

RETHINKING THE GREEN STATE

Environmental governance towards
climate and sustainability transitions

Edited by Karin Bäckstrand and Annica Kronsell



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Rethinking the Green State

This innovative book is one of the first to conduct a systematic, comprehensive analysis of the ideals and practices of the evolving green state. It draws on elements of political theory, feminist theory, post-structuralism, governance and institutional theory to conceptualize the green state and advances thinking on how to understand its emergence in the context of climate and sustainability transitions. Focusing on the state as an actor in environmental, climate and sustainability politics, the book explores different principles guiding the emergence of the green state and examines the performance of states and institutional responses to the sustainable and climate transitions in the European and Nordic context in particular. The book's unique focus on the Nordic countries underlines the importance of learning from the Nordics, which are perceived to be at the forefront of climate and sustainability governance as well as historically strong welfare states.

With chapter contributions from leading international scholars in political science, sociology, economics, energy and environmental systems and climate policy studies, this book will be of great value to postgraduate students and researchers working on sustainability transitions, environmental politics and governance, and those with an area studies focus on the Nordic countries.

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To our families

'*Rethinking the Green State* provides a fresh stocktaking of theoretical and empirical research on the green state while also introducing some new ideas, such as transition theory. This is a very engaging and welcome intervention that will revitalise the debate about the role of the state in the quest for a sustainable world.'

– *Professor Robyn Eckersley, University of Melbourne, Australia*

'Bäckstrand and Kronsell are to be commended for an excellent volume that explores the state's role in environmental governance. The book pays particular attention to the emerging global challenge of climate change, offers interesting typologies of state responses to environmental issues, and suggests a more developed theorization of the Green state.'

– *James Meadowcroft, Professor and Canada Research Chair,
School of Public Policy, Carleton University, Canada*

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Karin Bäckstrand and Annica Kronsell
Lund, Sweden, November 2014

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1 The green state revisited

Karin Bäckstrand and Annica Kronsell

Introduction

How can democratic and advanced industrialized states respond to multiple problems relating to current environmental, climate and sustainability crises? Skeptics say that the state lacks the capacity to handle problems of the complexity and magnitude that humankind is witnessing, with extreme weather, rising temperatures, floods and droughts (IPCC 2014), the continuous over-use of natural resources like water, land and forests and the depletion of biodiversity (UNEP 2012). Political ecologists question that the state, through its institutions and policies, can mobilize resources and people to take on the challenge of such a daunting task, particularly as the state is deeply entrenched in an economic system and production processes that have caused the problem in the first place. The centrality of the economic imperative of industrialized states in the global north has arguably led to an unsustainable economic system (Barry 2012) that has created affluence through globalization, exploitation of resources and wage differences (Harvey 2010). The economic imperative is problematic, as Robyn Eckersley wrote in 2004, and remains tenacious for the green state.

A review of the literature reveals little faith in the capacity of the state to deal with climate problems; instead, hope is often found elsewhere. Peter Newell and Matthew Paterson (2010) put their faith in the possible transformations of the economy, others to businesses and finance that will rejuvenate itself to become green (cf. Lovins and Cohen 2011). The expanding scholarship on non-state actors and transnational governance arrangements argue that these surpass both states and international organizations (Bulkeley *et al.* 2014; Hoffman 2011; Stripple and Bulkeley 2013). New forms of environmental governance arrangements and non-state actors with “agency beyond the state” take on important governance functions, and compensate for implementation and legitimacy deficits as the states fail (Biermann and Pattberg 2012; Bäckstrand *et al.* 2010). Other focus on levels or sites of governance beyond the sovereign state where transformation to climate protection and sustainability is enhanced: a reformed United Nations in terms of a World Environment Organization (Biermann 2014), or a strong EU polity and leadership (Biedenkopf and Dupont 2013; Gupta and Grubb 2000; Wurzel and Connelly 2011). Finally, other scholars highlight the importance of

cities and municipalities to advance climate transitions in urban areas (Bulkeley *et al.* 2010). Despite its many merits, these various literatures sidestep the state, neglect its potential, and lack conceptualization of the role of the state polity in dealing with environmental challenges.

