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LAW AND SPATIAL PLANNING
SOCIO-LEGAL PERSPECTIVES ON THE DEVELOPMENT
OF WIND POWER AND 3G MOBILE INFRASTRUCTURES
IN SWEDEN

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Blekinge Institute of Technology
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Department of Spatial Planning



ABSTRACT

This PhD thesis in Spatial Planning argues for the importance of understanding the approaches to knowledge and rationalities embedded in spatially relevant decision-making. It emphasises the significance of seeing law as an empirical object of study for planning and environmental management. The Swedish development of wind power and 3G mobile infrastructures are used as cases to study these issues of principal interest. It is a compilation thesis consisting of a comprehensive introductory framework and five articles or chapters that have also been published elsewhere. The study is based on three main perspectives: Level of decision-making, legitimacy of different forms of knowledge involved in the process, and the socio-legal tension between formal law and its practical consequences.

The thesis deals with problems stemming from the multi-level tensions in the planning and implementation that exist between the national, the regional and the local authorities. The legal context is analysed from the sociolegal perspective, in particular how the juridification of siting and permit conflicts determines what type of knowledge that can legitimately affect the decision-making and thereby set conditions for public participation. Finally, the thesis elaborates on the largely counterproductive results of the strong emphasis on “efficiency” in the revision of planning and permit processes for wind power and 3G-infrastructure, and what can be learnt from the experiences of the attempts at increasing efficiency.

A combination of methods has been employed in the studies, and the data comes from a range of sources such as a large set of mast building per-

mits, a sample of wind permit cases, as well as appealed permit cases. In addition, interviews have been conducted with judges from relevant courts, including regional handling officers who assess wind turbine applications. Legal documents such as preparatory work and licence conditions have also been analysed. The results show that there is a legal-rhetorical adaptation to the expert-based decision-making in court when permits are appealed. Further, the administrative levels interact poorly in the overall implementation. The national decisions, irrespective of the normative viewpoint of who should control the landscape planning, could be better informed of the preconditions at a local level that factually define the outcome of the implementation.

The author, Stefan Larsson, holds a PhD in Sociology of Law, an LLM and is a sociolegal researcher who generally studies issues in the intersection of conceptual, sociolegal and technological change. The thesis has been supervised by Professor Lars Emmelin, The Swedish School of Planning, BTH, and co-supervised by Professor Karsten Åström, the Department of Sociology of Law, Lund University. The thesis is the result of research within the programme Tools for environmental assessment in strategic decision-making, MiSt, funded by The Swedish Environmental Protection Agency and the Centre for Work, Technology and Social Change at Lund University.



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Law and Spatial Planning

**Socio-Legal Perspectives on the Development of Wind
Power and 3G Mobile Infrastructures in Sweden**

Stefan Larsson

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No 2014:11

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**Socio-Legal Perspectives on the Development of Wind Power
and 3G Mobile Infrastructures in Sweden**

Stefan Larsson

Doctoral Dissertation in
Spatial Planning



Department of Spatial Planning
Blekinge Institute of Technology
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To Otis

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Foreword

As the history of creativity teaches us (although the laws that regulate it may not), no achievement is a wholly individual feat. Therefore, it is most important that I begin by acknowledging and expressing my gratitude to the persons that have contributed to the research projects, the conceptual work and the writing process in general that has led to this PhD thesis in spatial planning.

The two absolutely most important persons to contribute to the process of completing this thesis beside myself are Professor Lars Emmelin and my dear Anna Ingloff, mother of our two sons, Elis and Otis. Following the licentiate thesis (on 3G), Lars helped me keep the door open for the completion of a PhD in spatial planning through collaborative work on the wind power study, even if I strayed somewhat for a while with my PhD thesis in sociology of law towards a completely unrelated topic (copyright in a digital context). His drive, brilliance and commitment as a supervisor, co-writer and commentator have been absolutely imperative for this thesis to be completed. And thank you, Anna, for all the support. Since the first thesis was dedicated to Elis, this second quite naturally has to be dedicated to Otis.

In addition, I would like to extend my thanks to Professor Karsten Åström for his co-supervision; to Sandra Vindelstam and Ted Kransby who assisted in the project on wind power; to Mattias Orre for proofreading and Magnus Gudmundsson for copy-editing; to Eric Markus and my other colleagues at the Department for Spatial Planning at BTH; to Susan Wnukowska-Mtonga for help with literature on wind power; and to those who have contributed in the earlier studies on 3G, such as Ingmarie Söderblom, Lovisa Bjarting and Lars Nilsson.

Also, I am grateful to the Centre for Work, Technology and Social Change at Lund University, especially Dr Måns Svensson, who have made it possible for me to conduct this work. Naturvårdsverket has funded much of the studies, and thanks also to the Department of Sociology of Law at Lund University and to all my friendly colleagues there. An especially useful contribution to this text has been made by Dr Andreaz Strömgren, who skilfully took on the task of acting as commentator at the final seminar in May 2014. Anyone present that day can see that his comments have made a significant impact on the thesis.



I. Framework

At a well-attended symposium on wind power and noise pollution arranged by *The Sound Environment Centre* in Lund, Sweden, at the end of March 2011, there was much talk – not unexpectedly – of noise levels. We were informed of how noise from wind turbines is measured, how one plots a noise average, and the “equivalent noise level” that becomes endowed with legal consequences by demarcating how close to residential areas turbines may be built. We further learned about the health, or rather, ill-health hazards, of wind power noise pollution, of low frequency noise, and of the precarious situation of a musician and studio-owner in which a nearby wind power establishment arguably had completely destroyed any possibility of running recording activities at a farmyard functioning as both studio and for outdoor concerts.

A fairly prominent scientific tone was apparent in the following panel discussion in which medical effects, as well as research reports on noise pollution, were debated. Simultaneously, and this approaches the heart of the matter in my view, many participants were driven rather by social and private interests. Some lived near wind turbines and seemingly attested to worried concerns, mild bemusement, as well as unabashed anger. This private and social approach, from my perspective, is expressed in the common, scientific onset that many people adopt. The following method, then, is to locate reports on the hazards of noise pollution in order to influence the process at the local level, in other words, to avoid wind power in close proximity to one’s residence. This approach is logical, but it bears witness to a technocratic view of law, a calculating rationality, supported by what has been called an environmentalist paradigm (Emmelin & Lerman, 2006). A specific type of knowledge is focused. But it also testifies to an absence of the other side of the playing field, that law may function differently and according to a more communicative logic or rationality. This example allows us to pinpoint an essential wrestling match relevant for infrastructural developments with local and spatial dispersion, as well as within regulated planning and development of land and environment. Without understanding the legal logic and how infrastructure planning is caught in a “struggle between daring and deliberating” (cf. Larsson, 2008a), we are likely to miss something crucial in the understanding of and how to change the results of national infrastructural development. Does this concern fundamental characteristics of a legally certain system where the possibilities to lodge complaints are an important component? Or is it about the opposite: an ill-conceived system with parallel reviews in which the possibilities to protract are unreasonably broad? In a pilot study on a legal revision in Swedish wind power regulation (Larsson, 2009), I showed that the basis, i.e., empirical judicial review, problematically enough, is often anecdotal rather than systemic, once the conclusions are drawn (Larsson, 2009). Swedish wind power development – just as is the case with the third generation cellular phone system infrastructure – is regulated primarily through two legislations with different histories and, in part, different purposes,

i.e., The Planning and Building Act (PBA) and The Environmental Code (EC). These two also have different rationalities, which is an important aspect of my analysis and discussion. During 2009, the permit process for wind power in Sweden was adapted from previous requirements that plans and permission be in accordance with both legislations to mainly being affected by the environmental review carried out by the county council and regulated by the EC. The processes of PBA are municipal, while environmental issues fall under the county council or the Environmental Court. In Sweden, there is generally a strong, local dominance within the spatial planning system. The result of a national development agenda that entails consequences for land government will therefore depend on its implementation at the local level, of which wind power expansion constitutes a clear example.

