state) institutions that have the possibility to check and monitor their decisions (see, e.g., Bovens, 2007; O'Donnell, 1994). The main feature of independence as the second dimension of control is rule of law at an institutional and organizational level. A free and open access of the judiciary needs to be established for a high-quality democracy. Moreover, it is important to make authorities respect the law and establish supremacy of law. This means that there is no connection between judiciary and legislature or executive that hinders independent decisions or enables corruption. Thus, the judiciary has to be highly professionalized (see, e.g., Keith, 2002; La Porta, Lopez-de-Silanes, Pop-Eleches, & Shleifer, 2004). Stability as the third dimension related to control guarantees that a state is embedded in stable democratic structures, which has to be secured in many different branches. Stability is characterized by governmental capability including constraints of the constitutional and executive power, the absence of destabilizing circumstances and sufficient resources for democratic institutions. A democratic government has to have the ability and autonomy to govern the political process effectively and implement policies based on democratic procedures (see, e.g., Etzioni, 1968; Harmel & Robertson, 1986; Scharpf, 1999). Therefore, it needs different kinds of resources like public support (see, e.g., Chanley, Rudolph, & Rahn, 2000; Rudolph & Evans, 2005). At the same time, mutual constraints of the constitutional powers and the executives are necessary. They can be found in veto-powers like an opposition with corresponding rights or control institutions with sufficient resources to oversee governmental policies and inform the public about it (see, e.g., Hamilton, Madison, & Jay, 2014; Schneider, 2003; Tsebelis, 1995). Moreover, the absence of destabilizing circumstances and sufficient resources for democratic institutions are important for the stability of a democratic system. This means that statehood always has to be guaranteed while extreme staff switches, extreme variations of democratic institutions and their responsibilities depending on the government in power do not threaten democracy.

Equality as a meta-dimension consists of an inclusive, participative and transparent access to political power and thus to legislation (see, e.g., Robert A. Dahl, 1956; R. A. Dahl, 2000; Robert A. Dahl, 2006; Saward, 1998). Inclusiveness can be seen in the openness and fairness of access that guarantees the involvement of a plurality of actors. This includes the involvement of those relevant and possibly affected or their arguments – like in the case of future generations – so they can influence the formulation and implementation of decisions. Such actors can be labeled as holders since they own a certain quality or resource: Citizens possess rights, residents possess spatial location, experts have knowledge, owners share, “beneficiaries-cum-victims” have a stake regardless when and where they

live, spokespersons have interest and representatives possess status (Schmitter, 2002, pp. 62-63). The selection of holders must be fair and unbiased, so that there is no disproportionality (see, e.g., Holden, 2006; Teorell, 2006; Urbinati & Warren, 2008). Moreover, weak and marginalized actors need special consideration including appropriate arrangements and resource accessibility to be able to participate. Participation as a second dimension requires not only the right to participate, but first and foremost a high rate of active participants to be democratic since arguments could otherwise not be voiced and heard (see, e.g., Barber, 1984; Powell, 2004; Teorell, 2006). Thus, influence on decision-making due to adequate participation mechanisms (such as direct, intermediary, representative etc.) is necessary. When these participation mechanisms are based on considered judgment of equals, they could be labeled deliberative, which can be observed in a justification of policy proposals in regard to the common good and the adjustment of positions of other actors. All this can result in responsiveness reflecting the results of considered judgments also during the implementation of policies (see, e.g., Bühlmann & Kriesi, 2013, pp. 47-53; Fishkin, 2009; Morlino, 2012, pp. 208-211). For this purpose, public service needs to be trained in order to be aware of these necessities (Ingram & Schneider, 2006). Transparency as the last dimension ensures the access and traceability of all relevant information at all stages of the policy process (see, e.g., Stiglitz, 1999). This includes that meetings with decision-making character are transparent and announced in advance so that all actors are prepared. Moreover, the state has to provide its citizens (or the democratically legitimized actors involved) with access to all relevant documents to make the political process publicly visible (see, e.g., Islam, 2006). Informal meetings have to be minimized and democratically justified since secrecy enables the domination of particular interests and corruption (see, e.g., Hollyer, Rosendorff, & Vreeland, 2011; Lindstedt & Naurin, 2010).

Freedom as a meta-dimension secures creativity, liberty and publicity. Creativity as the first dimension can be reached by competition, experimentation and innovation, which enable creative potentials for more democracy (see, e.g., Smith, 2009). Science plays an important part in terms of creativity since a functioning democracy needs informed citizens to develop democratic innovations. Moreover, free-thinking science and openness to new ideas and concepts is central for democratic renewal. Competition as another source of creativity has to be seen in a range of actors being involved in decision-making processes or elections with different views on the issue under consideration (see, e.g., Bartolini, 1999, 2000). Such a diverse setting can also result in diverse policy options as a result of the process. Also, for the actors themselves, competition seems to be a source for more creative results and positions (see, e.g., Morlino, 2012). Experimentation with not-yet established elements possibly leading to a higher democratic quality should be allowed and supported in high-quality democracies. As a second dimension of freedom, individual, associational and organizational rights enable autonomy and liberty. Individual liberty is a central precondition for

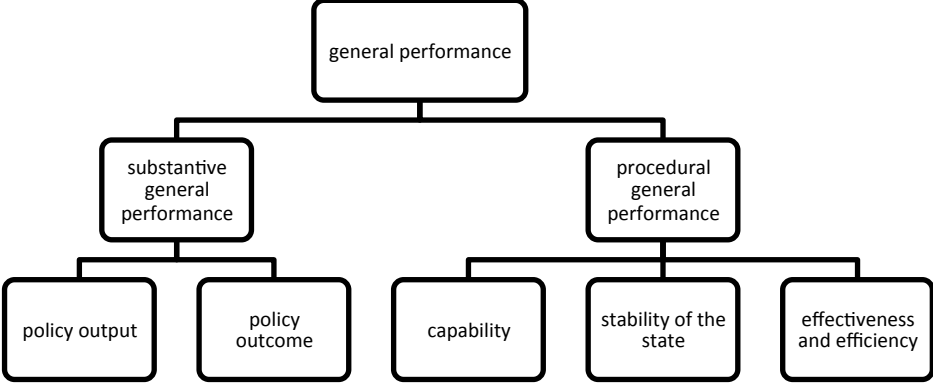
a functioning democracy (see, e.g., Keith, 2002; O'Donnell, 2004). Civil rights of belief, expression, physical integrity etc. enable personal autonomy and must not only exist, but also be actively implemented by their states. Political rights like the freedom of association empower an active public sphere and the existence of a variety of organizations (see, e.g., Linz & Stepan, 1996). If there is a free and easy way for individuals to establish organizations and if these organizations can act and express themselves autonomously without repressing influence by third parties, it can be assumed that freedom exists at an organizational level. Media pluralism and a free public sphere guarantee publicity as the third dimension of freedom (see, e.g., Putnam, Leonardi, & Nanetti, 1993; Sartori, 1987; Teorell, 2006; Young, 1999). It is important that different media are in place since they enable discourse and express opinions for public debate and judgment. The result can be an active civil society making their voices heard. It is therefore necessary that states support media pluralism and public debate through conferences, an active press office, publications etc. Media also has the function to control political processes and to raise public awareness for certain information otherwise not accessible for individuals. Moreover, scientific results need to be translated and explained to a broader public. Thus, public awareness of important issues under debate indicates that publicity is ensured.

### *General Performance*

General performance is a “consequentialist” understanding of democracy that every state can perform regardless of whether it is democratic or autocratic. In Lincoln’s words, a consequentialist understanding of democracy is “government for the people” and in terms of climate change perhaps also “for the planet”.

As already indicated, general performance can be divided into procedural (see, e.g., Back & Hadenius, 2008; Charron & Lapuente, 2010; Eckstein, 1971; Roller, 2005; Weaver & Rockman, 1993) and substantive general performance (see, e.g., Lane & Ersson, 2000; Pennock, 1966; Roller, 2005). This study proposes an approach where procedural democratic quality consists of governmental capability, stability (of government), effectiveness and efficiency.

**FIGURE: DIMENSIONS OF GENERAL PERFORMANCE**



Source: own composition.

Governmental capability, stability (of government) and effectiveness and efficiency are the proposed qualifications in terms of procedural general performance. These three dimensions ensure that a state is able to fulfill its duties. Governmental capability as the first dimension ensures that the state has the abilities to operate successfully (see, e.g., Bertelsmann-Stiftung, 2014a (Management Index); 2014b (Management Index); Weaver & Rockman, 1993). It stands for a state that is able to set and maintain strategic priorities since – pragmatically speaking – not all duties can be fulfilled at the same time, which is why a concentration of resources is necessary. Therefore, sufficient steering capability is needed to navigate into the right direction. Moreover, a state needs to demonstrate flexibility and innovation to cope with unexpected situations as well as to foster future-oriented perspectives. To do so, it needs to learn from past errors to avoid failures.

Stability builds the second dimension (see, e.g., Bertelsmann-Stiftung, 2014a (Management Index); Eckstein, 1971; Kaufmann, Kraay, & Zoido-Lobaton, 1999; Weaver & Rockman, 1993). To demonstrate stability, of course, the absence of destabilizing circumstances, coordination of conflictive situations and the management of societal cleavages are mandatory. Durability is ensured when citizens respect the political institutions due to their performance. Otherwise, a state might be unable to move forward in terms of formulating and implementing policies. A further indication for stability is the commitment to international treaties and communities. It ensures cooperation concerning a state’s long-term well-being since international norms are accepted and the exchange with other states is more likely as part of an international community.

The third dimension of procedural general performance lies in the composition of effectiveness and efficiency (see, e.g., Back & Hadenius, 2008; Bertelsmann-Stiftung, 2014a (Management Index); Charron, 2009; Weaver & Rockman, 1993). Quality of bureaucracy seems to be of crucial importance to guarantee effective and efficient policy formulation and implementation since civil servants have to ensure proceedings independently from political pressure. Thus, the state has to make use of its



(economic, human, etc.) resources to act successfully. These circumstances then help to ensure that the credibility of commitments to policies is reliable.

Substantive general performance consists of two dimensions, namely the formulation and realization of policies (see, e.g., Bertelsmann-Stiftung, 2014b (Management Index); Longo, 2008; Weaver & Rockman, 1993). Hence, substantive general performance can be divided into policy output and policy outcome (Fiorino, 2011, pp. 367-371; Grumm, 1975). Output focuses on the formulation of policy plans and ratified targets such as those identified in the Kyoto Protocol. Outcome focuses on results these activities cause and thus on the implementation of policies in terms of actual changes accomplished such as the reduction of GHG with respect to climate change. It is therefore necessary to explicitly define what type of substantive general performance is applied in a study (Burnell, 2012).

## **2.2 Argument**

The study proposes an argument and related outline for a concept of democratic efficacy as the ability of democracy to produce desired or intended climate performance. Therefore, the empirical and argumentative context is considered in order to present the concept of democratic efficacy in the form of a drafted model, hypothesis and questions.

Arguments assuming a negative impact of democratic quality on climate performance firstly rely on the description of climate change as a wicked problem with characteristics like a shortening time horizon, scientific complexity, free-riding possibilities, unforeseen tipping points, high demands on global cooperation etc. requiring a reflexive policy design (Huiteima et al., 2011; Jordan, van Asselt, Berkhout, Huiteima, & Rayner, 2012; Koppenjan & Klijn, 2004; Lazarus, 2009; Levin, Cashore, Bernstein, & Auld, 2007, 2012; Rae & Wong, 2012; Rittel & Webber, 1973; Sandler, 2010; Shearman & Smith, 2007; A. Thompson, 2006). Secondly, democracies in the context of climate change are also threatened by characteristics of the democratic process itself like a periodicity of elections with short-time horizons, “cycling issue attention” undermining “enlightened understanding”, dilatory and incremental procedures diminishing problem-solving capacity etc. (Brodocz, 2008; Held, 2014). Thirdly, more general assumptions concern an “overloaded government” that is not able to fulfill all its functions (Birch, 1984) or politicians not sufficiently qualified surrounded with structures awarding re-election or the “ungovernability” due to a too complex society (Crozier, Huntington, & Watanuki, 1975) consisting of citizens focused on their immediate advantage.

While these arguments are quite substantial, they might describe a threat to existing democracies, but not how the different democratic qualities of established democracies influence climate performance. In contemporary democracies, policy-making is not so much based on public and considered judgment by the common people but shortened to periodical elections and references of politicians to opinion polls representing simply an aggregation of private interests etc. This is not to

say that democratic quality of contemporary democracies is worsening as arguments of post-democracy research suggest, but it can be assumed that contemporarily existing democracies are not perfect. It can be agreed that democracies face problems due to the specifics of climate change and their internal procedures. Characteristics of climate change and unintended consequences of democracy might contradict each other to different degrees. However, some democracies may find better solutions than others to overcome their short-termism to be able to deal with the long time effects of climate change. Democracies have to be distinguished; they do not have the same democratic quality and thus might influence climate performance differently.