The lack of attention to the role of the state permeates the environmental governance scholarship, which largely focused on non-state actors (Andonova *et al.* 2009). Nevertheless, this literature often implicitly assumes a functioning state or alternatively, a state entrenched in capitalism. It seldom argues explicitly what the role of the state is, or is expected to be, to mobilize environmental governance arrangements towards climate and sustainability objectives. More optimistic accounts point to the genesis of an environmental or green state and refer to the mounting empirical evidence that environmental policy, since the 1960s, has become a core component and regulatory domain of state activity (Meadowcroft 2005). The state has gradually taken on larger responsibilities such as limiting pollution of water and air, adopting goals of overarching sustainable development and, more recently, steered the society through transformation of the fossil fuel-based energy system and economy (Meadowcroft 2012). There is a renewed focus on the state not least in the area of climate change in the light of the current deadlock in multilateral climate negotiations on the road to Paris 2015, and the collapse of carbon markets. Neither international negotiations nor market governance have delivered the aggregative climate policy mechanism needed to keep within the 2 degree target. It appears as if it is only the state that has the kind of power and authority needed, to orchestrate collective responses to current environmental problems. Thus, the ambition of this book is in line with what Barry and Eckersley (2005: x) argue as a need to “reinststate the state as a facilitator for progressive environmental change rather than environmental destruction.”

Aim, research questions and methodology

The aim of this book is to take stock of the state as an actor in environmental, climate and sustainability politics, approached from different theoretical, empirical and methodological vantage points. It represents an intervention to renew the focus on the role of the state in climate and sustainability governance by revisiting the literature on the green state and bring new empirical insights of the role of the state in propelling governance toward sustainability and climate transitions. The book revisits the green literature that emerged some ten years ago (Barry and Eckersley 2005; Christoff 2005; Eckersley 2004; Meadowcroft 2005) to enrich the contemporary conceptual and empirical debates of what is meant by a green state. We combine two scholarly literatures – state theory and transition theory – that are central building blocks that are arguably essential for understanding the contemporary greening of the state. They serve as a foundation for understanding the green state for this book and to bring the state back into environmental politics (Duit 2014). The core research questions of the book are:

- How has the green state been theorized from different perspectives such as political theory, governance and institutional theory?
- Which states perform well and merit the label green?
- Are certain types of states, such as welfare states, better equipped to make the transition to a low-carbon society?
- What are some institutional responses among the green state to the transition to climate objectives?
- How can current institutions and governance forms be reformed toward societal goals of low-carbon and sustainability transitions?

We revisit the green state scholarship and further refine green state theories in the light of empirical studies of environmental, sustainability and climate governance in Europe, the Nordic countries and the US. The book combines theoretical conceptualization of the green state with systematic empirical analysis of the implications of environmental and climate governance, linking measurable effects on environmental, climate and welfare issues to state practices. The contributors advance multiple understandings of the state from critical to constructivist understanding across fields of comparative politics, environmental policy, international relations, political theory and feminist theory. Our focus on the state implies a focus on the polity. Polity can be conceived as the collective of state institutions, administrations and principles for decision-making. We do this by revisiting the scholarship on the green state and by examining empirically through various case studies how the polity is implicated in climate and sustainability governance.

Eckersley's *The Green State* (2004) was pioneering in advancing thinking on what the green state may look like. Although many have followed up her work, the field remains under-theorized and lacks systematic empirical evidence particularly in the area of climate governance. There is ample room for theoretical development and empirical analysis on the prospect for the state to emerge as an important vehicle for the transition toward a decarbonized and sustainable future. During the last decade scholarly work on environmental governance has advanced by exploring institutions and different modes of governance, comparing policies, including the diffusion of new policy instruments in Europe and beyond (Wurzel, Zito and Jordan 2013). Less attention has been devoted to investigate how state action or the state polity matters in this respect. Lately, we note a renewed interest in the field with Andreas Duit's most recent work on the state and the environment as an example. We agree with Duit that core questions in the field lend themselves to comparative analysis, such as in asking why certain states perform better than others in terms of regulatory output (Duit 2014: 8), however, we propose there is a need for the role of the state polity to be more deeply theorized. Moreover, Andrew Jordan and colleagues have in recent work brought attention to the role of the state in polycentric climate governance through the analytical prism of policy innovation (Jordan and Huitema 2014).