Wind power and telecommunications infrastructure and their contexts are complex. They embody technical questions, concern the environment and landscape appearance, are visibly salient, and affect people from aesthetic as well as from psychological and physical perspectives, and in the case of wind turbines they also create noise and flickering. The construction and development is regulated by several laws of which the previously mentioned PBA and EC are the most central. It is administered locally and regionally in municipalities and counties and is governed and initiated nationally. It is dependent on entrepreneurs and venture capital. Wind power is for many people an appreciated form of energy, and telecommunications a fundamental form of communication, but the turbines and antennas are unpopular neighbours. In addition, wind power is dependent on electricity certificates and tax credits in order to expand, and it takes advantage of a renewable energy resource but is simultaneously fairly expensive to manufacture and transport. In other words, the overall knowledge of the issue is not very coherent. Opinions diverge on which knowledge is the most valid, of what is true or false. Positioned against this is also another body of knowledge with different characteristics that has to do with who *ought* to decide over *what*. In short, the combined cases of wind and 3G development can display and reveal many of the challenges that come with this particular type of infrastructure development from a legal and spatial planning perspective.

1.1 RESEARCH INTEREST

When envisioning wind power implementation and infrastructure development for mobile telephony, it is likely that one pictures a wind turbine and a base station and the mast or structure that the antennas are mounted on. This is of course understandable and correct to the extent that the turbines and the antennas are the physical manifestation of two forms of infrastructures: One concerns energy and one concerns telecommunications. This image, however, as with all images, can only metaphorically represent the series of abstract and systematic phenomena that governs and regulates the turbines and the antennas. And they can only metaphorically account for the multitude of persons, in the shape of planners, experts, investors, companies and concerned citizens engaged in the process leading up to their construction. The point is that even if we visibly see turbines and antennas, they are affected by a legal regulation that we cannot really envision, at least not in the same sense, but which still need to be studied and understood scientifically. And they are the outcome of a societally constructed system of spatial planning and environmental concerns that set boundaries and balance interests. For example, there is reasonably a great difference between the very local issue of constructing

turbines or antennas in the neighbourhood and the corresponding national policymaking concerning the infrastructures of renewable energy and telecommunications.

A common denominator for the Swedish 3G rollout and Swedish wind power development lies in the meeting point between new technology and legislation and in the dilemma of national policy that is dependent on local implementation. Both 3G and the expansion of wind power suggest that in addition to a technical side, there is also a need to understand institutional innovation processes, as well as socio-legal aspects of the practical side of law. This thesis focuses legally structured decision-making of relevance for spatial planning. The perspective is largely empirical, although it includes socio-legal and planning theory, which means that it both measures the impact of law and legal change in the field as well as problematises the role of law as an instrument for control and governance in spatial planning. On the one side, it is important to acknowledge that law to a great degree is important and relevant for spatial planning, and on the other hand it is important to know that law as a governmental instrument has a number of features, including weaknesses which, for example, can be measured by the outcomes of implementation. Simply put, as we shall see in the case of wind power permit handling, a law that is assumed to entail efficiency does not necessarily lead to an efficient practice. There is an entire field of literature on what Nelken has termed as the difference between “law’s promise and achievement” (Nelken 2007; see also, 1981).

A key challenge in nationwide infrastructure development seems to concern how to assess the boundaries and capabilities of the developments at the national level in terms of an aggregated outcome of the piecemeal construction of the infrastructure at the local level. In the case of the 3G mobile telephony network, it was largely constructed and permitted mast by mast, yet the threshold values for the extent of national coverage that was to be reached within a given time limit were by no means related to the capabilities of the local planning and building permit processes. In the case of wind power development, the expansion and development of wind power in Sweden is largely constructed and permitted turbine by turbine, or group by group, but the national goals for renewable energy are not weighted against this local decision-making.

There is much research on wind power conducted from a number of angles. Of interest here, for example, is research on the political decision-making and management process of wind power, as shown in Carlman’s (1990) analysis of Swedish trends from 1973 to 1990. Much research has been carried out on participatory aspects of wind power (Lange and Hehl-Lange, 2005; Klintman & Waldo, 2008), local opposition (Devine-Wright, 2005; Petrova, 2013; Wolsink, 2000), including comparative studies in which the Danish context is claimed to have the advantage of local partnership, which is a key to the involvement of the public and for support for wind power (cf. Ryland, 2010). Several studies argue that the success and failure stories of support policies, however, cannot easily be transferred across country borders, due to the complexity of each context (Pettersson et al., 2010; Söderholm and Pettersson, 2011).

The issue of wind turbine siting has been extensively documented as problematic for land use planning (Ellis et al., 2010). The importance of assessing the local decision-making process is also emphasised in a study on local involvement in wind power development in North Rhine-Westphalia (Breukers, 2010). The argument is that local decision-making plays such an important role in defining the rate of success of the implementation of wind power (with references to, for example, Wolsink, 1996; 2000). Breukers states that “[t]he outcomes of all such local decision-making processes eventually make up the aggregated installed

capacity at the national or state level. Therefore, for our understanding of implementation achievements, it is important to address such local decision-making as well” (Breukers, 2010, p. 38). This is a common challenge in infrastructure development, and also relevant in both the Swedish 3G and wind power developments. There have been debates on infrasound and health effects of wind power, but the debate on health effects was far stronger in the 3G case – especially with regards to electromagnetic radiation (Allmendinger, 2007; Burgess, 2004; Drake, 2006; 2011; Kristiansen et al., 2009; Larsson, 2008a; 2014; Soneryd, 2007). The latter is especially interesting in terms of the representation of knowledge in the legal system.

Aspects of efficiency expressed as rapid speed are a common call in infrastructure developments of these sorts. For example, the UK Renewable Energy Strategy 2009 promised “swifter delivery” for wind power development (p. 14) through better planning, and stressed that the system must be speeded up and made more predictable, yet must continue to protect the environment and heritage while also responding to community concerns (McKay, 2014, p. 4). It was emphasised in the Swedish 3G development in which the municipalities were blamed for delays (Larsson, 2008a; 2008b), and it is constantly emphasised in Swedish wind power planning, and constitutes a key reason for the legal revisions that came into force in 2009 (dir. 2007:184, Larsson, 2009b; Prop. 2008/09: 146; SOU 2008:86).