Arguments assuming a positive influence of democratic quality on climate performance are rare or rely on minor aspects in regard to the democracy-climate-nexus without thinking more broadly about the relationship between the two components and thus indicate the need for further research. Most reasonable arguments firstly rely on an informed median voter that prefers the provision of public goods due to post-material values and small opportunity costs requiring politicians to respond to these demands since they can be held accountable (Bättig & Bernauer, 2009, pp. 286-287). Secondly, more general arguments beyond the environment-democracy-nexus seem to be relevant when outlining the concept of democratic efficacy. These arguments assume that democracy presents the most powerful set of institutions available guaranteeing steadiness and the ability of political learning (Halperin, Siegle, & Weinstein, 2005), that democracy is effective due to competitiveness (Wittman, 1995), that democracy enables cooperation (Choi, 2004) and that it improves quality of government (Charron & Lapuente, 2010). Thirdly, proposals on potential improvements of democracy are quite vague. They assume that intergenerational democracies can be established, paying more attention to future tasks such as climate change, that deliberative improvements could be capable of enhancing the future, science and other areas, that environmental constitutionalism may help climate policy mainstreaming etc. (Dryzek, n.y.; Dryzek, Norgaard, & Schlosberg, 2013; Held & Hervey, 2009, pp. 8-9; Stevenson, 2014; Machin, 2013; Lidskog & Elander, 2010; Barber, n.y.; Gould, n.y.; Hayward, n.y.; Leggewie & Welzer, 2010; WBGU, 2011, p. 209). These improvements might “create a democracy of public judgment rather than private opinion” (Barber, 2010, p. 168).

Table 1 illustrates main shortcomings and advantages identified by existing research on the democracy-climate-nexus. The shortcomings and advantages in Table 2 set up the context into which the concept of democratic efficacy has to fit.

**TABLE: SHORTCOMINGS AND ADVANTAGES REGARDING THE DEMOCRACY-CLIMATE-NEXUS**

<b>shortcomings</b>	<b>advantages</b>
<ul style="list-style-type: none"> <li>- characteristics of democracy (cycling issue attention etc.)</li> <li>- characteristics of climate change (wicked problem)</li> <li>- general arguments (overloaded government etc.)</li> </ul>	<ul style="list-style-type: none"> <li>- characteristics of democracy (median voter favors climate action etc.)</li> <li>- improvements in face of characteristics (deliberative procedures etc.)</li> <li>- general arguments (democracy enables cooperation etc.)</li> </ul>

*Source: own composition.*

*The concept of democratic efficacy: outline, hypothesis, questions*

A concept of democratic efficacy has to provide a preliminary outline for a concept that is applicable in context of the democracy-climate-nexus in general and probably beyond. It should be expandable to explain democracy’s rising ability to produce desired and intended performances in other policy fields by increasing levels of democratic quality.

The concept of democratic efficacy differs at the level of individuals from many other approaches drafting a concept applicable for empirical research. Simply speaking, the approach of many theories assuming a certain kind of individual actor and aggregating its behavior to nation state levels is due to such phenomena like emergence that is academically not satisfying (Cartwright, 2002a, 2002b; Kittel, 2006). What is important instead is that democracy as a mode of operation in an ongoing fashion is at the same time created by humans and shaping humans. That mode of operation or the democratic design in an ongoing fashion created by and shaping humans has the ability to produce desired or intended climate performance. This central assumption is based on the weak positive tendency detected in existing research and, more importantly, on a distinct argumentation. It is presumed that the influence of democratic quality depends on the existence of its different dimensions and the interplay between them. The more dimensions of democratic quality are present, the better they can serve their main purpose of problem solving. These assumptions rely on contemplating and practicing democracy in a problem-solving manner: democracy was mostly thought of and implemented to solve common problems and to lead to a better future. Democracy would be misinterpreted if it was understood only as an end in itself independent of general performance.

A main reason for that expectation can be seen in the circumstance that societies need certain democratic dimensions, like creativity, to find solutions and pathways for major transformations as they are necessary in the context of climate change. Furthermore, more established democracies with more democratic quality are assumed to be better prepared to critically investigate if they are pursuing the right policies and to respond to unforeseen challenges. Moreover, current democracies face the challenge that they frequently rely on private opinions that are more likely focused on the

present than on the future, or on the aggregation of private opinions through polls, while the ideal of democracy assumes that decision-making should rely on public judgment. Thus, democratic efficacy, assuming that democracy's ability to produce desired and intended climate performances rises with increasing levels of democratic quality, could be translated for political praxis into the phrase "fixing climate change means fixing democracy" (Barber, 2010).

These considerations regarding a democratic efficacy need to be converted for empirical research. Therefore, an explanatory sequential mixed methods design is applied using qualitative research to explain the (non-)significant results of the quantitative analysis and advance the concept of democratic efficacy. While the purpose of the quantitative part (Analysis I) is to test the basic assumption of a positive influence in terms of generalization and to detect trends, the qualitative part (Analysis II) focuses on how and why exactly which mechanisms of influence do or do not work out. Thus, while Analysis I investigates whether trends regarding the proposed influence exist, Analysis II creates a model for the interplay of the dimensions of procedural democratic quality regarding their influence on climate performance and thus verifies or rejects trends detected by Analysis I.

To clarify the exact purposes of the overall research and the two analyses more precisely, questions and hypotheses have to be formulated. The overall question connecting both analyses asks:

*Overall question: How does democratic quality influence the climate performance of established democracies?*

To answer the overall question Analysis I asks and assumes:

*Question of Analysis I: What influence has substantive democratic quality on climate performance?*

*Hypothesis of Analysis I: Higher levels of substantive democratic quality influence climate performance positively.*

The reason for the expected positive influence lies in the concept of democratic efficacy assuming that democracy's ability to produce desired and intended climate performances rises with increasing levels of democratic quality. Higher levels of democratic quality ensure higher levels of problem solving strategies, innovation, creativity and critical investigation that are necessary to solve the climate problem. It is expected that a positive influence takes effect regarding output (policy targets etc.) and outcome (GHG emission development) since increasing levels of democratic quality lead to more responsiveness in regard to both components of the dependent variable. However, as the evaluation of research implies, the influence might be weaker on the outcome since third factors are (still) more influential than democratic quality.

Analysis II focuses on detailed mechanisms to explain why democratic quality and the interplay of its dimensions influences climate performance. Thus, to answer the overall question analysis II asks:

*Question of Analysis II: What mechanisms exist between procedural democratic quality and climate performance?*

The question of Analysis II is answered with the aid of the following focusing tasks:

- Evaluation of the level of dimensions of procedural democratic quality and their (interrelated) influence on climate performance.
- Counterfactual argumentation to determine if more or less democratic quality would influence climate performance.
- Consideration of potential caveats and third factors influencing climate performance.
- Consideration of procedural general performance as an independent variable influencing procedural democratic quality and as an intervening variable influenced by procedural democratic quality.
- Exploration whether the detected mechanisms are generalisable and how they advance the initially outlined concept of democratic efficacy.

Thus, both analyses are related to one overall research question and examine the same phenomenon, the democracy-climate-nexus, from different perspectives or different levels of abstraction. Therefore, a mixed methods design has to be developed that interconnects both analyses methodically and operationalizes questions and hypotheses.

### **3. Methods**

This study uses mixed methods in the form of an explanatory design. Essentially, the explanatory design is a two-phased approach involving qualitative data building upon initial quantitative results (Creswell & Plano Clark, 2011, pp. 81-86). Thus, the explanatory design is useful to assess trends and relationships first and then explain the mechanisms leading to these trends.

#### *Analysis I*

In the context of this study, it is reasonable that panel regressions are able to take into account changes *within* one country – insofar as the observed variable changes over time – as well as heterogeneity *between* countries (for the following see e.g. (Allison, 2009; Firebaugh, Cody, & Massoglia, 2014; Wooldridge, 2013, pp. 466-483)). This paper applies a so-called “hybrid model” or “between-within method” (Allison, 2014) that combines the advantages of random and fixed effects models, allowing to estimate time-varying as well as time-constant variables (Allison, 2009; Schunck, 2013). There is a possibility of omitted-variable bias in the between-effects meaning that results

have to be interpreted carefully. The hybrid model will be applied using a calculation method that makes it possible to evaluate robust standard errors for panel regressions with cross-sectional dependence since it is assumed that climate policy-making in one country might have an influence on others (Hoechle, 2007).

The independent variable substantive democratic quality should cover a critical mass of most democratic countries. Such indices originated in light of a democratization of democracies as the fourth or fifth wave of democratization (see, e.g., Fung & Wright, 2001; Huntington, 1997; Offe, 2003) to distinguish between democracies to evaluate the different democratic quality of already established democracies (Altman & Pérez-Liñán, 2002; Berg-Schlosser, 2004; Diamond & Morlino, 2004; Plattner, 2004). So far, only the Democracy Barometer is sensitive enough for differences between democracies and provides data for 70 countries from 1990-2012 (Democracy-Barometer, 2015).

The dependent variable climate performance should cover as many country-years of the Democracy Barometer as possible. Of course, the index should maintain coherency, objectivity, reliability and validity. Having a closer look at existing indices and approaches measuring climate performance, it remains that many of them are conceptually quite convincing like the WWF Climate Score Cards (WWF & Ecofys, 2009), (EU) Climate Action Tracker (Ecofys & Analytics, 2015), Index of Climate Policy Activity (Schaffrin, Sewerin, & Seubert, 2015), but do not provide necessary data in the form of a crucial number of countries and years for panel regression. Again, only one index provides sufficient data. The Climate Change Performance Index (CCPI) provides data for 58 countries from 2007-2015. Certainly, control variables also have to be taken into consideration in the context of the democracy-climate-nexus (Bernauer, 2013; Lachapelle & Paterson, 2013). All control variables are for theoretical reasons assumed to be important in terms of influencing climate performance.

**TABLE: CODEBOOK**

	<b>variable</b>	<b>specification</b>	<b>source</b>
<b>democratic quality (independent variable)</b>	dembar (separate values for three principles, nine functions)	democratic-quality-index by Bühlmann/Merkel/Müller/Giebler/Wessels at Centre for Democracy Studies Aarau (ZDA); 1990-2012; 0 to 100 scale, higher values indicate better democracy	<a href="http://www.democracybarometer.org/">http://www.democracybarometer.org/</a> (20.01.2015)
	freedomhouse (separate values for public rights, civil rights)	autocracy-democracy-index by Freedom House; 1990-2012; 1 to 7 scale, higher values indicate more autocracy	<a href="http://www.freedomhouse.org/report-types/freedom-world">http://www.freedomhouse.org/report-types/freedom-world</a> (15.04.2013)
	polityVI	autocracy-democracy-index by Marshall/Jagers/Gurr; 1990-2011; -10 to +10 scale, higher values indicate more democracy	<a href="http://www.systemicpeace.org/inscr/inscr.htm">http://www.systemicpeace.org/inscr/inscr.htm</a> (02.04.2013)
<b>climate performance (dependent variable)</b>	C3INew (separate values for policy index, emission index)	Climate Change Cooperation Index by Bernauer/Boehmelt recalculated with new values for GDP, emissionlevel, emissiontrend; 1996-2009 (policy index 1996-2010, emission index 1995-2009); 0 to 100 scale, higher values indicate better climate performance	<a href="http://www.sciencedirect.com/science/article/pii/S1462901112001530">http://www.sciencedirect.com/science/article/pii/S1462901112001530</a> (28.01.2015), <a href="http://www.ib.ethz.ch/research/data">http://www.ib.ethz.ch/research/data</a> (14.01.2013), Hanusch (new values added for GDP, emissionlevel, emissionchange from <a href="http://data.worldbank.org/">http://data.worldbank.org/</a> )
	boehmelt (separate values for boehmelt policy, boehmelt emission)	original Climate Change Cooperation Index by Bernauer/Boehmelt; 1996-2008 (policy index 1996-2010, emission index 1995-2008); 0 to 100 scale, higher values indicate better climate performance	<a href="http://www.sciencedirect.com/science/article/pii/S1462901112001530">http://www.sciencedirect.com/science/article/pii/S1462901112001530</a> (28.01.2015), <a href="http://www.ib.ethz.ch/research/data">http://www.ib.ethz.ch/research/data</a> (14.01.2013)
	CCPI (separate values for emission level, emission development, policy)	Climate Change Performance Index by Germanwatch; 2007 to 2015; 0 to 100 scale, higher values indicate better climate performance; values are re-timed as follows: CCPI t-2, Emissions Level and Emissions Development t-3 (Emission Level data 2004 due to anomalies excluded), Climate Policy t-1, Renewable Energies t-1, Energy Efficiency t-1	<a href="http://germanwatch.org/en/ccpi">http://germanwatch.org/en/ccpi</a> , personal contact to Germanwatch (Jan Burck) submitting detailed data
<b>control variables</b>	oilgascoal	production of oil, gas, coal in mtoe; 1990 - 2011	<a href="http://www.bp.com/sectionbodycopy.do?ca">http://www.bp.com/sectionbodycopy.do?ca</a> (17.01.2013), Hanusch (addition of oil, gas, coal)
	income	GDP per capita, purchasing power parity (PPP) (constant 2005 international \$); 1990 to 2011	<a href="http://data.worldbank.org/">http://data.worldbank.org/</a> (17.01.2013)
	tradeopeness	imports plus exports divided by GDP; 1990 to 2011	<a href="http://data.worldbank.org/">http://data.worldbank.org/</a> (22.01.2013), Hanusch (calculation)
	internetusers	internet users (per 100 people); 1990 to 2011	<a href="http://data.worldbank.org/">http://data.worldbank.org/</a> (16.04.2013)
	vulnerability	vulnerability measures a country's exposure, sensitivity and ability to adapt to the negative impact of climate change; ND-GAIN measures the overall vulnerability by considering vulnerability in six life-supporting sectors – food, water, health, ecosystem service, human habitat and infrastructure, 0 to 1 scale, higher values indicate higher vulnerability. 1995-2012	<a href="http://index.gain.org/ranking/vulnerability">http://index.gain.org/ranking/vulnerability</a> (26.01.2015)
	urbans	urban population in %	<a href="http://data.worldbank.org/">http://data.worldbank.org/</a> (16.04.2013)
	population14	population ages 0-14 (% of total)	<a href="http://data.worldbank.org/">http://data.worldbank.org/</a> (16.04.2013)
	population65	population ages 65 and above (% of total)	<a href="http://data.worldbank.org/">http://data.worldbank.org/</a> (16.04.2013)
services	services, etc., value added (% of GDP)	<a href="http://data.worldbank.org/">http://data.worldbank.org/</a> (16.04.2013)	

Source: own composition.