The neglect of the role of state action in collective environmental problem solving in the green politics scholarship stems from a deep-seated skepticism

toward the institutions of the state and market economy, which are viewed as the very cause of the environmental crisis. The eco-anarchist strain in green political theory, represented by the work of Bookchin (1974, 1990), argues for a radical decentralization to meet the ecological challenge (de Geus 1996). This is also a reaction to the eco-authoritarian thought by Ophuls (1973) who proposes that a centralist state with absolute power – an ecological leviathan – is necessary to collectively respond to the environmental threats and ecological scarcities. The overlapping literatures on the green state, and the role of state and state polity in environmental, climate and sustainability transitions, have emerged in the impasse between the eco-authoritarian centralization and eco-anarchist accounts of decentralization and radical participation.

Before elaborating on the theoretical building blocks of the book, a note on the research methodologies and the case selection is warranted. While guided by our common research questions, this book rests on pluralism of theoretical perspectives and methodologies. The various chapters illustrate that the green state can be fruitfully studied by employing a range of different methodological approaches (large-*n* studies, case studies, discourse and normative analysis). The purpose is neither to integrate nor to evaluate the usefulness of the various methods, but to, first, clarify how different methodologies are instrumental in answering the research questions and, second, to demonstrate how a pluralism of methodologies enables broader understandings of the role of the state.

Some contributions start in political theory and normative approaches, while others are empirically oriented toward hypothesis testing and large-*n* comparisons or single-case studies. Different ontologies and epistemologies are associated with these various methodologies. Quantitative and comparative studies are illustrated by Koch and Fritz's Chapter 5, examining whether there is a synergy between the green state and welfare state by using data on European states' welfare and environmental performance indicators. Constructivist approaches, such as Chapter 11 by Cashmore and Rozema, use governmentality as an analytical perspective to examine the institutional response to climate change mitigation, and to what extent these approximate green statehood. Knaggård and Pihl (Chapter 12) show how the green state polity can be studied through a thought experiment by comparing and contrasting climate and monetary policies.

The states that are investigated empirically in this study are predominantly advanced industrialized democracies and welfare states. This remains a limitation in the green state scholarship in general and this book also reflects this shortcoming as it only includes developing states in a sample of island states comparing environmental policy outputs (see Chapter 6 of this volume by Povitkina). Eckersley (2004) has argued that the Scandinavian states most closely resemble the ideal of a green state and echoes research that has championed Nordic countries as environmental pioneers and leaders (Andersen and Liefferink 1997). This book critically re-examines to what extent these findings are still valid a decade after the literature emerged. The Nordic welfare countries are not typical, but their experiences with environmental governance are highly relevant and provide an important test bed and laboratory for examining processes of green

statehood. We also argue that the green state scholarship has not sufficiently examined the implication of the climate change threat for the prospect of green transformation of the state. We revisit the experience of the Nordic countries through the climate challenge lens, however, we compare with the North American experience in two chapters on prospects for green statehood on the federal level and in the state of California. All chapters in this volume revolve around the role of state institutions in climate and sustainability governance. We argue that this focus on *polity* is an important contribution as much governance scholarship has focused on *policy* and, more specifically, on environmental policy. All chapters revisit the green state literature in specific dimensions and relate their empirical and theoretical findings to the prospects of transformation toward the green state. They provide an opportunity for deepening the theoretical knowledge of key aspects of the green state.