The project

This is a PhD thesis in Spatial Planning¹ that studies the development of wind power and 3G mobile infrastructures in Sweden. The thesis deals with three main perspectives in law and spatial planning relating to 1.) *Levels*, in terms of the local, regional and the national levels analysed through concepts of tiering and multi-level governance; 2.) *Knowledge*, in terms of the tension between knowledge-types in decision-making, as in the difference between expert and lay knowledge; and 3.) *Law*, specifically from a socio-legal perspective on implementation issues and measurable outcomes of law, which can be conceptualised as the difference between the formal and the practice. All of these three perspectives are traced in the planning and governance literature, as well as in the socio-legal traditions of sociology of law. The two cases studied from these perspectives are the Swedish development of the third generation of mobile telephony and the development of wind power.

Lars Emmelin initiated the study on the Swedish 3G infrastructure development that has been conducted for this thesis within the MiSt programme funded by Naturvårdsverket. Initial findings have been reported in Emmelin & Söderblom (2002), which were discussed further in Emmelin and Lerman (2004). The most thorough analysis and presentation of data in this study on 3G development can be found in the licentiate thesis *Between Daring and Deliberating – 3G as a Sustainability Issue in Swedish Spatial Planning* (Larsson, 2008a), which has been followed up by articles included in this compilation thesis (Larsson, 2008b; 2013; 2014). Shortly after the licentiate thesis was published, we continued with the project on wind power development, which was initially reported as a pilot study in Larsson (2009; cf. Larsson, 2011). In this pilot study, the new regulation amendments that concerned moving from a double review to an environmental permit review process had not yet come into

1 There have been a number of licentiate theses in spatial planning at Blekinge Institute of Technology (Ankre, 2007; Bjarnadóttir, 2008; Larsson, 2008; Vuorio, 2003) and a few doctorate theses (Maduriera, 2014; Persson, 2011; Petersson Forsberg, 2012) in spatial planning at BTH. Theoretically, they display a rather diverse picture.

force, but were under preparation.² My study was based in the groundwork carried out by the Environmental Process Investigation in preparation for the amendment, as well as in a number of interviews with key persons in the field. The collection of permit processes for wind power turbines for this research project began briefly thereafter, and resulted in the two articles below (Larsson & Emmelin, forthcoming; Larsson et al., 2014). This thesis collects both the case of the 3G development in Sweden and the very much ongoing wind power development in order to draw conclusions at a more general and comprehensive level relating to law, spatial planning and the national development of infrastructure through local and spatial dispersion.

1.2 PURPOSE & RESEARCH QUESTIONS

As emphasised in the introduction, law plays a significant role in planning and environmental management. Empirical studies in law, however, teach us that the actual outcome of laws and formal statutes are not necessarily what they were intended to be. This discrepancy, I here argue and thereafter will demonstrate, is of fundamental importance to spatial planning, not least for large-scale implementations of telecommunications infrastructure and wind power development. This sociolegal or non-dogmatically legal focus is also main purpose for this thesis in spatial planning:

- To analyse and discuss the role of law in planning and environmental management from the three perspectives introduced above: Level of decision-making, legitimacy of different forms of knowledge in the process and the sociolegal tension between “law’s promise versus achievement.”

This will also provide for some normative reflections on possible improvements in legislation and legal practice from the three perspectives in the concluding parts of the thesis. The Swedish wind power development and the roll-out of the 3G mobile infrastructure serve as case studies for this purpose. The purpose is operationalised into the following, more direct, research questions:

1. What is the role and the practical implications of law for the tiering of the national to the local level in the planning and implementation of the cases studied?
2. How does juridification of siting and permit conflicts determine what type of knowledge that can legitimately affect the decision-making and thereby set conditions for participation?
3. What are the results of the strong emphasis on “efficiency” in the planning and permit processes for wind power and 3G-infrastructure, and what can be learnt from the experiences of the attempts at increasing efficiency?

2 The report was funded by the research program “Miljöstrategiska verktyg”, MiSt, which is an interdisciplinary research program funded by The Environmental Protection Agency and headed by Professor Lars Emmelin. Lars is to be thanked for much of the considerations in the report and of this account. The report can be found here: <http://www.sea-mist.se/tks/mist.nsf/sidor/problematisering-av-vindkraftens-regelverk>

Each of the three questions represent perspectives and challenges that are proven to be relevant in planning and socio-legal literature, which I further elaborate on in the following theoretical section as well as in the five articles below. The two Swedish cases have not received much attention from these perspectives. One motif for the thesis is to add to the knowledge of the role of law in spatial planning and to emphasise the need and usefulness of an empirical and reflective approach to studies of law. In line with this, a further motivation can also be established when reflecting on the role of the state in the planning of land-use, environmental concerns and the planning of the landscape. This motivation is to seek more productive engagements between experts, decision-makers of all sorts and the general public (cf. Healey, 2007).

Material and methods

In order to answer the research questions, a number of sources have been used which I outline more extensively and discuss below in chapter 3. The most important materials are the following:

- **Permit database:** Within the project that this thesis is an outcome of, we collected a regional (Blekinge) sample of approximately 250 building permits for 3G masts in order to study the frequencies of, and reasons for, appeals and other aspects (for example fears of electromagnetic radiation).
- **Questionnaires:** The data in the regional 3G sample was contrasted to national questionnaires conducted in all Swedish municipalities by the authority responsible for the 3G roll-out, the Post and Telecommunications Agency (PTA). The PTA also issued a number of reports that proved useful in tracing the roll-out and the operators' actions or lack thereof.
- **Permits and appealed cases:** We collected a sample of approximately 30 wind permit cases in the region of Skåne/Scania, as well as 22 appealed cases to both the Land and Environment Court (LEC) and the Land and Environment Court of Appeal (LECA), which is the 'supreme court' for such cases. These cases reveal the grounds that individuals appeal on, what type of arguments are put forward and how judiciary interpretations are made concerning wind power matters.
- **Interviews:** We have conducted interviews with judges from LEC and LECA, as well as regional handling officers who assess wind turbine applications, and the wind power coordinator appointed by the government in order to facilitate the development in southern Sweden. Qualitatively, these give depth and understanding to some of the key questions.
- **Legal documents:** We have used legal documents such as preparatory work on the revision of how wind power is assessed and how the permits for the turbines are deliberated, in which an important legal revision was made in 2009. Legal revisions were also an important guiding mechanism in the 3G development, as were the laws controlling the PTA and the operators, and the utility easement that was introduced during the roll-out.

This means that a combination of quantitative and qualitative methods have been employed in order to answer the research questions. The different methods can, naturally, answer different questions. For example, in the Blekinge sample of 3G mast permit appeals, the actual number of appeals could be analysed in a reliable manner, whereas the more qualitative aspect of how the concerned parties understood or reflected upon the process, their argumentation before and after the juridification of the process or how the judges understood the process, etc, could not be convincingly seen. These types of questions are more of a qualitative character, as revealed by the interviews and the analysis of appeal judgments in the wind case.