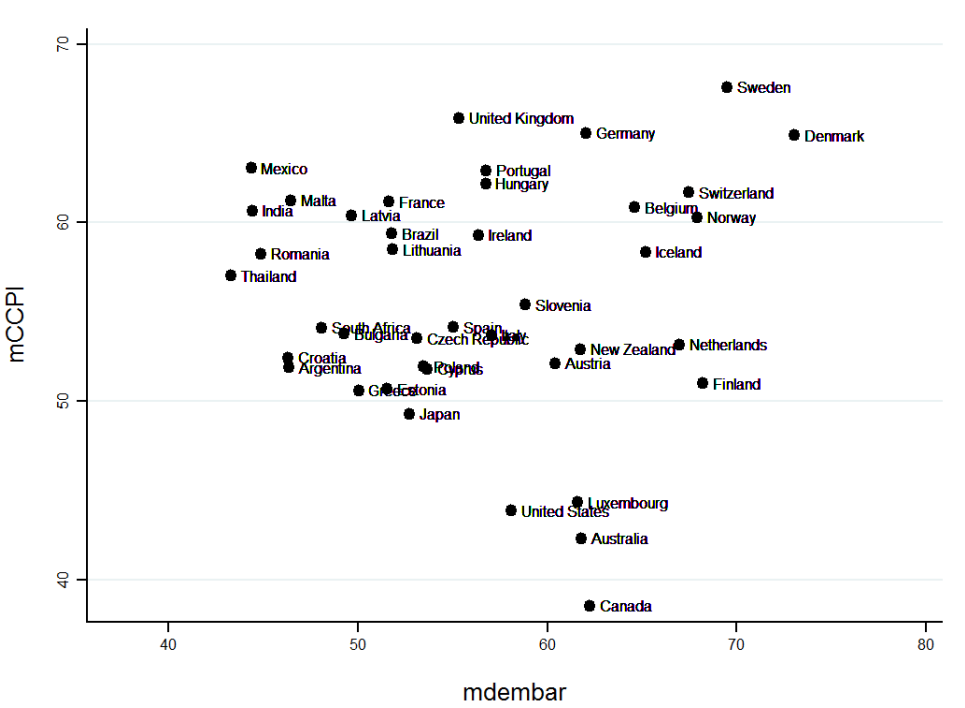
## *Analysis II*

Analysis II asks what mechanisms exist between procedural democratic quality and climate performance. To answer the question, Analysis II investigates a case study on Canada's Kyoto Protocol process. The approach is the application of process tracing as a procedure that enables counterfactual analysis based on a deviant case.

A deviant case is needed that allows the challenging of the detected trends of Analysis I and enables the development of new hypotheses through its deviancy and by counterfactual argumentation at the within-analysis level to become a typical case needed for the exploration of causal mechanisms (Gerring, 2007, pp. 91-93, 105-107; Mahoney, 2007, p. 125). While there are a few cases that could be taken into consideration in this regard, the country chosen in this study is Canada. According to the concept of democratic efficacy Canada shows a disproportionately positive performance in terms of democratic quality in contrast to its surprisingly poor climate performance e.g. the country was awarded so many so-called "Fossil of the Day Awards" by the Climate Action Network representing the worst performance at UNFCCC-COPs, including the "Fossil of the Year Award" for five consecutive times, that in 2013, it received the "Lifetime Unachievement Fossil Award" (CAN, 2013). Moreover, Canada has been the only country to sign and then withdraw from the Kyoto Protocol, scored last at the WWF Climate Score Cards, ranks very low at the CCPI and the C3I etc. At the same time, Canada reaches the highest possible scores in the indices of Polity VI and Freedom House as well as a position among the ten most democratic countries on the Democracy Barometer. Thus, Canada appears to be a fitting example in regard to the main aim of the case study in form of the exploration of causal mechanisms that might lead to new hypotheses and a redefinition of or contest to the concept of democratic efficacy while it also allows challenging the concept of democratic efficacy at a more general level.



**FIGURE: DEMOCRACY BAROMETER AND CCPI**



Source: own composition.

A procedure that allows the exploration of causal mechanisms between procedural democratic quality and climate performance is process tracing. Therefore, data collection is based on documents and expert interviews that will be analysed by content analysis. Process tracing focuses on causal mechanisms of the phenomenon under investigation and explains the precise kind of influence between an independent variable such as democratic quality and a dependent variable such as climate performance that a quantitative analysis cannot take into consideration (George & Bennett, 2005, pp. 206-207).

Based on the research question of Analysis II, an operationalization is required for procedural democratic quality, procedural general performance and climate performance. Procedural democratic quality is consequently developed along the identified dimensions. Every dimension is empirically translated for the purpose of research into the context of a democratic nation state’s policy process at an intermestic level. Thereafter, indicators are identified that represent the empirically translated dimension. This table is combined with a column on climate performance and the concept of procedural general performance to be able to fill in any influences between procedural democratic quality and procedural general performance that may influence climate performance. Climate performance can be separated in output (results of formulation of policies in form of targets, etc.) and outcome (results of implementation of policies to receive targets, etc. in form of GHG measurements), while this study focuses only on mitigation and not on adaptation.

**TABLE: OPERATIONALIZATION ANALYSIS II**

meta-dimension	dimension	empirical translation	indicators	direct influence of procedural democratic quality on climate performance	findings on the (in)direct influence of procedural democratic quality on climate performance (through procedural general performance)															
					governmental capability			stability (of government)			effectiveness and efficiency									
					government sets and maintains strategic priorities	government demonstrates flexibility and government learns from past errors	absence of destabilizing circumstances	durability	make and maintain international commitments	quality of the bureaucracy	credibility of the government's commitment to	government makes efficient use of available resources								
control	accountability	clear lines of accountability ensure control of decision-makers	a) democratically legitimated decision-makers/government are/is in a responsible position b) results can be traced back to decision-makers (vertical accountability) c) control of decision-makers (horizontal accountability)																	
	independence	independence is guaranteed through rule of law	a) no strong ties between judiciary and legacy and/or executive b) open and free access of judiciary c) efficient control of corruption																	
	stability	policy process is embedded in stable democratic structures and democratic institutions are equipped with sufficient resources	a) democratic institutions are accepted and supported by other relevant actors and their responsibilities do not vary extremely depending on government in power b) absence of destabilizing circumstances (like extreme threats, though financial restrictions, many personal changes etc.) c) democratic institutions are sufficiently equipped to oversee the government																	
equality	inclusiveness	openness and fairness of access guarantee involvement of a plurality of relevant actors	a) involvement of those affected and relevant (holders) b) unbiased selection c) support of weak/marginalized actors																	
	participation	participation structures enable involved actors to influence the decision-making	a) application of participation techniques as necessary (e.g. to gain consensus) b) direct/intermediary/representative etc. influence on decision-making and thus responsive results c) room for considered judgment enables deliberation																	
	transparency	access and traceability of all relevant information at all stages of the policy process guarantees transparency	a) phases of the process with decision-making-character show a high involvement of actors since they knew that it was a meeting where decisions were made and the agenda was public b) access to all relevant documents and protocols c) absence or democratic justification of informal meeting																	
freedom	creativity	competition, experimentation and innovation enable creative potentials for a more democratic policy process	a) equal, free and adequate competition between actors and their ideas b) during the policy process new forms to enhance the democratic quality are tested c) science can do free research																	
	liberty	associational and organizational rights enable autonomy and guarantee liberty	a) existence of a variety of organizations indicates organizational rights supporting free and easy establishment b) organizations, also those of marginalized groups, are able to act and express themselves autonomously without being influenced or dependent by third parties and/or being excluded from the process c) individuals can make use of their political and civil rights to state their views about the issue under consideration																	
	publicity	media pluralism and a free public sphere guarantee a publicity of the issue under debate	a) different media are following the policy process b) a press secretariat for the purpose of the policy process exists and supports public debate about the issue through press conferences, publications, explanation of scientific results etc. c) the issue raises public awareness and control the policy process																	

Source: own composition.

**TABLE: LIST OF INTERVIEW PARTNERS**

group	name	most relevant position in regard to Canada's Kyoto Protocol process	interview date
executive (public service)	confidential 1	former ECan public service, responsible for international climate change negotiations	18th February 2014
executive (public service)	confidential 5	public service ECan	11th February 2014
executive (public service)	confidential 6	former high ranking public service at ECan	12th February 2014
executive	David Anderson	Minister of the Environment August 1999 - December 2003	23rd January 2014
executive (public service)	David Oulton	Chair of the National Climate Change Secretariat 1998 - 2004	20th January 2014
executive	Edward Goldenberg	senior policy advisor to PM Jean Chrétien 1993 - 2003	4th February 2014
executive, business	F. Michael Cleland	Assistant Deputy Minister Energy Sector in NRCan 1996 - 2000, President Canadian Electricity Association 2002 - 2011	7th February 2014
executive (public service)	Paul Heinbecker	chief negotiator for Canada in Kyoto 1997	29th January 2014
executive	Peter Kent	Minister of the Environment January 2011 - July 2013	27th January 2014
executive (public service)	Robert Slater	various positions in ECan from 1985 onwards, e.g. Senior Assistant Deputy Minister 1997 - 2003	7th February 2014
executive	Stéphane Dion	Minister of the Environment July 2004 - February 2006	28th January 2014
policy evaluation and advisory	confidential 2	former member of the NRTEE	7th February 2014
policy evaluation and advisory	confidential 4	public service Commissioner of the Environment and Sustainable Development (CESD)	6th February 2014
policy evaluation and advisory	David McLaughlin	President and CEO NRTEE 2007 - 2012	26th February 2014
policy evaluation and advisory	Scott Vaughan	CESD 2008 - 2013	27th January 2014
parliament (executive)	John Godfrey	Member Standing Committee on the Environment and Sustainable Development 2004 and 2006-2008, Minister of Infrastructure and Communities July 2004 - February 2006	22nd January 2014
parliament	Karen Kraft Sloan	(Vice-)Chair Standing Committee on the Environment and Sustainable Development 1994 - 2003, Parliamentary Secretary to the Environment Minister	22nd January 2014
provinces (public service)	confidential 3	high ranking public service in a ministry in Alberta	21st January 2014
society (ENGO)	Beatrice Olivastri	CEO Friends of the Earth Canada	26st January 2014
society (ENGO)	Hugh Wilikins	environmental lawyer for Friends of the Earth in the Kyoto Protocol Implementation Act case 2007	24st January 2014
society (ENGO)	John Bennett	Executive Director Sierra Club Canada 2009 - present (January 2015); since 1970s active in Canada's green movement	20th January 2014
society (business)	John Dillon	Various positions within the Canadian Council of Chief Executives 1990 – present (January 2015)	17th January 2014
society (science)	John Stone	climate scientist for years involved in climate policy-making	29st January 2014
society (ENGO)	Matthew Bramley	Senior Fellow Pembina Institute	18th February 2014
media	Jeffrey Simpson	Journalist with The Globe and Mail	30th January 2014
media	Mike De Souza	Journalist with Postmedia News	28th January 2014
media	Shawn McCarthy	Journalist with The Globe and Mail	30th January 2014

Source: own composition.

## 4. Analysis I

### 4.1 Panel regressions of the influence of democratic quality on climate performance

The analysis proceeds by applying a test to cross sectional dependence (CSD) and a Hausman test, followed by panel regressions including a description and comparison of the results before a conclusion discusses the findings concerning the research question and hypothesis.

In the context of this study, a testing of CSD examines whether the different countries influence each other so that it can be controlled for the influence one country might have on another country. The test implements two semi-parametric tests (Frees, 1995, 2004; Friedman, 1937) and one parametric procedure (Pesaran, 2004). The null hypothesis assumes that the residuals are not correlated. The null hypothesis has to be rejected if  $p < 0.05$ . The CSD is calculated in minimized FE and RE models including only the main independent variable of interest in terms of the Democracy Barometer values and the different CCPI components.