The remainder of this chapter contextualizes the green state in relationship to a general and broader critique of the state as a vehicle for ecological modernization, discusses it in relation to state theories and through the different typologies found in the scholarship on the green state, and arrives at a broad conceptualization that is employed in the chapters. After a review of the green state literature, one building block in our theorization of the green state, the chapter surveys the literature on transition theory, which is a relatively novel field that expanded the last years as an alternative approach to study how the state can be transformed to accommodate climate and sustainability objectives. The emphasis on change and transformation is arguably lacking in the theories of the green state. Accordingly, transition theory, which provides the other building block, can contribute with an understanding of the conditions for transition toward green statehood. Finally, the four different sections of the book are introduced with a presentation of the individual chapter contributions. The conclusion presented in the final chapter of the book pulls together the theoretical, empirical and normative contributions in the book by revisiting the research questions and systematically relating them to the key findings of the chapters.

Theorizing the green state

In this section we theorize the green state by building on literatures found in green political theory including state theories as well as typologies of the green state – environmental policy, comparative politics, international relations and transition theory which specifically addresses the conditions for change and transformation towards green statehood. By revisiting and synthesizing the green state scholarship with various academic literatures, we will provide the theoretical building blocks that guide the different contributions in the book as they more deeply explore and develop specific dimensions of the green statehood.

Theories and typologies of the green state

In this section we conceptualize and outline several typologies and definitions of the green state. We have not settled for a single overarching definition of the green state guiding all the chapters in the book, but allow the authors to rely on a useful definition of the green state in the context of their particular case study. A note on terminology, while we use the concept of green state for the purpose of this book, the “environmental state” (Meadowcroft 2012), “ecostate” (Duit 2011, 2012) and the “ecological state” (Meadowcroft 2005; Lundquist 2001) are frequently used as interchangeable terms. Our definition is more general than Christoff’s (2005) terminology as he refers to the green state as an ideal type while the notion environmental state frequently captures real-world existing states.

There is a divide between definitions and categories in the field of comparative environmental politics based on empirical assessments of the environmental performance of states on one hand, and the ideal types advanced in normative theories of the green state in political theory and critical political ecology on the other hand. In the words of Hildingsson and Khan (Chapter 9 of this volume):

the green state is a generic concept that could mean many things. Depending on one’s approach, the green state could be seen as either a normative or an analytical construct, as a counterfactual ideal of ecological responsiveness to strive for – or an evolving institutionalization of ecological responsibilities that can be empirically assessed.

Thus, the green state literature emanates from two traditions.

One tradition emerges from normative and green political theory which stipulate the normative features of a green state, including typologies, ranging from a green state committed to biocentric and eco-citizenship values to a neoliberal environmental state that is market-oriented and relies on weak ecological modernization (Christoff 2005: 42–3; Hysing, Chapter 2, this volume). The green state is, in this vein, a normative or even utopian ideal, founded upon ecological sustainability and biocentric values, which should be the overarching social, economic and political goals of the state. The other tradition is empirical-oriented and found, for example, in the field of comparative environmental politics on single, small-*n* or large-*n* studies analyzing how states have responded to ecological pressures in terms of regulation and institutional output (Dryzek *et al.* 2003; Duit 2014). In this context, the green state is an empirical phenomenon and in comparative studies often relative to how other states have performed. It is sometimes measured in terms of certain institutions of the state (e.g. environmental ministry) or policies (e.g. CO₂ taxes) or as environmental performance (e.g. ecological footprint;¹ see Koch and Fritz in Chapter 5 and Povitkina in Chapter 6 of this volume).

This book aligns itself with a definition of the green state that allows for an empirical analysis of existing states in Europe, the Nordic countries and the

United States, recognizing the problem of using too minimal a definition. For example, Elizabeth Bomberg (in Chapter 7 of this volume) defines the green state as “one capable of developing policies and practices designed to limit harmful emissions and achieve a sustainable future for its citizens. Such a state would assume responsibility for environmental harm domestically but also seek to develop ecologically responsible statehood globally.” Duit (2012) follows the empirical tradition as he defines the ecostate based on what states have actually accomplished. The problem with using a definition that is all-encompassing is that most states in the industrialized world (and many developing states) that have developed environmental legislation and administrations, would qualify as green states. The growth of environmental regulation and institutions has not been matched by strong environmental performance, reduction of ecological footprints and reaching sustainability or climate objectives.