On generalisation of results

In order to judge to what extent the study of these cases is of a more general interest, I need to elaborate the infrastructural terminology somewhat. The common infrastructure planning tends to deal with transport sectors (such as railway, urban transport, ports, airports), public works (such as roads, dams, canals) and public utilities (such as power grids, sanitation sewerage, piped gas and telecommunications) (Parkin & Sharma, 1999; on mega-projects, which often include transport infrastructure, see Priemus et al., eds., 2008). Although this emphasis on physical infrastructure may include wind power and 3G masts as a system, the latter cases do not constitute infrastructure as far as entailing a fixed pattern of a joined structure that is generally planned at a national level, with local authorities as referral entities that are heard from but not part of the decision-making. Further, when it comes to funding, “debt is almost always involved in the development and operation of infrastructure – public or private” (Parkin & Sharma, 1999, p. 5). Who should own and operate may be a political debate, depending on preferences within a state, and the cases of wind power and 3G in Sweden display an emphasis on privately invested, owned and operated infrastructure, that at the same time is publicly subsidised. This is in many contexts not the case when it comes to infrastructures such as railway, roads, urban transport etc.

Telecommunications and energy are two of the most important societal demands of our time. The possible benefits of this study could be judged against the larger question of how to achieve functioning planning, policy-work and implementation of telecommunications infrastructure and renewable energy usage. When it comes to the possible generalisation of the results the cases are undoubtedly Swedish, following from national policy-decisions in Sweden, and the outcomes bear characteristics that are likely to be of some specificity with regards to Swedish regulation. That being said, the cases represent a number of challenges of more general relevance. For example:

- The top-down aspect: Development of telecommunications infrastructure needs to be a centralised decision, preferably containing standards that make it possible to connect to the initiatives of other states or governmental entities. The 3G roll-out was the result of a coordinated decision at the EU level, albeit with national variations, and the characteristics of this type of infrastructure are similar across the entire EU and beyond, whenever mobile telecommunications are planned and implemented. On a similar note, the political steering of the use of energy sources is to a great extent conducted at a central, national or supranational level.

- The bottom-up aspect: Given that this particular type of infrastructure (further elaborated upon in chapter 3) is dependent on thousands of local level-decisions, how does one assess and balance the decision-making between the systemic level and the local, where the actual physical antennas are to be constructed?
- The law fundament: All levels of the administrative decision-making and permit giving are highly regulated by law. Therefore, how law functions, the empirical perspective versus the formal, the consolidation with the planning profession etc., is of key relevance and of broad interest and seems neglected or overlooked in much of the planning literature when it comes to the socio-legal perspective as opposed to the legal-dogmatic.
- The “efficiency problem”: In both cases “efficiency” in implementation has been stressed at the national policy-level. Local decision-making has in both cases been regarded as too slow, which relates to the top-down challenges mentioned above. This is a prevalent international theme in many forms of planning.
- Both cases deal with the balance between planning and environmental concerns seen in other contexts, and also connect to a duality in Swedish law, which also exists at e.g. the EU level where environmental regulation is frequent while planning being under subsidiarity is less prominent creating an imbalance.

As emphasised in the introduction as well as in the aims of this thesis, to a large extent the legal settings and their implications are the focus here. For example, when it comes to public participation, it is the legal appeals rather than the public consultations that we see here. Theoretically, it is the planning discipline that serves as a guide, complemented by how sociology of law conceptualises law from a generally empirical perspective, which differs from a stricter, dogmatic perspective. The outcomes are measurable, and in this case the outcomes of planning and environmental law, in combination with national policy, are focused.

1.3 STRUCTURE OF THESIS

This is a compilation thesis, which in this case means that it consists of five articles or chapters that have been published, accepted for publication or submitted to an international peer-reviewed journal. These are briefly presented here and consistently referred to in the analysis and can be found in full length in the last section of the thesis. In addition to the articles, the thesis consists of an extensive introductory framework that addresses the purpose of the comprehensive study as *chapter one*, the theoretical framework tying the articles together as *chapter two*, and reflections on and presentation of the methods used for the conducted studies as *chapter three*. In *the fourth and fifth chapters*, the cases of wind power and 3G are presented more thoroughly, including literature reviews. Finally, the cases are comprehensively analysed in *chapter six* which includes all of the studies conducted prior to the articles, and answers the research questions posed above and discusses them in relation to the purpose of the thesis. These are more widely discussed in *chapter seven*, after which the brief conclusions are collected in *chapter eight*.

1.4 DELIMITATIONS

In an often cited article, Wildavsky (1973) elaborated upon the loose boundaries of planning, and claimed that, “if planning is everything, maybe it’s nothing.” Planners, Wildavsky claimed, were easy targets for a number of deficiencies in their profession; either they had been paying too little attention to the political sector or they had been listening too much; either they were too focused on one project or too focused on the broader economical questions etc. This is relevant also for an interdisciplinary oriented thesis such as this. Although the thesis may focus the empirical sides of legal relevancy for spatial planning of infrastructures as a result of my background as a PhD in sociology of law and as a lawyer, there are a number of aspects that are either not acknowledged at all or only briefly touched upon.

For example, one could easily imagine expanding the scope of the conducted studies beyond the Swedish jurisdiction. Both the 3G development as well as the more contemporary wind power expansion display interesting parallels to the Swedish developments. The aim here, however, has been to conduct an in depth study of these particular cases within a Swedish jurisdiction and administrative setting, which complexity and comprehensiveness has demanded such a strong focus. Arguably, studies of planning and legislation must be conducted within a context that is thoroughly understood. Overly shallow comparisons risk missing the underlying mechanisms that actually explain the events and courses of action that the researcher seeks to understand. However, literature on other cases within an international context has been used for comparison and expanded understanding. A number of references to studies that have already been conducted, particularly in the UK and Germany, are nonetheless made.

Some readers may expect more detail of an explicit legal analysis than can be found in this study. The focus of this study, however, has been more generally to assess the balance between legal corpuses, and to seek for more of the principal challenges relating to the Swedish planning system and its administrative levels and purpose and less of the meticulous and sometimes narrow-sighted aspects of the particular materials and existing law. Some detailed aspects are, of course, brought to the fore, especially those relating to complexities and contradictive challenges, as discussed in Article V below, or the role of the Swedish Post and Telecommunications Agency (PTA) in managing the licence conditions and licensee operators in 3G development, or some of the most important changes in the 2009 revision of wind power assessment, as studied in Article III and IV.

Much literature deals with the benefits of infrastructure, often from a perspective of “managing the commons” and a theoretical foundation based in economics that analyses externalities and spill over effects (such as Frischmann, 2012). This is not such a study. In fact, one should be careful with categorising this study as an “infrastructure study” due to its socio-legal focus and, more importantly, the different preconditions of the infrastructure cases studied here in comparison to much of the traditional infrastructure research, as pointed out above. However, this is not to say that such studies cannot provide insights for this study as well (cf. Larsson, 2013c).