**TABLE: TEST ON CROSS SECTIONAL DEPENDENCE**

independent variable	dependent variable	CSD based on fixed effects estimations	CSD based on random effects estimations
dembar	CCPI	.0000	.0000
dembar	emissiondevelopmentCCPI	.0000	.0000
dembar	policyCCPI	.0000	.0000

Source: own composition.  $p$  is significant if  $< 0.05$ .

Results of the test on CSD indicate in every combination that the null hypothesis has to be rejected and thus CSD exists. Moreover, the assumption that substantive democratic quality in one country influences substantive democratic quality in other, e.g. neighbouring countries, is also theoretically plausible due to diffusion effects etc. Similar theoretical assumptions might also be true for other independent variables like economic indicators etc. Consequently, panel regressions are calculated with CSD consistent standard errors (Hoechle, 2007).

The Hausman test helps to decide whether a fixed effects or a random effects model is more adequate. The null hypothesis assumes that the preferred model is random vs. fixed effects (Greene, 2008, pp. 180-251). More precisely, the null hypothesis assumes that the unique errors are not correlated with the regressors and thus the random effects estimators are the same as the fixed effects estimators. The test calculates whether the unique errors are correlated with the regressors. If  $p < 0,05$  the null hypothesis has to be rejected and one can assume that fixed effects are more appropriate. If  $p > 0,05$  one can assume that random effects are more appropriate.

**TABLE: HAUSMAN TEST**

<b>independent variable</b>	<b>dependent variable</b>	<b>Hausman test result</b>
dembar	CCPI	.8075
dembar	emissiondevelopmentCCPI	.0165
dembar	policyCCPI	.4942

*Source: own composition.*

The Hausman test delivers mixed results. In case of the emission development component the null hypothesis has to be rejected and thus fixed effects would be more appropriate. In both other cases, random effects might be more appropriate. Since a hybrid model exists that is able to calculate a within (fixed effects) as well as a between estimation, a final decision is not necessary. Due to its mixed results, the Hausman test even endorses the hybrid model. Moreover, it is theoretically plausible in the context of the research question to research what influence different levels of substantive democratic quality across countries have on climate performance as well as what influence changing levels of substantive democratic quality within one country have on climate performance. However, in case of the emission development component, the result means that the between effects have to be rejected or – due to the high dominance of between variance in the data of this study – interpreted with high consciousness of possible biases due to omitted variable biases. However, due to the high dominance of between variance it seems reasonable to reject results not directly but to consider whether these are reasonably interpretable. In other words, while between as well as within effects of CCPI and policyCCPI can be interpreted since within effects are never biased and the Hausman test allows the interpretation of the between component as part of random effects, the between effect of emissiondevelopmentCCPI has to be treated with high cautiousness.

For each climate performance components two models are calculated. The small model (Model 1) includes only four key variables that are assumed to influence climate performance immensely. These are substantive democratic quality, oil, gas and coal production, income as GDP per capita and climate vulnerability. The broad model (Model 2) additionally includes the variables of trade openness, percentage of urban population, percentage of people under 14 years, over 65 years and services.

**TABLE: PANEL REGRESSION RESULTS**

CCPI	model 1		model 2	
	within	between	within	between
dembar	.2447* (.0875)	.3757*** (.0278)	-.1751 (.1327)	.2197* (.0751)
oilgascoal	-.0888*** (.0125543)	-.0066* (.0022)	-.1086*** (.0121)	-.0094*** (.0008)
income	-.0011** (.0003)	-.0001 (.0001)	-.0022*** (.0003)	.0001 (.0002)
vulnerability	-112.6676** (35.6423)	35.3240*** (4.6934)	-95.6701*** (7.3242)	10.3365 (8.1622)
tradeopenness			7.3575* (2.4409)	1.8825 (1.7167)
urbans			.1518 (.1425)	-.10928*** (.0124)
internetusers			.0507 (.0617)	.1864* (.0634)
population14			-1.9658** (.4221)	2.3508** (.4633)
population65			-2.0574** (.4248)	3.0150** (.7607)
services			.2606** (.0700)	-.2750*** (.0296)
countries		41		39
country-years		287		232
r <sup>2</sup>		0.2694		.5240
policyCCPI (output)	model 1		model 2	
	within	between	within	between
dembar	.3209* (.1231)	.0403 (.0221)	.2829 <sup>†</sup> (.1307)	-.0307 (.0652)
oilgascoal	-.0147 (.0204)	-.0039 <sup>†</sup> (.0019)	-.0314 (.0283)	-.0066* (.0018)
income	-.0002 <sup>†</sup> (.0001)	.0001 <sup>†</sup> (.0000)	-.0006* (.0002)	-.0314 (.0282)
vulnerability	-152.2479** (30.7744)	1.6815 (1.9860)	-132.0815* (48.1273)	-10.7792 <sup>†</sup> (4.9211)
tradeopenness			4.7132** (1.0830)	.3751 (.5260)
urbans			.3180* (.1014)	-.0520*** (.0062)
internetusers			-.0826 <sup>†</sup> (.0380)	.1442** (.0230)
population14			-.8880 (.6304)	.7247*** (.1123)
population65			-1.1864** (.2212)	.9777** (.1642)
services			-.0465 (.0390)	-.0128 (.0320)
countries		41		39
country-years		246		193
r <sup>2</sup>		.1346		.3653
emissiondevelopmentCCPI (outcome)	model 1		model 2	
	within	between	within	between
dembar	.02406 (.1019)	.1113* (.0382)	.1175 (.0938)	.1718* (.0695)
oilgascoal	-.0264* (.0082)	.0016** (.0003)	-.0392** (.0096)	.0017** (.0004)
income	-.0007*** (.0001)	.0001 (.0001)	-.0009*** (.0001)	.0001 (.0001)
vulnerability	80.7564** (18.5517)	-8.3471*** (1.5860)	109.0386** (22.5255)	-14.9530*** (2.2151)
tradeopenness			1.3343 (1.9186)	.6630*** (.1202)
urbans			.0322 (.0905)	.0376*** (.0052)
internetusers			-.0268 (.0219)	-.0347 (.0211)
population14			.4026 (.3239)	.2010 (.1947)
population65			-.1181 (.1688)	.0888 (.3038)
services			.1677** (.0411)	-.0757* (.0237)
countries		41		39
country-years		326		268
r <sup>2</sup>		.4199		.5388

Source: own composition. Driscoll/Kraay standard errors in parentheses. \*\*\*≤0.001, \*\*≤0.01, \*≤0.05, +≤0.1.

Results with the CCPI deliver reliable results.  $r^2$  with values ranging from .1346 to .4199 in Model 1 and .3653 to .5388 in Model 2 is substantially high. To interpret the strength of the effects correctly, it is important to recognize that the Democracy Barometer and the overall CCPI range from 0-100, with higher scores indicating better democratic quality and climate performance respectively. Instead, the policy component of the CCPI ranges from 0-20 and the emission development component from 0-30, again with higher scores indicating better climate performance.

The influence of democratic quality on the overall CCPI including all components (policy, emission development, emission level, renewable energies and efficiency) shows a significant positive within effect in model 1 of .2447. That means that when democracies increase their score in the Democracy Barometer by 1, this causes an increase of the CCPI by .2447. Additionally, both between effects are positive and significant. The effects of .3757 and .2197 mean that the different level between democracies also influences the CCPI positively: A difference of 1 in the Democracy Barometer is related to higher values in the CCPI of .3757 or .2197 respectively.

The influence of democratic quality on climate policy representing output is also significantly positive. Within effects in Model 1 with .3209 and .2829 in Model 2 are significant. Since within effects are absolutely reliable, the effect is strong taking into account that the climate policy component ranges only from 0-20, which means that an increase by 1 in the Democracy Barometer leads to an increase of .3209 or .2829 respectively.

Also in terms of emission development as the component that measures outcome, positive and significant between effects of .1113 and .1718 can be detected. That means that a difference of 1 in the Democracy Barometer score can be related to higher levels in the emission development component. However, the between effects of the emission development component have to be interpreted very cautiously: the Hausman test indicates that random effects and thus perhaps between effects would not be appropriate for the emission development component. Hence, even though a significant positive effect is shown, this effect might be the result of other factors not included in the model. The results of the models have to be interpreted with certain limitations and cannot be taken for granted as in terms of the overall CCPI and the policy component.

Overall, there is strong evidence of a positive and significant effect of increasing and higher levels of democratic quality on climate performance, even though certain limitations regarding outcome are recognized. Out of twelve effects based on the Democracy Barometer, not one turned out to be significant and negative; instead all significant effects are positive. Thus, there is no evidence indicating a negative influence of democratic quality on climate performance in established democracies. These results need to be theorized and discussed in the context of the research question and hypothesis of Analysis I to conclude what general assumptions on the democracy-climate-nexus can be made.

## 4.2 Discussion

Analysis I asks what influence substantive democratic quality has on climate performance. The corresponding hypothesis assumes that higher levels of democratic quality influence climate performance positively. Results of the panel regressions allow with one limitation confirmation of the hypothesis: As previously theorized, substantive democratic quality has a mostly positive influence on climate performance in established democracies.

More precisely, findings regarding the influence of democratic quality on overall climate performance as measured by the CCPI confirm the hypothesis. One within and both between effects are significant and positive. Recognizing that the models with the CCPI as a dependent variable also include all components (policy, emission development, emission level, renewable energies and efficiency), it is reasonable to assume that democratic quality and climate performance in combination actually fit together and do not contradict each other. Nearly the same can be said with regard to output as measured by the climate policy component of the CCPI, also confirming the hypothesis. Both within effects are significant and positive, which can almost be considered as a causal proof since the effect cannot be biased by other factors. Taking into account the dominance of between variance of 94% in the Democracy Barometer, these effects are even more remarkable.

However, findings on the outcome variable measured by the emission development component of the CCPI are not that clear. Between effects in both models are significant and positive, indicating that higher levels of democratic quality can be related to better scores in the emission development component. However, these findings require cautious interpretation or have to be rejected since the Hausman test showed that the between effect might be biased. Nevertheless, recognizing the high between variance in the data, a cautious interpretation of the results is outlined.

The following interpretation is only possible since effects are estimated with a hybrid model allowing to differentiate changes *within* one country as well as heterogeneity *between* countries. The argumentation, which is related to the results of the climate policy component, is as follows: Countries becoming more democratic also increase their climate policy performance. However, there is no significance in the between models. An explanation might lie in the fact that the application of new modes or improvements of democratic quality are often related to specific policy subfields. When such formulation takes place, people, politicians and other actors are motivated to use these new democratic tools and are ambitious in producing substantial policies. However, that effect seems to be irrelevant once the increase of substantive democratic quality has taken place since the enthusiasm from the starting phase recedes. Comparing the findings from the emission development component with those of the climate policy component, the significant positive effect moves from within to between models, which may be explained as follows: while the process of establishing new democratic procedures is often related to the formulation of policies, the implementation and thus the influence of emission



development takes place in existing democratic institutions that are not likely to change which is why the between component is more important. This supposed pattern is tentative, in need of further empirical checks and formulates a research gap. However, also existent research on the different influence of democracy and autocracy on climate performance has already detected ambiguous results regarding outcome (see, e.g., Bättig & Bernauer, 2009). Therefore, the positive and significant between effects on outcome can only be assumed with certain restraints.

Thus, findings of Analysis I mostly verify the proposed hypothesis, while results regarding outcome have to be treated with certain limitations. Analysis I endorses the outlined concept of democratic efficacy assuming that the ability to produce desired or intended climate performance rises with increasing levels of democratic quality. Certainly, one general limitation of panel regressions is their limited probabilistic character allowing no “possibilistic” interpretations with the inclusion of counterfactuals, alternative developments etc. The findings rely on historic performances and thus provide no possibility space which is why a qualitative analysis follows this quantitative analysis. Thus, Analysis II does not only verify or reject the results of Analysis I through the exploration of mechanisms that examine whether the observed correlation follows indications of causality, but also evaluates what alternative developments beside empirical observations might be possible.

## **5. Analysis II**

Analysis II asks what mechanisms exist between procedural democratic quality and climate performance. The empirical case investigated is Canada’s Kyoto Protocol process from 1995-2012, which does not turn out to be as deviant as previously assumed since democratic quality in the specific policy process is lower than assumed on the basis of the Democracy Barometer scores. Thus, results in form of explored mechanisms indicate that decreasing levels of democratic quality influence climate performance negatively. Hence, findings point into the logically same direction as Analysis I and verify the detected positive trend. The identified mechanisms between procedural democratic quality and climate performance even indicate that with increasing levels of democratic quality the positive influence becomes more predictable and stronger. This assumption is based on the observation that dimensions of procedural democratic quality form mechanisms through which they influence each other and thereby climate performance positively, such as transparency ensuring accountability requiring higher levels of inclusiveness and participation resulting in more responsiveness and less dominance of particular interests etc. Thus, there is a positive kind of self-enhancement of existent dimensions of procedural democratic quality that increases the ability to produce desired and intended climate performance as theorized by the concept of democratic efficacy. Minor caveats only seem to exist occasionally at an intermediate stage, when one democratic dimension is in need of another dimension,

but the partnering dimension does not exist (e.g. well-organized inclusiveness without participation structures might immobilize decision-making rather than facilitating it).