The normative contributions of the green scholarship thus become highly useful to critically examine green states. One such ideal construct based in critical political ecology and normative theory is found in Eckersley (2004: 2), who says:

By ‘green state’ I simply do not mean a liberal democratic state that is managed by green party governments with a set of programmes ... Rather I mean a democratic state whose regulatory ideals and democratic procedures are informed by *ecological* democracy rather than *liberal* democracy. Such a state may be understood as a postliberal state insofar it emerges from an immanent (ecological) critique.

In this vein, only typically environmentally pioneering states like Sweden can be considered as green states or at least close to the ideal (see Paul Tobin in Chapter 8 of this volume).

In a similar fashion, Peter Christoff outlines green states as ideal types in continuum from strong to weak green states: “*Green states*, were they to exist, would be characterized by the predominance of types of state activity aimed at strong ecological modernization” (Christoff 2005: 41). Further, he argues that green states also demonstrate high levels of state capacity and intervention, eco-citizenship, strong commitment to biocentric values, human welfare and ecological protection. *Environmental welfare states*, where Sweden and the Netherlands serve as prime examples, have, according to him, a weaker institutionalization of ecological values, moderate values of eco-citizenship and environmental capacity for state intervention. *Environmental neoliberal states*, such as the US and Australia, are defined by strong market orientation, weak ecological modernization and low budgetary commitment to social and environmental welfare protection. Christoff also outlines an ideal type of *eco-fascist state* along the lines of Ophuls (1973) with authoritarian features but with a high commitment to biocentric values. However, this state based on neo-Malthusian values has no real-world approximation.

Typologies in empirical analysis of green states are often influenced by green political theory as are the typologies employed in this book. This may pose a

challenge since green political theorists have often embraced anti-statist positions whereby the state is considered a problem rather than a solution (Bookchin 1990). On the one hand this is because green political theory tends to emphasize that the potential for change lies in social movements and in deliberations in civil society and the green public sphere, not with the state (Dryzek *et al.* 2003). On the other hand, this is due to states' historic trajectories as institutions co-evolving with the quest for material consumption, ever-expanding growth and economic development, embedded in a competitive and conflict-prone international state system (Hurrell 2006: 170; Paterson 2007).

Dryzek *et al.*'s (2003) and Hunold and Dryzek's (2005) work provides insights in what they consider a crucial aspect for the green state, namely the relationship between the state and civil society. They do this in a set of studies that exemplify how assessments of green states can combine political theory with comparative history. Dryzek *et al.* (2003) conclude that a polity that is inclusive but dictates participation of civil society in formalized ways is less conducive to environmental policy making than a model that allows for pluralistic environmental deliberations in the public sphere and outside formalized and organized channels. The latter is also a more vital space. In their analysis, it is Germany that is the most likely candidate for a state that can enact a green transformation in terms of strong ecological modernization. The relationship between the green public sphere and the state is an important dimension of the green state and seen as crucial in the case of the US (Bomberg, Chapter 7, this volume) and relevant for the green growth debate in the Finnish context (Teräviäinen-Litardo, Chapter 10, this volume).

The green state and the economic imperative

The relationship between economic development and the state is central in the debates on green statehood. Many argue that a major obstacle to the development of the green state is that the core imperative of the state is economic growth and capital accumulation (Barry and Eckersley 2005: 260–63). Marxist perspectives are skeptical to the prospect for the state to reconcile economic growth (and the production and consumption patterns that seem essential to economic growth) with protection of the climate and the environment (Koch 2006). In Marxist-inspired state theory, social and environmental policies are considered responses to long-term societal trends that are closely related to the development of the capitalist economy. Marxist influenced state theory predicts conflict between winners and losers of states' increasing regulation and intervention in area of climate and environment. Indeed, green state theories have been accused of taking this problem of capitalism too lightly (Paterson 2007: 549). Debates on *decoupling* economic growth from material and ecological impacts and calls for zero growth by the anti-growth segments of the environmental movements reflect the conflict between growth and sustainability.