There are also stricter technical aspects of communication technology as well as wind measurements and wind turbines that are not focused here. In line with this, the economical perspective is perhaps particularly interesting in the wind power case, for one due to it being subsidised; however, these economical sides to the dilemmas are far from fully developed in

this thesis, which instead concentrates on the legal and extra-legal practices that could be seen. Further, there is an urban bias in much planning literature (Fishman, 2012; Jacobs, 1961), which for obvious empirical reasons is not the case with wind power and since it is the most infrastructure rather than the siting of antennas in the urban environment for 3G that are being studied.

1.5 PLANNING, LAW & SOCIETY

The concept of “spatial planning”, as we shall see, is used somewhat differently in the academic literature, and has collected rather disparate theoretical elements over the years. For example, as commented by Haughton et al. (2010, p. 1) in *The New Spatial Planning*, the term is used as a “conceptual apparatus”, a “broad discourse about a particular moment in the history of planning thought and practice”, and a “still evolving set of understandings about what constitutes ‘good planning.’” Haughton et al. (2010, p. 5) argue for at least four key aspects that tend to be a component in the majority of versions of spatial planning: 1.) An emphasis on long-term strategic thinking and future visions in the shape of spatial strategies; 2.) A view of government officials as one of several policy tools for bringing coherence to increasingly fragmented systems of governance. This includes an expansion from the land-use orientation to include issues such as promoting economic development, environmental protection and social sustainability; 3.) A binding to the belief that planning has a central role in moving society towards sustainable development; 4.) An emphasis on inclusivity (in the *new* spatial planning). I will expand further on the theoretical underpinnings of planning in the theoretical chapter below, where I let it serve this thesis as a theoretical model to aid and structure the analysis of data and material. A few initial observations, however, may be shared in this introductory section.

In the planning literature, the role of law and legal framework tends not to be emphasised as a particular area of interest to study or analyse. The focus tends to concentrate instead on the rationalities behind the decision-making processes of relevance for planning and planners, as expressed in Allmendinger’s *Planning Theory* (2009), with a background in which Faludi (in his *Planning Theory*) has described planning as “the application of scientific method to policy making” (1973b, p. 1; cf. 1987). The history of planning theory has developed from the “blueprint planning” of Howard and Geddes (Hall 1992) in the late nineteenth century (Faludi (1973a, p. 131), to the “disjointed incrementalist” approach dealing with information deficits and complexity, as in Lindblom’s *The Science of ‘Muddling Through’* (1959), i.e., the “mixed scanning” approach (Etzioni, 1968). The challenges of pluralism and “advocacy” were emphasised by Davidoff (1965), and in the very much debated, researched and discussed issue of participation and deliberation, as voiced early by Arnstein (1969) and the famous “ladder of participation” (cf. Healey, 1992). For an overview of the development of participation in planning, see Lane (2005).

A common area of analysis is found in the often broader terminology of “policy analysis”, as in Fischer and Forester’s (eds., 1993) *The Argumentative Turn in Policy Analysis and Planning* or Hajer and Wagenaar’s (eds., 2003) *Deliberative Policy Analysis. Understanding Governance in the Network Society*. In the policy perspective planning tends to be the transformation of policy into spatial action with less attention to the bounding aspects

of the planning legislation as a subsystem of the general legal system and context of a given jurisdiction.

There is, in turn, a more explicitly legal focus in a number of volumes regarding “planning law” (cf. Blackhall, 2006; Moore and Purdue, 2012). These tend to be rather descriptive of the various, legally outlined planning instruments, such as permit applications, notifications, the appeal process, the ombudsman, the plans and the zoning. And, of course, law is very much a present and wholly important steering and control function for planning and its boundaries (for example, expressed in Bjarnadóttir, 2008; Larsson, 2008a). From a more socio-legal perspective, sometimes expressed in the terminology of *law & society* which tends to be the US strand or sociology of law which tends to be more common in Europe, the spatial planning with regards not the least to environmental concerns has been a topic of interest. For example, on a Swedish note, the founder of what has become the Sociology of Law Department at Lund University, Per Stjernquist, had a clear focus on forest research from a socio-legal perspective (cf. Stjernquist, 1973). This is also seen in subsequent research (Appelstrand, 2007; Henecke, 2006; Konzen, 2013; Mukthar-Landgren, 2012; Schlyter & Stjernquist, 2010; Steneroth Sillén & Stjernquist, 1980; Wickenberg, 1999). Given the sociological influences on the socio-legal approach in sociology of law, it is clearly compatible with a number of theoretical approaches also found within planning research that, for example, deal with aspects of power (as in Flyvbjerg, 2002), narratives/rhetoric (Kaplan, 1993; Throgmorton, 1996; see Sharp and Richardson, 2001, on variations of discourse analysis) and a number of empirical approaches to policy critique. Theoretically, there is a common sociological background to much of the theoretical underpinnings, particularly when we speak of power and discourses in ways that relate to Foucault, or the communicative action terminology of Habermas or perhaps theorisation stemming from versions of rationality and from the bureaucratic coordination of activities in Max Weber’s sense.

When it comes to defining spatial planning, it is easy to rather quickly reach a point where you have the practice on one side – there are professionals employed to conduct urban and other planning in municipalities, large scale infrastructure projects require a set of planning skills that includes both satisfying legal requirements as well as managing the project at large – and theory on the other. This division between practice and theory is not necessarily a problem – at least not to the extent that the theorists continue to have interest in the practice. It is arguably quite common for a profession to be overly caught up in everyday practices to comprehend or reflect upon the more principal or comprehensive consequences of this practice. This relationship can, for example, be seen in the profession of lawyers and judges and the practices of law in relation to the more empirical and socio-legal conceptualisation of legal practices in society that is studied within the discipline of sociology of law. It is the other perspective that may be less fruitful, that is, when theory loses interest in practice – when planning theory fails to explain, comprehend or address what is going on in practice.

Planning law

Planning law is an important instrument for ensuring an overall balance of land use interest (cf. Tegner Anker et al, 2009). Often, the reconciliation between conflicting but legitimate interests constitutes the task of importance. At what level in the administrative system the emphasis is applied varies between jurisdictions. This very issue is of clear relevance in the Swedish setting, a fact that is particularly salient in the case of wind power, further elaborated

upon below. The Scandinavian legal system, to begin with, is often referred to as belonging in the civil law tradition, despite the fact that the codes tend not to be as comprehensive as in France and Germany (Basse & Dahlberg-Larsen, 2009). If we specifically compare planning regulation within a Scandinavian context, we see that the Danish system strengthened the local wind power planning in terms of the designation of wind power areas in 2007. In contrast, the Norwegian system strengthened the regional (county) planning for the planning and location of wind farms in guidelines adopted in 2007 (Tegner Anker, et al., 2009, chapter 6 & p. 302). An international convention of interest worth mentioning is the European Landscape Convention (ELC), the reason being its focus on public interest and the public's role in the cultural, ecological, environmental and social fields. The novelty here lies in the emphasis on the "perception" of the landscape, which has been studied, for example, in relation to wind power development (Oles and Hammarlund, 2011). This is of clear relevance for the tension between the two "paradigms" in spatial planning and environmental management that is developed further below.