### **5.1 Canadian circumstances**

Federal government has two tasks or roles: (1) To develop and implement federal law and (2) to coordinate the provinces so they implement the law (Lucas & Yearsley, 2011). This case study focuses on these two roles without taking a deeper look inside provinces and territories. The reason lies in the shared jurisdictional authority: The federal government has the right to formulate and sign international treaties like the Kyoto Protocol but provinces and territories own e.g. natural resources. Shared authority and the need to coordinate intergovernmental politics without fixed procedures thus characterize formulation and implementation of policies (Macdonald et al., 2013, p. 45).

#### *Canada's climate policy development 1988-2012*

Canada first announced a concrete stabilization target at the Toronto conference on "The Changing Atmosphere: Implications for Global Security" 1988 under the government of PM Mulroney (Progressive Conservative Party). The target set was 20% below 1988 levels by 2005. At the 1990 UN conference in Bergen, the goal changed to a stabilization of GHG at 1990 levels by 2000. This was the result of a task force established after the conference 1988. The target became part of the federal government's "Canada's Green Plan for a Healthy Environment" 1990. In the same year, federal, provincial and territorial governments released a "National Strategy on Global Warming" with the same target.

In 1992 Canada signed and ratified the UNFCCC as the first industrialised country. Also in 1992, a first Joint Ministers Meeting (JMM) took place as a collaboration between the CCME and the Council of Energy Ministers (CEM) to elaborate the further planning of Canada's climate policy. In 1993, Jean Chrétien (Liberal Party) came into office as new PM. As a result of the previously started process, "Canada's National Action Program on Climate Change" as the first overall program was released in 1995 by federal, provincial and territorial governments.

In 1997 at the Conference of the Parties (COP) in Kyoto, Canada agreed to a 6% reduction target below 1990 levels between 2008-2012, even though the JMM agreed in advance of the conference to stabilisation. After Canada signed the Kyoto Protocol in 1998, First Ministers (PMs at federal, provincial and territorial level) established an intense National Climate Change Process (NCCP) to develop an implementation strategy concerning whether and how to achieve the 6% target. The newly founded National Climate Change Secretariat (NCCS) organized the process in close collaboration with the JMM. As a main part of the NCCP – besides regular JMM – a consultative process with 16 issue tables taking place between 1998-2000 was initiated. The issue tables included ca. 450 governmental, non-governmental and business experts to evaluate the impacts, costs and benefits addressing climate

change in specific climate relevant policy fields. After the issue tables finalized their reports in 2000, national stakeholder sessions took place countrywide to discuss results and seek input on how to implement policies. The process resulted in “Canada’s National Implementation Strategy on Climate Change” and “Canada’s First National Climate Change Business Plan”. Additionally, the federal government released its “Government of Canada Action Plan 2000 on Climate Change”.

Stakeholder sessions and involvement of the public took place again in 2002 to debate “A Discussion Paper on Canada’s Contribution to Addressing Climate Change” prepared by the federal government. Due to disagreements between the federal government and some provinces (particularly Alberta), the NCCP ended factually in 2002 without being reinvented until withdrawal, even though the NCCS existed until 2004. Also in 2002 the federal government released its “Climate Change Plan for Canada” based on its discussion paper and the NCCP released a “National Climate Change Business Plan 2002”. In the same year, Canada ratified the Kyoto Protocol. Still governed by the Liberal Party, Paul Martin became new PM in 2003. After the process between the federal, provincial and territorial level ended, the federal government set up some bilateral agreements with provinces between 2003 and 2005. In 2005 the federal government hosted the COP and released a plan called “Project Green – Moving Forward on Climate Change: A Plan for Honouring our Kyoto Commitment”.

In 2006 governing parties changed. The Conservative Party governing since 2006 under PM Stephen Harper released “Turning the Corner: An Action Plan to Reduce GHG Emissions and Air Pollution” in 2007. Its goal was a reduction of 20% by 2020 compared to 2006 levels, ignoring the Kyoto target. As a response, the opposition parties in the parliament adopted the “Kyoto Protocol Implementation Act” (KPIA) against the votes of the governing minority party in 2007. It forced the Minister of the Environment to prepare yearly plans on how to meet the Kyoto target. Due to the KPIA the government released six climate change plans between 2007-2012. In 2011, Canada announced that it would withdraw from the Kyoto Protocol in 2012, indicating that it does not cover the largest emitters worldwide (China and the USA). The climate change plans developed over the years neither included enough mitigation policies to meet the target nor were the plans fully implemented. Canada would have fallen far short of the 6% target.

The following table summarizes these developments by providing an overview about reduction targets and climate plans announced at international conferences or by the federal or federal-provincial level.

**TABLE: CLIMATE CHANGE PLANS AND REDUCTION TARGETS**

year	international	federal plan	federal-provincial plan	target	base year emissions (Mt CO <sub>2</sub> eq.)	projected emissions target (Mt CO <sub>2</sub> eq.)
1988	PM Mulroney sets target at conference "The Changing Atmosphere: Implications for Global Security"			20% below 1988 levels by 2005	588	470 in 2005
1990	UN conference in Bergen	"Canada's Green Plan for a Healthy Environment"	"National Strategy on Global Warming"	remain at 1990 levels by 2000	590	590 in 2000
1993		Announcement by PM Chrétien		20% below 1988 levels by 2005	588	470 in 2005
1995			"Canada's National Action Program on Climate Change"	66Mt below 1995 levels by 2010	640	574 in 2010
1997	COP 3 in Kyoto			6% below 1990 levels by 2012	590	555 in 2012
2000		Action Plan 2000		65Mt per year during commitment period to reach the target of COP in Kyoto	590	555 in 2012
2000			"Canada's National Implementation Strategy on Climate Change"	no target, but part of Kyoto implementation		
2000			"Canada's First national Climate Change Business Plan"	no target, but part of Kyoto implementation		
2002		"A Discussion Paper on Canada's Contribution to Addressing Climate Change"		no target, but part of Kyoto implementation		
2002		"Climate Change Plan for Canada"		6% below 1990 levels by 2012	590	555 in 2012
2002			"National Climate Change Business Plan 2002"	"Canada's National Climate Change Business Plan 2002 is not a summary of the plan that may be required to achieve the Kyoto targets." (p. 2)		
2005		"Project Green: Moving Forward on Climate Change"		6% below 1990 levels by 2012	590	555 in 2012
2007		"Turning the Corner"		20% below 2006 levels by 2020	719	575 in 2020
2007		"A Climate Change Plan for the Purpose of the Kyoto Protocol Implementation Act"		6% below 1990 levels by 2012	590	555 in 2012
2008		"A Climate Change Plan for the Purpose of the Kyoto Protocol Implementation Act"		6% below 1990 levels by 2012	590	555 in 2012
2009		"A Climate Change Plan for the Purpose of the Kyoto Protocol Implementation Act"		6% below 1990 levels by 2012	590	555 in 2012
2010	COP 15 in Copenhagen			17% below 2005 levels by 2020	731	607 in 2020
2010		"A Climate Change Plan for the Purpose of the Kyoto Protocol Implementation Act"		17% below 2005 levels by 2020 mentioned (even though KPIA forced government to meet the Kyoto target)	731	607 in 2020
2011		"A Climate Change Plan for the Purpose of the Kyoto Protocol Implementation Act"		17% below 2005 levels by 2020 (even though KPIA forced government to meet the Kyoto target)	731	607 in 2020
2012		"A Climate Change Plan for the Purpose of the Kyoto Protocol Implementation Act"		17% below 2005 levels by 2020 (even though KPIA forced government to meet the Kyoto target)	731	607 in 2020

Source: own composition based on climate change plans (CCME, 1990; ECan, 2007, 2008, 2009, 2010, 2011, 2012; Government, 2000, 2002a, 2002b, 2003, 2005, 2006, 2007a, 2007b, 2008; NCCP, 2000, 2001, 2002) and NRTEE (NRTEE, 2012, p. 29). Mt CO<sub>2</sub> eq. can vary slightly since calculations of the base years changes.

### *Common explanatory models*

Five factors seem to be in the focus of common explanatory models regarding the development and performance of Canada's climate policy when reviewing existing literature (Macdonald et al., 2013, pp. 37-60; Harrison, 2010; Weiburst, 2003; Dion, 2011; Glenn & Otero, 2012; Drexhage & Murphy, 2010; Halucha, 1998; Eberlein & Doern, 2009; Huot, Fischer, & Lemphers, 2011; Levi, 2009; Macdonald, 2001; Toner, 2002; H. Smith, 2008; Macdonald, 2009; Stilborn, 2003; Bjorn et al., 2002): Intergovernmental policy making with the characteristics of federalism, Canada's economy, the closeness to the US, Canada's geography and missing political will or leadership. Most prominently, existing literature characterises Canada's environmental policy as demonstrating a high level of vertical fragmentation in a decentralized policy field (Inwood, O'Reilly, & Johns, 2011, p. 178; Toner, 2002). Since it is unimportant where GHG is emitted at a global scale, climate change seems to pose a major threat to such a fragmented system. However, even though research touches few aspects of democratic quality in the context of climate policy-making, neither a comprehensive evaluation nor the influence on climate performance is analysed.

## **5.2 Empirical Analyses**

Of course, not every aspect of democratic quality can be traced to its influence on a Mt CO<sub>2</sub> eq. Rather, the focus lies on the question of what kind of democratic quality exists and in which ways an influence on climate performance is (almost) significant. Insofar as noteworthy vignettes exist, the findings are illustrated by short quotations.

### *1995-1997: Chrétien makes use of the prerogative*

Developments between 1995-1997 were not focused on making substantial and far-reaching policies, but concentrated on very few events, especially the Kyoto Protocol target taking place at a national as well as at an international level.

When in 1995-1997 Chrétien made use of the prerogative to establish an ambitious climate policy target, overall democratic quality of the climate policy process can be characterised as low. Accountability structures were almost inexistent, which resulted in climate policy-making only in the hands of the PM. Inclusiveness and participation were very informal without broader public involved but with *enlightened officials* that claimed to know what everybody would say. Interrelations between inclusiveness, participation and accountability could not work out since actors were not sufficiently included to participate in decision-making and thus control the decision-makers. Without the existence of these dimensions, policy-making was highly unpredictable and fully dependent on the government's preferences. Missing inclusiveness and participation on the way to Kyoto also resulted in a very undefined and nonbinding negotiation mandate. These two dimensions were also missing regarding

efficiency and effectiveness since the credibility of the government's commitment to policies and its task to coordinate between conflicting objectives into a coherent policy was diminished. These circumstances may have influenced climate performance indirectly and negatively. Thus, empirical insights 1995-1997 show first signs of evidence. Low dimensions of democratic quality either lead to an indirect negative influence or have no impact on climate performance at all. Four main mechanisms identified can illustrate these findings.

However, certain findings can be analysed more specifically and may be illustrative for the respective time frame. The first finding is a mechanism that exists between the lack of inclusiveness that in combination with informal participation structures makes it almost impossible to hold decision-makers accountable for their decisions.

Even though provinces and territories were included by the federal government, the involvement of other groups was "much more informal", without "any formal process or structure for determining what those were" (Cleland, 2014) and limited to an "informed climate policy public" (Confidential1, 2014). During this early phase of the Kyoto Protocol process the approach "was in need to have a more formal and systematic way of engaging stakeholders" (Confidential3, 2014).

Domestically, between 1995-1997, no broader public was involved, the selection procedure was unspecified and environmental and industry groups were not brought together systematically. In such a setting it is almost impossible to trace back results to decision-makers (vertical accountability) or to control decision-makers (horizontal accountability). Due to these circumstances, the executive dominates policy-making; particularly the PM can act according to his preferences.

A second finding is the detected indirect mechanism of inclusiveness and participation in the procedural general performance dimension of effectiveness and efficiency, especially on the credibility of the government's commitment to an agreed consensus and the role of the government to coordinate conflicting issues into a coherent policy.

The most important JMM presided by NRCan Minister Goodale (Simpson, Jaccard, & Rivers, 2008, p. 35) took place at 12 November 1997 just one month before Kyoto with a "politicians only" discussion about a national consensual target for negotiations at COP 3, which was seen in a stabilization of GHG to 1990 levels (Confidential3, 2014), a target every province, territory and the federal government agreed on. More precisely, it was "agreed that it is reasonable to seek to reduce aggregate greenhouse gas emissions in Canada back to 1990 levels by approximately 2010", which was according to Robert Slater in form of a standstill a "politically sort of nice positioning" (ECan, 1997; Slater, 2014).

Since relevant and affected actors were not involved before and during COP 3 and there was no clear participation structure that would have rendered any consensus more legitimate and binding, the negotiation mandate was very clear from the perspective of the provinces (stabilization) while the federal government interpreted it as non-binding. Thus, inclusiveness and participation seem to be a precondition for functioning effectiveness, efficiency and a better climate performance.

The third finding also deals with accountability and the complicated transmission belt between the national and international level from a democratic quality standpoint and the role of the PM.