Contrary to this, theories of ecological modernization (EM) are optimistic about the possibility of the market to solve environmental problems through state

intervention (Hajer 1995; Mol and Spaargaren 2000; Young 2000) by arguing that economic growth can go hand in hand with environmental protection, less pollution and lower emission levels. Ecological modernization is grounded in a view that the economy evolves over time, to become increasingly efficient and less resource intense, eventually leading to decoupling, i.e. that the economy can grow without environmental damage. Proponents of ecological modernization conceive of technological innovation as a solution to environmental degradation, rather than its cause. Through innovation, environmental concerns can be integrated in production and result in energy efficiency. Transition theories, which are discussed further below, fit this logic of ecological modernization, as they view innovation as the key in the transformation to a green state. Ecological modernization depends on the neoliberal, capitalist market. This is a mutual dependency because the current economic system is dependent on the efficiency garnered by ecological modernization for it to become sustainable (Weale 1993: 207).

Green state scholars are critical to the values of efficiency and profit that steer capitalist markets, and are more agnostic about the role of technical innovation for the green state while still recognizing the need for market mechanisms. This is evident in the distinction that Peter Christoff (2005) makes (see also Spaargaren and Mol 2010) between different types of ecological modernization – from weak to strong – in terms of the relationship or balance between the role the market is allowed to play and the existence and importance of biocentric values in the state (see Chapter 8 of this volume). The win-win discourse of ecological modernization re-aligning environmental protection goals with market economy can be seen as a response to restructure and reform the state toward larger ecological values (Hajer 1995). Concepts such as green economy and green growth represent more recent attempts to reconcile economic growth and environmental protection (UNEP 2011).

Greening welfare states

Many environmental scholars have argued that the welfare state has the greatest potential to accommodate environmental, sustainability and climate goals. Meadowcroft (2005: 10) draws parallels between the genesis of the welfare state and the environmental state, which both have in common the extension of state authority in new social and political domains as a response to market failure and lack of voluntary action. The welfare state has historically been set up to deal with the negative externalities of the market and the social and human costs arising from it and, hence, the welfare state has the institutions, processes and policies in place that make it possible to secure the provision of environmental public goods (Duit 2011). It is likely, and in line with welfare state theories (Esping-Andersen 1990) that green welfare states also come in varieties, due to different regime types, which in Duit's (2011) interpretation includes the whole set of institutions and policies of the state. Green welfare states can be differentiated along two dimensions: how long and how extensively the state has provided institutions

that deal with environmental public goods and, second, the amount of resources allocated to rectify the problems of externalizing environmental costs. Gough and Meadowcroft (2011) argue that thinking through different welfare regime types is highly relevant in analyzing how the state is dealing with climate change. Climate change poses both direct and indirect risks, as it accentuates the need for adaptation with indirect threats to welfare due to adaptation costs, which may cause distributional conflicts. Carbon taxes, for example, affect poor communities disproportionately.

In ‘A green fist in a velvet glove’ Lennart Lundqvist (2001) also sees this potential in the welfare state. His normative criteria for what he calls the ecological state is a state with a fairly strong degree of authority in decision making at multiple levels – the green fist – employing resource management and comprehensive ecological planning, but that this necessarily has to be coupled with a strong democratic state – the velvet glove – where there is broad deliberation on scientific expertise and knowledge on ecological issues in various democratic settings from the local to the global. For Lundqvist economic growth and ecological concerns are not mutually exclusive or conflicting; in contrast, greening is successful when ecological evaluations have become as important as economic ones (*ibid.*: 469). While Gough and Meadowcroft (2011) consider the welfare state the best equipped actor to take on these challenges, they suggest that in order to decarbonize the welfare state, there is a need to foreground wellbeing toward a decommodified production where work hours and commodity consumption are decreased. Thus, welfare states and green states have similarities but also differ on important accounts (Meadowcroft 2005, 2012).