Environmental protection law

When developing physical infrastructures, a central issue of relevance is how to deal with and control negative effects on the landscape and the environment. Nature protection may to some extent be safeguarded by measures in the spatial planning governed by planning law, but the somewhat different focus that environmental protection has in relation to land use planning has led to a legal development where two, strong legislative bodies in a sense compete or create a tension. This tension and constant negotiation between the planning law side and the environmental protective law side is very much present in the Swedish case, and explicitly demonstrated by both cases studied in this thesis. Here, the Environmental Impact Assessment (EIA) and the Strategic Environmental Assessment (SEA) that have been developed in order to provide a better basis for decision-making should also be mentioned. This is, for example, reflected in the Espoo Convention,³ the Aarhus Convention⁴ and the EIA (85/337/EEC) and SEA (2001/42/EC) Directives.

In the 3G case, the aspect of most interest from an environmental protection perspective was the electromagnetic radiation and how fears of it were handled. The first article below displays how the issue of radiation was central to the appeals brought against building permits, which represents the planning law side, and Article V below shows the intuitively challenging fact that environmental regulation handled the radiation issue differently than did planning law. How the concerns or fear expressed by concerned parties, for example property owners and residents living in close proximity to a planned construction, were managed is of interest also in the case of wind power development in Sweden, perhaps particularly in relation to noise and health issues, which I address in Article III below.

3 The Convention on Environmental Impact Assessment in a Transboundary Context. It has been ratified by the European Union, for example.

4 The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters.

1.6 PUBLIC INTEREST

To a large extent, spatial planning and the regulatory framework surrounding it deals with the balance of public and private interests. Although this has not been central to the scope of this thesis, this topic has been proven to be of relevance along the way, as emphasised by the important second chapter in the PBA (2010:900), the interviewed expert judges in the wind power study, as well as in relevant literature (Henecke, 2006; Klosterman, 2003; Petersson Forsberg, 2012). As mentioned, the balance of public and private interests is an important task for spatial planning (Klosterman, 2003), and is thus specifically addressed in the second chapter of the Swedish Planning and Building Act (2010:900). There is a quite comprehensive theoretical debate on “the public interest”, accounted for by Petersson Forsberg (2012, pp. 57-64; cf. Henecke, 2006, Strömngren, 2007). In some cases, it means that a few are affected by the implementation of an infrastructure to benefit the many, a fact very much relevant to both 3G and wind power development.

This can lead to a challenge borne from how to define “public interest.” In my former licentiate thesis study published in 2008, I concluded that the 3G development is an example of when the “strong public interest” (wording from Skåne and Blekinge Court of Appeal, 24 Oct, 2006, p. 7) is in line with operator interests. The amendments in the Utility Easement Act of 1 August 2004, I argued, could be seen as an example of how the government teams up with private interests vis-à-vis operators attempting to fulfil coverage conditions for an activity that is aimed at benefiting the interests of property rights and land owners that happen to be in strategically important locations for the operator roll out. This occurs under the dichotomies of private versus public interests, but it is a fact that part of the public interest in this case includes operator interests. This is a challenge that is likely to be reflected in most infrastructural developments, since there will always be some negative impact on a minority of property owners which needs to be justified from the perspective of the public interest in developments that generally are carried out by corporate contractors or initiatives, as in wind power development. This is where the core challenge can be found. In the thesis from 2008 I stated:

Infrastructure development in the name of public interest is a strong armament for any developer that gets to carry it. It therefore accentuates the importance of taking well-assessed decisions on what infrastructure are to be developed where, and by whom. As private interests take part in the developing function, the “public interest”-armament has to be evaluated, some legislation runs the risk of adding strength and power in an unjust way to one of the parts of two private interests in conflict (Larsson, 2008a, p. 161).

The conflicting relationship between public and private interests is also a key factor in permit handling for wind power developments, and particularly in the cases that have been appealed to The Land and Environment Court [Mark- och miljödomstolen] and The Land and Environment Court of Appeal [Mark- och miljööverdomstolen]. An assessment that demands some delicate handling lies in the fact that economic, corporate interests benefit from the construction of technology part of a development regarded as a public interest and may therefore, in essence, trump private interests in land ownership. Additionally, locations with good wind conditions

are often found in areas that are of great value to natural care, heritage protection and tourism. Questions concerning how wind power interests must be weighed against these other interests are an interesting and perhaps difficult issue.

1.7 THE FIVE ARTICLES IN THE THESIS

I: 3G and local participation

On the one hand, this article theorises around decision-making and the difference between legal form and legal practice, and on the other hand, analyses participatory aspects of the municipal building permits for 3G masts (Larsson, 2014). It focuses the hierarchical perspective of decision-making in spatial planning and compares it to various types of knowledge, as acknowledged in the title *What Type of Knowledge Rules Where? Legally Regulated Participation in a Large-scale Mobile Infrastructure Planning in Sweden*. It is published in *Environment and Planning C: Government and Policy* and I am the sole author.

II: 3G on national level

The second article concerns the Swedish implementation of 3G as a national decision and the game between operators and the responsible governmental agency (PTS), with a critical analysis from the perspective of legal (un-)predictability (Larsson, 2008b). It is titled *Non-legal Aspects of Legally Controlled Decision-making – The Failure of Predictability in Governing the 3G Infrastructure Development in Sweden* and has been published in the socio-legal anthology *Contributions in Sociology of Law. Remarks from a Swedish Horizon* (Hydén and Wickenberg, eds., 2008) and I am the sole author.

III: Expert and lay in wind power

The third article deals with regulatory aspects of the Swedish wind power development, particularly the permit processes. Theoretically, it concerns the distinction between calculating and communicative rationalities in terms of different types of knowledge, or what is sometimes referred to as the expert / lay divide. This perspective is similar to the first article accounted for above, but the study has been conducted differently in that it examines the appealed permit cases in southern Sweden and which arguments are judged as legitimate or not in these appealed cases. In addition, a handful of key persons have been interviewed, including judges from the environmental courts. I am lead author of this article which is written in collaboration with Lars Emmelin and is submitted to the international and peer-reviewed journal *Energy Policy* under the title, *Objectively Best or Most Acceptable? Expert and Lay Knowledge in Swedish Wind Power Permit Processes*.

IV: Multi level environmental governance and wind power

The fourth article, entitled *Multi Level Environmental Governance – The Case of Wind Power Development in Sweden* deals with the Swedish wind power development and it does so from the perspective of tiering and multi-level governance. Therefore, it focuses the different administrative levels within the planning system in which the so-called municipal veto is of particular interest for having become so disputed and debated, since it strongly impacts the application processes even when they are not formally handled by the municipal building

permit regulation but by the county council's environmental permit handling. I am lead author of this article which is co-written with Lars Emmelin and Sandra Vindelstam, and is published in the journal *Baltic Environment*.