Even more surprisingly for many of those involved, the target changed again with the process stepping up to international level where “out of the blue” the Canadian government came in with minus 6% below 1990 levels between 2008-2012 during the negotiations at COP 3 as its contribution to the Kyoto Protocol (Slater, 2014). Thus, the government did not see the standstill consensus as binding in context of international negotiations where “this zero target was going to leave us embarrassed” (Heinbecker, 2014). Consequently, according to Heinbecker, “there was a disagreement in a context in which everybody knew that the initial agreement wasn't tenable” (Heinbecker, 2014).

“But a decision was made in the end by the Prime Minister after consultations on the phone from the Kyoto with two Ministers and me and the Prime Minister at the other end. And the Prime Minister decided that we would do instead of doing a little bit more than the Americans we do a little bit less. (...). We didn't go back and, you know, run economic models. (...). In the Canadian system there is so much power concentrated in the Prime Minister that it's, you know, he really is kind of elected to autocracy.” (Heinbecker, 2014)

Where there is no accountability for a PM who can at the same time make use of a strong prerogative, he can act according to his preferences without any restrictions and negate previously agreed consensus.

The fourth finding is a missing transmission belt that produced a back-loop of *afterward responsiveness*: In a FMM right after COP 3, the federal government had to agree to establish a broad process before ratification to evaluate possible options for implementation.

“The mistake that perhaps was made was that this wasn't an issue of general public knowledge or general public discourse. And that, of course, is what we should have started engaging much earlier than what happened.” (Confidential1, 2014)

Maybe the whole process of implementation was already useless to some extent at that time since actors felt completely left out and now had to implement a target they had never agreed to beforehand.

#### *1998-2002: futile consultations*

The consequence of the missing transmission belt between the national and international level was a certain kind of *afterward-responsiveness* the federal government had to ensure in form of a NCCP, which was established after the COP in Kyoto, to bring provinces and territories as well as other actors back in that were not part of the decision of the minus 6% target. The years 1998-2002 were very intense regarding the democracy-climate-nexus at the national and federal level, but ended in futile consultations. At national level a precondition existed in terms of governmental capability, efficiency and effectiveness by defining a management role for the NCCS and a purpose for the NCCP. Even though options were developed and people were informed, the overall influence of the NCCP seems to have been negative: high inclusiveness without any precise participation immobilized decision-making rather than facilitated it since positions were even more contrary than at the beginning of the process. Thus, the experiment NCCP had a negative impact on climate performance. However, overall influence should not only be measured in terms of the question whether higher or lower democratic quality has a positive or negative influence on climate performance. Instead, interdependencies and interrelations

characterize the type of influence: While inclusiveness alone had a negative impact, there is a sound argument to assume a positive influence if participation structures had been existent.

Almost the same applies to *explaining transparency* and *publicity*. At federal level, procedural general performance in form of capability, efficiency and effectiveness was again a precondition for the (democratic) policy process. Simply put, the government initiating a process has to plan the process democratically so that an influence on climate performance is possible. Standpoints between NRCan and ECan were dysfunctional in this regard. A democratic process needs the intention and the design to be democratic, which seemed to be a challenging task in Canada since officials were not trained and not aware of what an adequate democratic policy process design should comprise. As at national level, inclusiveness of stakeholder sessions was organized rather well, while participation structures were completely missing due to a government that had already decided beforehand which option it prefers. However, an active parliament equipped with sufficient resources like transparency and information could have produced public pressure, control decision-making and (counterfactually) been a veto player. At the same time, accountability, e.g. in terms of a transmission belt between the PM and relevant and affected actors and the public, was delayed to the future.

However, certain findings may be illustrative for that time frame. The most important finding in 1998-2002 is the way dimensions of democratic quality are interrelated. In case more democratic dimensions are substantially present, their interrelations can work out and increase the influence on climate performance exponentially. Otherwise, the existence of one dimension without interrelations with its counterpart dimension can lead to a negative influence such as inclusiveness without participation. This circumstance, in which not the additive sum but their interconnection characterizes the overall influence, can be circumscribed as the *exponential influence of interrelated dimensions of democratic quality on climate performance*.

The second time frame is characterized by two developments: the NCCP with its most intense phase from 1998-2000 – called “table process” – and a less intense phase from 2000-2002, federal developments besides the NCCP including national stakeholder sessions and ratification in 2002. Some insights into these timeframes may illustrate the above-mentioned findings.

1998-2000: The first insight is a pre-process issue. Firstly, governmental capability in form of a government that learns from past errors and is able to set and maintain strategic priorities in regard to defining a clear purpose of the NCCP does not exist.

“[P]art of the problem was the lack of absolutely clarity of its [NCCP] intend” (Confidential3, 2014).

According to the NCCP itself, its purpose was to “examine the impact, costs and benefits of implementing the Kyoto Protocol and the various implementation options open to Canada” and by doing so to “engage governments and stakeholders in examining the impacts, costs and benefits of addressing climate change” (NCCP, 2003). However, according, e.g., to John Dillon, who participated for the Canadian Council of Chief Executives in the NCCP, the main question the NCCP should have answered instead was “Can we



meet the Kyoto target?" in order to "inform a decision whether Canada should ratify the Kyoto Protocol" (Dillon, 2014).

Secondly, it deals with effectiveness and efficiency in terms of coordinating conflicting objectives into a coherent policy as well as making efficient use of available resources.

There are "no clear and transparent agreements or arrangements between the federal government and the provinces and territories that specifically defined their respective roles and responsibilities for achieving Canada's climate change commitments" (CESD, 2001).

Both together are a precondition for a functioning democratic policy process that could have an influence on climate performance by defining a management role of the NCCS. That means that the management role and the purpose of the NCCP defined by the (federal and provincial) governments have to be expressed with a democratic purpose since e.g. a missing intent of a feasible influence on decision-making simply hinders the participants to feel any form of self-efficacy etc.

"So many of them [participants of the tables] felt that they were not very influential in the process. Yes, they got in the door to be part in the process but no, I don't think they viewed their role as a significant player." (Confidential2, 2014)

Thus, when the initial purpose of the process is not defined in a democratic way, it seems unlikely unlikely that the framework of the process can be changed or that the participants can make the process more democratic and thus influence climate performance. In other words: democratic quality and its potential influence on climate performance can only develop insofar as governments allow (conventional) democratic quality to happen in a policy process.

The second finding is quite substantial in regard to the democracy-climate-nexus. While inclusiveness in terms of involving almost all relevant – probably not all affected – actors in the process, participation structures remained almost inexistent. The table process was initially planned as small expert workshops and would have needed – in case of a raise up to 450 participants – a redesign of its structure. However, a critical mass of actors was involved but was more or less just used as consultants that worked on climate change issues the government needed expertise on and developed substantial options and modeling. Nevertheless, participation structures with a clear purpose that would have allowed influence on policy-making and thus responsive results were completely missing, probably not even intended.

Some of those involved describe the NCCP as a "delaying tactic" with "two years go by without doing anything" (Bramley, 2014) or as "appearing in public that they [the government] were consulting" without doing anything (Confidential2, 2014). Also former Minister of the Environment, David Anderson, described the process – even though involvement was organized rather well in his opinion – as endless where "you never thought to get to the end of the debate" since it was almost impossible to reach consensus on specific numbers with all actors (Anderson, 2014).

Moreover, there was no room for considered judgment that would have allowed some form of consensus and brought the parties together, which also was not intended by the JMM and the government. One may say though that *discontinued participation took place*: the actors were there but

participation was not conducted. Thus, in the end, the views of those involved were even more contrary than before, the process did not gain traction and only very indirectly (through knowledge production, modeling of the AMG) influenced any policies.

“Just in the end this was simply a process that would end up immobilizing decision-making rather than facilitating decision-making.” (Oulton, 2014)

“So, I mean the process isn't very rational. I mean why should you expect that. It is a democracy.” (Cleland, 2014)

In terms of the influence of democratic quality on climate performance it can be concluded that inclusiveness without participation structures can have a negative impact on climate performance while it seems counterfactually conceivable to argue that inclusiveness with participation structures could have a significant positive impact on climate performance.

A third finding exists in terms of creativity. The whole NCCP can, of course, be described as an experiment for Canada, even though it is doubtful to what extent the process was meant to be democratic: new forms of engagement were tested, the involvement and duration were quite extensive, a new bureaucratic body with the purpose of managing the NCCP was established (NCCS) etc.

The process was “really an experiment” since the government had not run a process with such a high public engagement before (Oulton, 2014).

However, due to a missing holistic (democratic) design of the experiment, it failed in many instances: The purpose of the process was not democratic at the beginning, also not in terms of the participative structure applied, it was not intended to increase democratic quality but to consult with experts, competition between all actors was only possible to some extent etc. In the end, attempts of creativity in form of an incompletely designed experiment as inclusiveness without participation can have no influence or a negative one on climate performance.

Based on federal activities three findings exist. The first empirical finding is almost the same as already identified for the NCCP 1998-2002. Effectiveness, efficiency and governmental capability are a precondition for the policy process to take place and function. In the specific case of Canada's federal climate policy development in 1998-2002, huge differences between the two most important departments, NRCan and ECan, can be observed.

ECan and NRCan were a “very unmatched pair” in regard to climate policy-making (Anderson, 2014) and had a “dysfunctional relationship” (Slater, 2014) since their focus was quite different: While NRCan was supposed to ensure that natural resources could be exploited and that there was the infrastructure to exploit them, ECan was supposed to protect the environment (Cleland, 2014). Thus, the relationship varied from “a bit formal to occasionally a quite toxic and occasionally quite strongly cooperative”, often depending on the style and personalities of the senior leaders and their capabilities to work together (Cleland, 2014). Due to these characteristics, the Canadian delegation was called a “three headed monster” since ECan and NRCan together with the Foreign Affairs Ministry did not always work with the same impetus, which is why the relationship at international level was also “somewhere between conflictual and full on warfare” (Confidential5, 2014).

Since both parties presumably did not want to lose control over the process and its results, a truly democratic process could not occur. Thus, it is unavoidable for a democratic policy process that the governmental forces at least agree on a process design that allows influential results.

Secondly, participation structures were of importance, especially in representative terms in regard to the parliament as well as in regard to delegation to the COPs. The parliament could – based on the precondition that they have enough information about an issue – influence climate policy decision-making in two instances: Firstly, it has the possibility to send official letters by a committee to the government to ask what concrete plans for (international) negotiations there are. Secondly, parliamentarians are able to build up public support and lobby for certain political decisions like ratification by writing an official letter of support to the PM. Thirdly, counterfactually it seems as if the parliament could have a veto power, also in cases in which decisions do not necessarily need a vote by the parliament to become effective like Kyoto ratification.

One of the preconditions of participation structure to enable parliamentarians to influence decision-making was not fulfilled since “[r]eporting to Parliament remains fragmented and piecemeal, and summary-level information is still incomplete”, why the “Parliament's ability to provide effective oversight is hampered by the continued lack of consolidated summary-level reporting” (CESD, 2001, pp. 1, 23). When parliamentarians are not well informed, the department can essentially do what it pleases, for which reason it may to a certain extent have no interest in giving out information at all (Kraft-Sloan, 2014). Consequentially, the department “gets anxious when parliamentarians start to learn things, because then it makes their job harder” (Kraft-Sloan, 2014).

Moreover, another way participation structures could influence climate performance was the composition of delegations to COPs. Either societal actors could be part of the official delegation and educate themselves through participation at governmental meetings or they could use media for making their positions public. While these more formal ways of participation seemed to have a positive influence on climate performance, informal lobbying – as already observed during the first time frame – did the opposite as the 15\$ price guarantee demonstrates when transparency was missing.

A third main finding also deals with participation, which demonstrates the importance of that dimension for the democracy-climate-nexus. The findings during the stakeholder sessions in 2002 are very much the same as during the table process: Each participant was able to bring their position forward, but no attempt was made to bring the voices together. Instead, the government reinterpreted the results of the sessions with the conclusion that the participants would have favored the same position as the government (option 4 of the discussion paper), which was simply not the case.

The summary report of the stakeholder sessions concludes a “very strong consensus from virtually all participants that climate change was a real problem requiring action by all elements of society”, but “widely divergent views with respect to ratification of the Kyoto Protocol” with industry against ratification and ENGOs as well as other participants like municipalities, representatives of renewable energy industries and some aboriginal organizations in favor (MARBEEK & Stratos, 2002, pp. ii, 11-12). Industry preferred another approach, longer time frames, less restrictive targets and harmonization with the US approach (MARBEEK & Stratos, 2002, p. ii). Regarding the four options of the discussion paper, “[p]articipants were generally unable or unwilling to indicate a preference among the options proposed” (MARBEEK & Stratos, 2002, p. iv).

“In the May 2002 Discussion Paper, the Government of Canada suggested that option 4, the Adjusted Mixed Approach, could form the basis for a workable approach to meeting Canada’s Kyoto target. The consultations supported further examination of this option. Over the summer, federal officials developed a more articulated version of option 4, which also responded to some of the issues raised by the previous AMG modeling and to the views expressed during the stakeholder consultations.” (Government, 2002a, p. 61).