For example, the welfare state is seen as a complement to a growing economy while in the green state continuous economic growth is not possible as consumption and production patterns must be kept within ecological limits or “planetary boundaries” (Meadowcroft 2012). Private property rights tend to trump collective solutions (Eckersley 2004: 85–104). Also the constituencies who can be mobilized for the welfare state and the green state differ: the working class and trade unions for the welfare state and the green parties and environmental movements for the green state. Furthermore, much decision making takes place through strategic bargaining which tends to be reactive or preventive at best (*ibid.*) and the policy process is guided by administrative rationality which does not deal with ecological risk (Kronsell and Bäckstrand 2010). Environmental interests and long-term interest are only weakly represented. Moreover, in contrast with the welfare state that primarily is nationally oriented, the green state acts collectively with other states in a global and multilateral setting as environmental problems have transboundary and international dimensions (Meadowcroft 2005: 12).

The discussion on the greening of the welfare state centers on the process and the possibility of transformation. According to Meadowcroft it is empirically verified, as he argues that the environmental state, while far from perfect, has taken on and expanded its regulatory functions not only by responding to and preventing environmental problems, but also by promoting values of sustainable

development and engaging in the transformation of dominant societal and economic practices (*ibid.*: 76). The contribution to this volume by Hildingsson and Khan (Chapter 9) also highlights transformation; their conception of a decarbonized state is “a state engaged in promoting transformative social change.” Eckersley (2005: 80) takes a normative perspective and argues that the transformation toward the green state should take place at various levels: in policy instruments, in policy goals and through changes in the policy paradigm or hierarchy of goals as well as the overall understanding of the role of the state in climate, sustainability and environmental issues. While she says that transformation should take place through learning, green change and reflexivity, in line with other green state scholars, she has less to say about the processes of transformation. To this end, we turn to sustainable transition theory.

Sustainable transition theory

Transition theory is a multidisciplinary scholarly field that studies the conditions for innovation and system change in socio-technical systems (for an overview see Markard *et al.* 2012). This literature is about the conditions for change and systemic transformations over time and is concerned with governance for transformation toward sustainability and climate objectives. It proposes that transformation happens in relation to multiple levels between niches and regimes, and in landscapes where the other two are embedded (Grin *et al.* 2011).

The landscape provides the context for transformation (Kemp *et al.* 2007a; Smith *et al.* 2005; Smith and Kern 2009) as transitions always occur in an environment of a broader context of norms, which are institutionalized over time (De Haan 2010: 27). The landscape consists of dominant discourses that order society and culture, give significance and legitimation to, as well as frame issues and discourses of, regime actors (Geels 2010, 2011a; Smith *et al.* 2010). The landscape is the slowest to change of the three levels. To relate landscape to state theory, we are aided by Smith and Kern (2009), who suggest that structural factors affect the polity, as path-dependencies of institutions set the conditions for transitions.

A regime is “the (network of) actors that exercise constitutive power” (Avelino and Rotmans 2009: 560) – that is, the power to establish or enact a social order tied to a certain distribution of resources. A regime consists of resources and institutions, and the power of regimes is exercised through practices that distribute privilege and resources, but also in more subtle ways by adhering to and applying the normative power of the social order of the landscape. The relevant regimes are found by asking which actors benefit from production, innovation and market solutions. They are empowered by the current regime and also capture the agenda (Meadowcroft 2009; Smith and Kern 2009; Smith and Stirling 2010; Voss and Bornemann 2011). Transition researchers have their focus on socio-technical regimes related to innovation, for example in transport and energy systems. ‘Old’ technologies, which are related investments and institutions, are incumbent regimes representing an obstacle for transformation. Transition theory