V: Law in books and planning in practice

The fifth article is written by me as the sole author and addresses the difference between the law's intention and its actual application by using mobile telephony infrastructure development in Sweden as a case study. Three possible pitfalls for policy management in general are concluded and analysed. The first pitfall deals with *legal complexity*, which may be a result of piecemeal changes to the governing legal bodies over an extended time period and is argued, here, to be of relevance for issues of public participation and access to justice. A second, problematic pitfall concerns when law is *internally contradictory* without any clear hierarchy. The third possible pitfall, which often is a point of focus in sociology of law, concerns when *extra-legal factors interfere* in legal decision-making without this being articulated or acknowledged. The article is titled *On Legal Complexity: Between Law in Books and Planning in Practice*, and was published in the anthology *Social and Legal Norms. Towards a Socio-legal Understanding of Normativity* by Ashgate Publishing in November 2013.

2. Theoretical perspectives

A core interest in the studies conducted for this thesis is law as an object of empirical study. In this chapter I will outline the theoretical perspective I use for the analysis of the cases following this core interest, in a combination of planning and socio-legal theory. The purpose is to present a conceptual model that can assist in answering the research questions. The sources for this model are found in spatial planning with contributions from sociology of law. That being said, this entails a sort of limitation to the scope in terms of not fully investigating theoretical underpinnings to implementation theory or decision analyses that are not already included in either of the two mentioned disciplines. One model I have already employed in the articles is adopted from Emmelin which emphasises types of rationalities on the horizontal axis, and the levels of decision-making on the vertical (cf. Emmelin & Kleven, 1999; Emmelin & Lerman, 2006; Larsson, 2008, 2009b; Vuorio, 2003) and is also used in the first article below (Larsson, 2014). This chapter builds upon this model and seeks to theoretically further strengthen its central concepts. This means to some extent that I seek to point out some of its strengths as well as weaknesses, and thereby hopefully make it more robustly useful for the analysis of the Swedish 3G infrastructure implementation and wind power development.

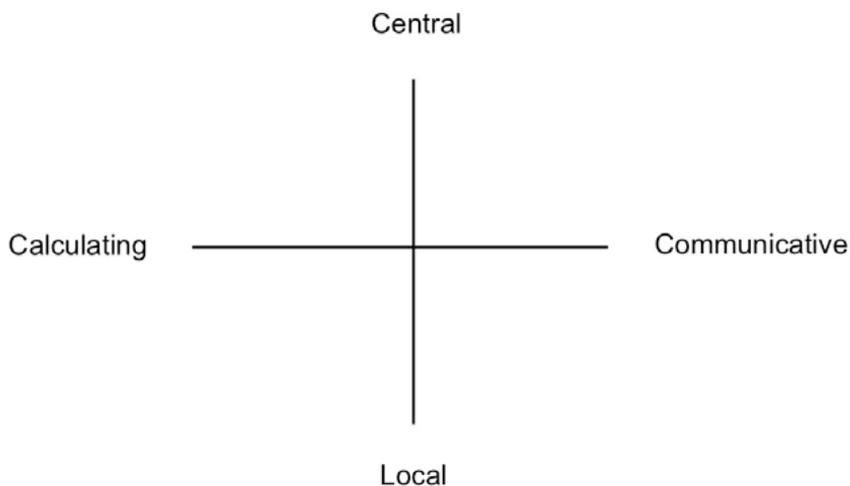


Figure 1: From Emmelin & Lerman (2006; see also Larsson, 2014).

The figure first and foremost functions as a model to quickly reach an understanding of the types of decision-making at hand. For example, the top-down perspective can be located between the axis from central to local, which opens up for discussions concerning tiering and multi-level governance. At the same time, it is possible to discuss “calculating” and “communicative” rationalities (Sager, 1994) as two different knowledge-types that can form the basis for decision-making. Amdam and Veggeland (1998) recall the development of planning theory in a post-war era using a similar terminology.

As mentioned in the introduction, this thesis deals with three main perspectives relating to law and spatial planning that are necessary for the overarching analysis of the studies presented in the five articles below, which deal with 3G infrastructure and wind power development in Sweden:

- **Levels**, theorised upon in terms of “tiering” or perhaps more commonly “multi-level governance.” There is an often debated and inherent challenge in the centralistic policy-making that concerns the tensions between different levels in governance (Alexander, 2000; cf. Allmendinger, 2009), often referred to in the SEA literature as tiering (Lee & Walsh, 1992). This also expresses the first theoretical perspective presented below, and is elaborated in the first article in terms of “central v. local”, as well as in Article IV in terms of multi-level governance and tiering;
- **Knowledge-types or rationalities**, refers to the tension between expert and lay knowledge, between calculation and deliberation (Calculating to Communicative, in Figure 1) and what knowledge that is regarded as legitimate basis for decision-making. The “knowledge-types” and rationalities are traced from much of the planning literature dealing with the centralistic and calculative rationalistic activities of planning in the post-war era, which is then compared to the communicative turn mentioned above (as in Amdam & Veggeland, 1998, cf. Etzioni, 1973, p. 217; Larsson, 2008a, pp. 95ff.). I address this in Article I below, in the analysis of legally regulated participation in the 3G case, as well as in Article III concerning the tension between expert and lay influences in decision-making within wind power development.
- **Law and consequence**, concerns the difference between formal legislation and its implementation and its outcomes in practice (law in books v. law in action). At the core of a socio-legal tradition lies the issue of implementation, here framed as a difference between the formal law in books and the actual outcomes of law in action. This follows a terminology coined by the legal realist Roscoe Pound (1910) in a well-used trope of analysis in this tradition. This is generally discussed theoretically in Article V below, but also serves as an underlying perspective in the analysis of “the national game” of 3G in Article II. This tension described in sociolegal terms is also of relevance for the topic of efficiency in planning and steering infrastructure development, above described in the duality of “law’s promise versus achievement”.

As sometimes pointed out in planning literature, the formation and doctrine of planning is somewhat divided and eclectic in its composition. For example, in the Aims & Scope section of the respected journal *Planning Theory*, it is stated that sources of planning theories are “eclectic and diverse, drawing on disciplines and concerns that range from philosophy, architecture, post-colonial studies and law to the social sciences and design practices.”⁵ Planning discipline is, however, sometimes referred to as stemming from a technocratic approach to policy-making (cf. Sandercock, 1998, p. 4, on Faludi). At the opposite end, the “communicative turn” in planning theory (Fischer & Forester, eds., 1993; Tewdwr-Jones & Allmendinger, 2002) was heavily influenced by Jürgen Habermas (cf. Allmendinger, 2008), and has been an inspiration for many social scientific perspectives, including sociology of law (see, for example, Deflem, 2008, ch. 8 on democratic aspects of law). There is arguably a quite natural explanation for this “eclecticism” in planning theory that can be found in the diverse and complex practice that it deals with.