Thus, even though involvement was again organized rather well, participation structures were missing. Any kind of concrete summary or documentation in which ways the views of the stakeholder sessions influenced which parts of the climate change plans does not exist. Therefore, it seems very likely that the government simply developed the option it favored right from the beginning.

### *2003-2005: undemocratic unpredictability*

Elements of procedural general performance like a realistic target, staff with expertise and cooperation between NRCan and Ecan appeared to be a precondition between 2003-2005. Thus, democratic quality in a functioning policy process relies on certain sound circumstances. Even though the government was ambitious, it was not ambitious in reaching its targets in a strongly democratic way, e.g. it was stated that it did not wish for too much transparency. An *undemocratic complicity* of missing accountability, inclusiveness, participation and transparency led to unpredictability. The influence of missing democratic quality on climate performance is neither clearly positive nor negative but can be circumscribed by *undemocratic unpredictability* since the direction of influence relates only to preferences of the government and informal forces that could be in favor of or against ambitious climate policies. Two findings may be illustrative for this time frame.

The first finding is quite similar to the findings of the previous time frame: several aspects of procedural general performance are depending on the specific circumstances for democratic quality. It is to some extent necessary that staff exists and does not change too often in regard to the absence of destabilizing circumstances or that a strategy is worked out to deal with Canada’s federalism.

Canada does not seem to fulfill certain dimensions of procedural general performance in the second time frame since “[e]ver-shifting responsibilities between federal departments and ministers, turnover of key personnel, and changes from plan to plan (...) have caused delays and a loss of momentum” (CESD, 2006b, p. 9). In regard to the 2002 climate change plan “a number of people, who actually listed on the list of people responsible for things, didn’t know that they were responsible” (J. Bennett, 2014). The government used cutbacks of program staff during the 1990s to control the budget deficit and thus did not have the personal capacity to implement the plan, resulting in years of restaffing (J. Bennett, 2014). The impression of an ENGO was that every time they met with NRCan “the person we meant to meet was in a different office because they kept re-arranging everything to squeeze more people” (J. Bennett, 2014).

As simple as it sounds: without sufficient and knowledgeable staff, nobody can initiate a democratic climate policy process.

The second finding includes the complicity of four dimensions that led to overall *undemocratic unpredictability*. Firstly, accountability was incomplete. In the previous time frame, incompletely established mechanisms of accountability did not exist anymore and there were no ways to hold decision-makers inside the government accountable, also the parliament did not receive enough information.

“Co-ordinating committees and mechanisms that once existed have been phased out and have not been replaced. A lack of central ownership, clearly defined departmental responsibilities, integrated strategies, and ongoing evaluation systems all point to problems in the government’s management of the climate change initiative. Since 1997, the government has announced over \$6 billion in funding for initiatives on climate change. However, it does not yet have an effective government-wide system to track expenditures, performance, and results on its climate change programs. As a result, the government does not have the necessary tools for effective management, nor can it provide Parliamentarians with an accurate government-wide picture on spending and results they have requested.” (CESD, 2006, p. 10)

In such a setting everything depends on preferences of the cabinet with the consequence that climate performance depends on other circumstances that are behind the democratic process, which leads to unpredictability. Secondly, democratic inclusiveness was inexistent while informal ad-hoc involvement dominated. Openness and access to relevant and affected actors were not ensured.

Without applying any specific criteria for selection, the door to informal involvement was fairly open (Confidential5, 2014). Sometimes, ECan also tried to reach out actively but unsystematically by “taking a list that they used to have and sending out a mass email to a whole lot of people” (Dillon, 2014).

In a setting where involvement is organized rather informally and ministries are thus as important as those governmental institutions consulting with actors outside of government, the role of officials becomes increasingly important. Dion states that he “was merged by people willing to meet me” and identifies three major groups that “are after you all the time, all the time”: NGOs, lobbyists and politicians (Dion, 2014). So, there seem to be at least three groups out of a much wider variety of actors that were included in the process in a way that they could have spoken to the minister himself. Some other relevant and affected groups were probably not included in these high-ranking informal inclusion processes since Dion mentions he did simply not “have enough time to speak to all of them” (Dion, 2014).

Again, missing democratic inclusiveness has no influence on climate performance; the whole process depends on officials from ministries and ministers that talk to those people they want to talk to without any sort of formalized structures for engaging different actors. Thirdly, also participation structures were far from being democratic to enable the involved actors to influence decision-making with responsive results based on considered judgment etc. Instead, participation was informal but ambitious in terms of active climate policies.

When Stéphane Dion started to work on a new climate change plan, he heavily relied on the informal involvement of ENGOs, meeting with them “one on one” (Bramley, 2014). Since Dion himself was very much in favour of active climate change policies, it seems as if informality helped ENGOs that could much more influence climate policy making than in previous and following years. To get a more vivid impression of how ENGOs could influence climate policy-making, insights of John Bennett are very enriching. He explains that he had closest connections to the government and “used to meet with a policy advisor for that minister, environment minister, at least once a week and there were, literally, hundreds and dozens of meetings” he went to (J. Bennett, 2014). These connections were even so tight that arrangements were made at which point what sort of public support or criticism by the ENGO community could be helpful to develop active climate policies further and support the minister in Cabinet (J. Bennett, 2014). The influence was so intense that also a program on home inspection favored and introduced by Bennett

became an effective policy. The program was his “own personal campaign inside the process” and they got it “exactly the way we wanted it” with “hundreds and millions of dollars that was going to be spend on that” (J. Bennett, 2014). Bennett suggests that ENGOs were the most influential actor between 2003-2005, the Executive Director of Sierraclub being called the “principal author of the climate change plan Dion produced” (J. Bennett, 2014). Also an official from ECan involved in climate policy making for many years suggests that the 2005 plan was very much in favor of ENGOs view (Confidential5, 2014).

Intense lobbying characterized the way certain actors tried to influence policy making while especially ENGOs seemed to be intensively consulted by ECan. Quite similar to inclusiveness, such a secret and undemocratic participation structure allows particular interests to influence policy making in either direction, which is why also in these dimensions missing participation leads to unpredictability with a positive influence on output and probably a negative influence on outcome in Canada’s climate performance from 2003-2005. Fourthly, transparency was officially not intended since the government believed that an ambitious climate change plan could be rejected.

“During this process we did not release different options, different scenarios. It would have been a killer.” (Dion, 2014)

The CESD characterized the current mechanisms to ensure transparency as “not sufficiently accurate for management and reporting purposes” (CESD, 2006a, p. 13).

The oil industry tried to negotiate with the government in 2003 and 2004 the business as usual level (Bramley, 2014). An advisor to Stéphane Dion and officials from ECan told Matthew Bramley that Mike Beale and Rick Hyndman from the oil and gas industry, with whom Bramley also talked about this, worked on the business as usual scenarios (Bramley, 2014). Hyndman worked on a regular basis, one day per week or every two weeks, at ECan in Ottawa “helping” ECan officials with details of regulations and the business as usual scenario (Bramley, 2014). Hyndman, for instance, proposed that industry will measure from a 2000 baseline in regard to the 45 Mt target of the 2005 plan, which is equivalent to a 39 target on the baseline of the 2002 plan that initially committed a 55 Mt target, which obviously softened the target and “a lot of those things were going on” (Bramley, 2014). Officials told Bramley that they were not willing to publish the calculations of the business of usual scenario since it would have undermined negotiations with industry, to whom they were showing details (Bramley, 2014). Bramley felt that “this was a good example both of lack of transparency and of favoritism to certain stakeholder groups” why he submitted an access to information request to understand the way the business as usual projection is calculated (Bramley, 2014). That Bramley knows of these circumstances relies only on the fact that he received information from an advisor to Dion. Otherwise it would have never been recognized that such a completely non-transparent way of influence existed.

Such missing transparency has no or ambiguous influence: on the one hand, a relatively ambitious climate policy plan was developed, but on the other hand, direct lobby influence that was not made public on the business as usual scenario also happened. Thus, missing accountability, inclusiveness, participation and transparency formed an undemocratic complicity leading to unpredictability in many possible ways of influence on climate performance.

#### *2006-2012: democratic weakening and climate change as a “shield issue”*

The years 2006-2012 stand for democratic weakening, observable e.g. in the composition of delegations. When democracy is threatened by *elected irresponsibility* and an extreme use of the prerogative by the PM as in 2006-2012, certain democratic dimensions seem to function as a basic

ground: liberty ensures that rights for free speech exist when climate science and ENGOs are silenced, independence guarantees rule of law and access to judiciary, and democratic stability ensures basic proceedings and institutions like reports by the CESD. The overall influence of missing democratic quality on climate performance seemed to be either nonexistent or negative. These findings fit into the proposed *exponential influence of interrelated dimensions of democratic quality on climate performance* and enable refining it: low democratic quality has a negative or no influence on climate performance, leading to unpredictability. Since no evidence could be found that low democratic quality leads to high climate performance, especially output, an exponential negative influence of missing dimensions of democratic quality on climate performance can be assumed as well. Moreover, the importance of procedural general performance as a precondition can also be demonstrated in the fourth time frame: many politicians did not understand climate change (capability), the government did not set climate change as a priority (capability) and governance structures were missing while re-organizations took place (stability, efficiency and effectiveness). Since these insights are quite broad, seven findings will help to illustrate them.

The first finding can partially be seen as a repetition of the previous time frames: to start a (democratic) policy process, certain preconditions of general systematic performance are necessary. Between 2006-2012, these were predominantly not given: many politicians of the government did not understand the issue of climate change sufficiently, the strategic priorities chosen by the government did not include climate change and governing structures were missing or under repeated re-organization.

A fundraising letter from 2002 for the Canadian Alliance party, which later merged into the Conservative Party, seems insightful to fundamentally understand Harper's opposition against the climate policy of the previous government and the Kyoto Protocol. The letter states the following about the Kyoto Protocol:

"- It's based on tentative and contradictory scientific evidence about climate trends.

- It focuses on carbon dioxide, which is essential to life, rather than upon pollutants.

- Implementing Kyoto will cripple the oil and gas industry, which is essential to the economies of Newfoundland, Nova Scotia, Saskatchewan, Alberta and British Columbia.

- As the effects trickle through other industries, workers and consumers everywhere in Canada will lose. There are no Canadian winners under the Kyoto Accord.

- The only winners will be countries such as Russia, India, and China, from which Canada will have to buy 'emissions credits.' Kyoto is essentially a socialist scheme to suck money out of wealth-producing nations.'" (Sanger & Saul, n.y., pp. 281-282).

"So I had several meetings behind closed doors with Members of Parliament and they would say to me the science was wrong, one member said to me that this was a socialist plot, the climate change was a socialist plot; another one said that it was sun spots. So these are Canada's elected officials." (Vaughan, 2014)

Lacking these preconditions, a (democratic) policy process is not very likely to take place. A far-reaching implication resulting of this finding and previous findings leads to the following assumption that will be further analysed in the overall conclusion: it seems that general procedural performance ensures that certain policy issues are dealt with, but general procedural performance cannot assure that the right tasks are taken care of. Procedural democratic quality assures that the right tasks are accomplished.

Secondly, mechanisms to ensure horizontal accountability were again widely missing. PM Harper often took action by making extensive use of the prerogative in regard to climate change.

“I think the philosophy is: We are elected into power, and therefore we can do what we want until the Canadians throw us out.” (Vaughan, 2014)

The detected influence on climate performance between 2006-2012 is negative while in previous years the influence led to unpredictability. Since transparency, inclusiveness and participation were missing, they could not interrelate with and ensure accountability.

The high importance of the stability of democratic institutions sets the ground for the third finding. Institutions like the CESD provide important analyses and evaluations for parliament, civil society and citizens, but also for the government.

Since climate change is such a complicated issue to deal with, according to Bramley, institutions like the CESD are necessary to “get to the bottom of the issue”, which media is not able to do and NGOs as well as opposition parties in parliament have no resources for, while the government employs myriads of officials (Bramley, 2014).

Such institutions function as a link between democratic quality and climate performance, improving both spheres at the same time. A to-be-established Commissioner of Climate Change could be an essential hinge. The influence of the stability of democratic institutions on climate performance is positive.

The fourth finding emerges in the context of inclusiveness and participation. The degree of both dimensions was very low: inclusiveness was biased, the Gazette process was almost the only formal way for participation, considered judgment did not take place, the parliament tried to exert influence through the KPIA, while impact on climate-relevant policies was centered around the oil and gas industry and the Conservative electorate.

When ENGOs met with the Minister of the Environment, John Baird, “he just yelled at us” (J. Bennett, 2014). According to Bennett there was no discussion, instead it was a meeting during which he identified the persons who were Liberals and “that was the discussion” (J. Bennett, 2014). It seems as if a deliberate setting was not provided, instead Baird stated that he had no interest in any form of consultation with civil society, “the door just snaps shut” (J. Bennett, 2014). In a similar vein, another ENGO representative felt the way in which civil society was briefed was cut too short since “you'd be told something and you would not have any time to discuss or provide input and that's it” (Olivastri, 2014). Annual meetings with the Minister were only “dog and pony shows” where “somebody [is] trotting out the Government line and that's it” with “no discussion or debate or input” (Olivastri, 2014).

Overall, it seems as if there are two strong and one weak group of actors that could use the non-existence of democratic inclusiveness and participation structures to influence climate performance: “One, the Government and its political view, so the caucus and the party. Two, the business community saying: ‘Wait a second here.’ So a cautionary note. And three, the environmental community pushing so hard but not giving any credit to the government, right? So in other words: Being on the other side. So those, you put those three things together and you do not have a lot of enthusiasm for acting.” (McLaughlin, 2014)

The negative impact of biased selection and informal structures of influence taken together with missing considered judgment and responsiveness and the nonexistent influence of the parliament, a tendency



can be identified that missing democratic quality has a mostly negative or no influence on climate performance.

Closely related to the informal character of inclusiveness and participation is threatened transparency as a fifth finding. The government obeyed requirements by law in minimalistic fashion, but was in no way proactive and instead tried to restrict every public debate and an informed public on climate change, even though the KPIA led to some improvements. Without transparency, the public is not able to hold the government accountable.

Even a former Deputy Minister of ECan between 2010-2012 concludes in an article as follows: “Finally, even strategic regulatory processes need some clearly defined ground rules, if only around transparency. In the long-run it is in no one’s interest, even the currently politically influential, to have weak processes for formulating regulations.” (Boothe, 2013, p. 369)

The Conservative government eliminated organizations producing transparent information like the NRTEE as well as climate research in federal government institutions and in universities, which could be seen as “a kind of organized effort to limit the amount of information going in to the public” (Confidential2, 2014).

“FH: Maybe you can, as I know that you were part of the National Roundtable, you can maybe give me some insights in that issue. Why did it end up in the way it ended up?

S: Well, I have no clue. No one ever told us. So, there was no discussion, right? This was the government again demonstrating it has the prerogative to make these sorts of decisions.” (Slater, 2014)

“And yes it changed the way scientists could do interviews, created some bureaucracies for them, paperwork, created conditions where they were discouraged from giving interviews. Even if they got approval, the hassle of getting the approval was so much that they did not want to. And they created a climate, the scientists themselves told us this, where they were afraid to talk about their work and about what tax payers were paying for.” (Interview Souza)

Missing transparency influences climate performance negatively.

The threat to liberty has to be seen as a sixth finding. The government muzzled ENGOs and climate scientists to reduce their scope of action. The government systematically limited freedom of speech to reduce the need to engage in climate policy-making and implementation.

“A lot of the ENGOs are most active in environmental defense. I had a lot of problems with/their opposition to our climate change policy was to threaten to import campaigners, canvassers, door-to-door canvassers from across country and from the United States to knock on doors in my constituency to defeat me. And when I suggested that the environmental defense charitable status be investigated for political activism, they stopped.” (Kent, 2014)

“[T]he government is basically bullying small organizations with threats of financial consequences because of what those organizations are saying (...); it is a limitation of the freedom of speech” (Bramley, 2014).

The line applied to distinguish between political and other activities seems to be very thin since “if you say that oil sands are bad that can be legally construed as lobbying and therefore you are under investigation and therefore you are intimidated” (Vaughan, 2014).

Thus, some voices usually in favor of active climate politics kept quite silent. The constraints on liberty have a negative influence on climate performance.

The fact that publicity existed only *by the grace of the government* is the seventh finding.

The government made the plans public once, “then they forget about it and hope the public forgets about” (Bramley, 2014).

There was no overall “organized effort from the media to try and make the Government accountable for its Kyoto obligations, which were signed and ratified” (Confidential2, 2014).

Consequently, after 2007, publicity overall had no influence on climate change policy of the government, according to Peter Kent “it certainly didn't affect our decision- making processes and (...) the sector-by-sector regulation” (Kent, 2014).

Moreover, media and public failed to recognize the existence of an *announcement-implementation-gap*. The government’s willingness to share information, engage and cooperate with the public provides a precondition for high publicity. The government instead applied no procedure to explain, educate etc. so that media could have done its job more easily.

### 5.3 Discussion Analysis II

*“Did the democratic process shape the thing? Unquestionably! Unquestionably!” (Cleland, 2014)*

*“We were not taking full advantage of our democratic opportunities, which is sad when you think about it.” (Stone, 2014)*

The Canadian type of democracy detected in the Kyoto Protocol process 1995-2012 is characterised through a strong prerogative diminishing accountability, partially well-organised inclusiveness, missing participation structures allowing for consensus, but overall low degrees of democratic quality. Identified mechanisms could counterfactually demonstrate an exponentially positive influence of democratic quality on climate performance, but the process was one of many missed opportunities with few findings on win-win-situations like the work of the CESD. Therefore, it can also be concluded that undemocratically developed targets will neither receive the legitimation and the momentum to be translated into a climate change plan (output) nor be finally implemented to reach sufficient GHG reductions (outcome).

Taking a closer look at the several dimensions over the four time frames separately, differences regarding the way of influence on climate performance can be detected. Observations on the influence of accountability on climate performance existed in every time frame. A determination regarding the influence was the strong prerogative of the PM. A mostly positive influence of accountability on climate performance could (counterfactually) be identified; particularly accountability worked out in interrelation with other dimensions and ensured predictability. Independence, instead, includes only one case (KPIA) and no tendency regarding a positive or negative influence. Although for stability only one observation was made, it is a substantial one: democratic institutions like the CESD are of crucial importance for democratic quality and climate performance. The existence and stability of such institutions creates win-win-situations. Contrary, inclusiveness is one of the two dimensions that had at least once a negative influence on climate performance. The reason lies in its interrelations with other dimensions, especially participation. Inclusiveness is a precondition for a functioning participative

process so that all relevant and affected actors can influence decision-making, but without participation structures the involved views can become even more diverse and immobilize decision-making. Participation therefore needs inclusiveness and has to include mechanisms to reach consensus. The parliament as a representative of participation was, insofar as it had access to information etc., quite active in influencing climate performance positively. Transparency was interrelated with participation, but also with publicity. While too much transparency might in some cases “kill” an ambitious climate change plan, it is necessary to inform parliament and a broader public adequately so that positive influences can evolve. Creativity seems to be the only dimension with only one negative observation: the “experiment” of NCCP failed at least partially. Counterfactually argued, the experiment was not designed appropriately and could have had a positive influence, but since experiments always have the potential to fail, and maybe that is one of the risks democracy has to live with. Liberty is another one of those dimensions that are closely related to others: actors need to be involved and empowered by enabling transparency and publicity to speak freely. Furthermore, publicity has the potential to influence climate performance positively, e.g. through explanations of scientific findings for a broader public.

To conclude the time frame 2006-2012, a tendency can be detected that more democratic quality leads to a better climate performance, while interrelations are of crucial importance and certain dimensions alone might even have a negative influence. Additionally, more democratic quality ensures more predictability of policy-making since decisions rely not only on the executive and informal sources of influence. Of special importance are the interrelations between dimensions. Liberty, stability, accountability and independence are likely to function as basic dimensions of democratic quality in a policy process: after rule of law is established, actors must have the possibility and capability to express themselves in stable democratic and accountability structures. Regarding the design of policy formulation and implementation, the dimensions of transparency, inclusiveness, participation and publicity with their interrelations seem to be most important, structuring the center of the process around actors and the public. On top of that, creativity constituting the experimental dimension allows for new ways of democratic processes.

## **6. Conclusion**

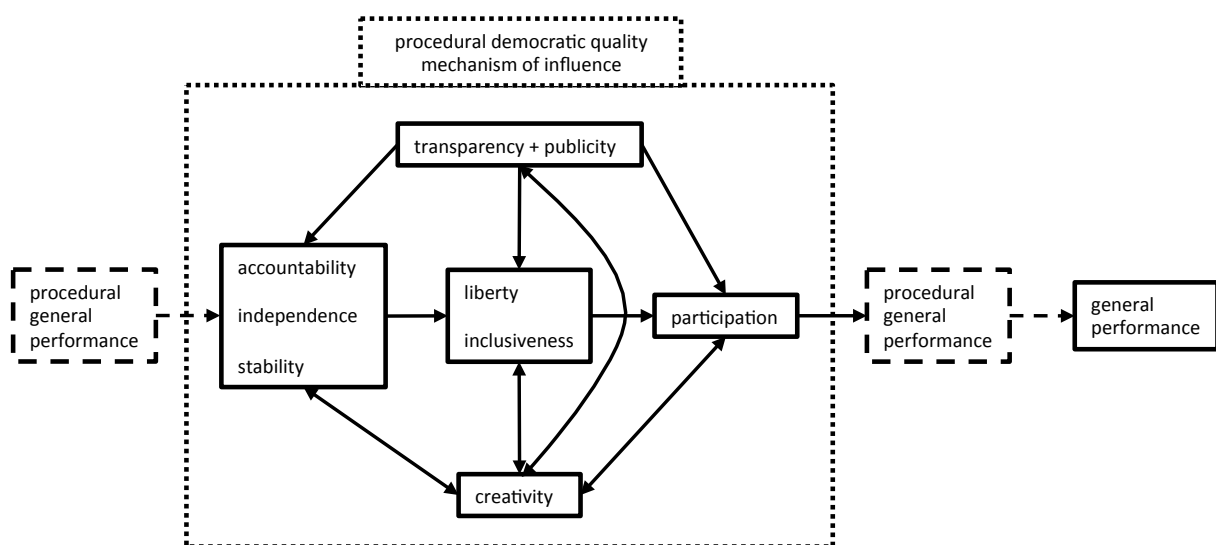
A recent article asked whether a more democratic world and a world successfully dealing with climate change are mutually compatible (Petherick, 2014). Even though this study provides no answer for mutual compatibility, it can provide a partial answer: more democratic democracies deal more successfully with climate change. These insights could be demonstrated through empirical and conceptual evidence, having been – if at all considered– in previous literature (see, e.g., Held, 2014;

Stehr, 2013). Nevertheless, minor limitations have been indicated, such as the circumstance that robustness checks in Analysis I together with other democratic quality and climate performance indices would have been beneficial.

This robust answer to the main research question could only emerge since the answers to the three research needs are in such a way interconnected that they together create more value than the sum of three single answers. While Analysis I made it possible to detect statistical hints that more democratic quality has a mostly positive influence on climate performance, Analysis II verified this trend. Explored mechanisms demonstrate that the more dimensions of democratic quality are present, the better the interrelations between them can work out, which increases their positive influence on climate performance. Thus, the previously detected trend can be assumed to be causally effective since mechanisms inside democracies indicate in the same direction. However, these findings would remain empiricism without a generalizable explanatory frame that theorizes possible causalities before empirical analysis, and is advanced by a generalization of empirical findings afterwards.

The reason for the fact that so far no studies have established such a concept might lie in the circumstance that democracy was mostly understood as a static term and established democracies were not differentiated according to their democratic qualities. However, the concept of democratic efficacy is an analytical concept. The concept does not stand for a determined relationship assuming that every improvement in democratic quality necessarily leads directly to an increase in general performance. Instead, it is assumed that the ability of democracies to produce desired or intended results in a diverse set of policy fields rises with increasing levels of democratic quality. Based on the mechanisms detected in the Canadian case, the model of mechanisms represents the empirical translation of the expectation.

**Figure:** model of mechanism of influence



Source: own composition.

The model assumes that procedural general performance can be a precondition for democratic quality. Concerning democratic quality in more detail, independence, accountability and stability seem to be preliminary dimensions that need to be present to guarantee liberty and inclusiveness. In case these two dimensions are present, it is possible that participation emerges and participants (in)directly (through procedural general performance) influence general performance. At all stages, transparency and publicity influence the other dimensions and provide information etc. Creativity as an additional dimension comes up when other dimensions are given to a certain extent, while undertaken experiments can influence the dimensions in a two-way-interaction. Overall, dimensions of procedural democratic quality need other dimensions to exert a positive influence on general performance. Not the additive sum of democratic dimensions but their interconnection characterises the overall influence. Due to insights of the Canadian case, the kind of influence of democratic quality on general performance is hypothesised to become stronger and more predictable with increasing levels of democratic quality. Based on these considerations, the concept of democratic efficacy can be circumscribed as an outline for a middle range theory, which offers a way of general theory development without claiming universal answers or relying on empirical facts alone, and thereby contributes to the filling of an important research gap (Cao et al., 2014, p. 293; Merton, 1949; Ziblatt, 2006). Thus, the concept of democratic efficacy introduced by this study assumes that the ability to produce desired and intended climate performance rises with more democratic quality. It can explain empirical results of both analyses, and might also serve as an outline for a middle range theory about the influence of democratic quality on general performance in other policy fields than climate.

So, indeed, different levels of democracy are an explanatory factor for differences in the climate performances of established democracies and a democratisation of democracies raises the probability for finding a solution to the climate challenge. Admittedly, this is – to put it mildly – a complex task. Thus, it is an even more important implication for research that the focus should not only be laid on an evaluation of contemporary democracies when redefining the concept of democratic efficacy etc., but on “possibilistic” thinking by taking into account not-yet empirically observable but plausible possibilities concerning the advancement of current democracies. Democracy has to be understood as an ongoing process with alternative futures and needs to be researched as such.

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