2.1 ON LEVELS AND THE ASSUMPTIONS OF TIERING

As outlined in Article III on wind power and multi-level environmental governance, the layers and the hierarchical setting is of importance for the outcome of any infrastructural implementation. Breukers notes above (2010) that local decision-making plays an important role for the outcome of the entire system. One way to conceptualise this hierarchical image from a critical perspective is to use the notion of multi-level governance (MLG). A commonly shared perception, within the framework of rational decision-making, is that of a hierarchic system that encompasses an increasing level of detail within which implementation and daily operations can be allotted downwards. This is called level division or *tiering* in literature on strategic environmental assessments (cf. Lee & Walsh, 1992). This differentiated system is assumed to be internally consistent, from top to bottom, as far as scientific, calculative rationality concerns environmental issues (Sager, 1994, Emmelin & Kleven, 1999). The higher levels are presupposed to set clear limits for the degree of freedom of the lower levels via, for instance, binding and quantitative norms in the form of environmental standards and thresholds. This hierarchical and top-down model of multi-level governance has long been criticised from both theoretical and practical standpoints within planning theory (Alexander 2000; for an overview, see e.g. Allmendinger 2009), political science (a classic is Etzioni, 1967), and SEA theory (Cherp et al. 2007).

Houghton et al. (2010), mentioned above, set out to study whether the devolution they see in the new spatial planning in UK and Ireland “had seen a top-down, centralised, hierarchical planning system abandoned in favour of a more networked, multilevel approach to planning” (2010, p. 7). There is also now a strand in planning literature on the theme of a shift from rigid hierarchical systems of top-down government to other forms of governance (Jessop, 2000; Godwin et al., 2005; cf. Haughton et al., 2010). Arts et al. (2005) define the concept of tiering as a distinction between different levels of planning that are prepared

5 <http://www.sagepub.com/journals/Journal201559/aimsAndScope> [last visited 5 August, 2014].

consecutively and influence each other (cf. EC, 1999, pp. 16-22). Tiering, then, is “about how the different levels of planning relate to each other” (Arts et al. 2005, p. 2). One should refrain, here, from asserting an overly simplistic notion of consistency throughout the levels that seems to emerge every now and then and, for example, argued to be the case in both EU and national Swedish regulation of environmental assessments. It can thus be argued that while the notion of vertical consistency has weak theoretical foundations and highly varied practical applications in existing planning systems, to utilise national goals and objectives and methods of management by objectives is nevertheless an important component of multi-level governance (Emmelin, in press).

Governance through central directives, goals or standards and thresholds is by its very nature top-down while in theory allowing lower level choice of means for achieving objectives (Emmelin & Lerman, 2008). However, the role of central directives, standards and norms, as well as more general national and supranational goals, may be to attempt to impose a measure of vertical and top down consistency rather than assume it to be an inherent characteristic of the system.

2.2 ON KNOWLEDGE-TYPES AND RATIONALITIES

As mentioned above, the dialectics between calculating and communicative rationality have been developed in the post-war version of planning theory. Over the last two decades or so, we have seen the development of terminology and theory along the lines of “communicative planning” (Forester, 1989), “argumentative planning” (Forester, 1993), “planning through debate” (Healey, 1992), and “collaborative planning” (Healey, 1997; 1998). To a large extent, these describe and transform the concepts of Habermasian critical theory into planning theory (Allmendiger & Tewdwr-Jones, 2002; Sager, 1994). I discuss this in Article I below, in relation to legally regulated participation in the Swedish 3G development (cf. Larsson, 2014).

A benefit of turning to a “communicative rationality” as opposed to “practical reason”, according to Habermas – who has served as much of the inspiration for this trend in planning theory – is that it has “the advantage of not cutting social theory off from the issues and answers developed in practical philosophy from Aristotle to Hegel” (Habermas, 2011, p. 9). We can therefore quite safely assume that the project that Habermas undertook to contribute to was neither a never before dealt with project nor of a transient character. Habermas further makes use of the concept of *juridification* (Verrechtligung) – which is of particular relevance for the link between the socio-legal approach and planning – in the concluding chapter of *The Theory of Communicative Action* (1987), which means a formalisation of the social sphere (Teubner, 1987). According to Deflem (2013, pp. 81-82), juridification refers to an “increase in formal or written law, either in the form of an expansion of law of hitherto unregulated conduct or in the form of a densification of law in the form of a more detailed regulation of conduct that was already legally regulated.” The juridification of social phenomena has also been referred to as “the legal distortion of social realities” (Teubner, 1992, p. 1455). Although Habermas’ task is grander, through an historical approach that shows how welfare laws can be interpreted in terms of the institutionalisation of rights, he specifies a number of problems of which at least two are of particular interest here: 1.) claims need to be successfully petitioned under formally specified conditions; 2.) claims are implemented in ways that suit the needs

of large bureaucratic organisations rather than the people involved (Deflem, 2013). It is this process of formalisation that receives special attention in the studies conducted for this thesis, particularly regarding the encounter with court procedure inflicted on the plaintiffs and defendants when a wind turbine or 3G mast permit is appealed (as in Article III below, Larsson & Emmelin, forthcoming).

The analytical separation of a calculating rationality as opposed to a communicative rationality to a large extent translates to a strand in the literature that expresses a similar account, expressed as knowledge stemming from either experts or lay persons (Irwin, 1995; Lidskog, 2008; Sager, 1994; Wynne, 1996). It addresses the broader question of the relationship between science and the citizen, which Irwin (1995) has addressed within the field of environmental risks. As described by Lidskog (2008, p. 78):

There is a clash between science's universal and 'decontextualised' character and lay people's local understandings. From this science-centred perspective, there is a need to educate citizens, which is believed to lead to greater acceptance for a (scientifically guided) policy. Thus, science is placed at the centre of policy-making, whereas the public are seen as passive spectators, as witnesses rather than participants.

Irwin is critical of this understanding, claiming that science is not a homogenous practice. He argues that one reason for a clash between science and the public can be found in science's ambition to create abstract, universal and formalised knowledge, which ignores the more context-specific, contextually generated understanding of lay people. Wynne (1987) criticises expert rationality for being a major obstacle in hazardous waste policies. Further, the consultation may steer the debate and discussion. As noted by Aitken et al. (2008, p. 793):

The unquestionable nature of policy within public inquiries can also be seen as a means of restricting the range of possible arguments that participants can make and further as defining a set of 'rational' assumptions underpinning the inquiry. Consequently, individuals (or types of evidence) that challenge or deviate from this set of assumptions can be easily disregarded.

Rydin (2007) states that "knowledge embedded in local relationships needs to be drawn upon to direct contextualisation of scientific knowledge" (p. 54). Interestingly, she also questions the approaches employed to deal with "multiple knowledges" to ensure that the most "appropriate knowledge" is used in decision-making, while Alexander (2008) highlights the difficulty of identifying which knowledge is most appropriate and why. Aitken et al. (2008) discuss "agenda-setting power" with reference to Lukes (1974 (2004)) and the "three-dimensional view of power" that acknowledges the power to shape people's beliefs and ideologies (see Figure 2 below).

It is rather easy to agree with McKay (2014, p. 19) when he concludes that the "development of an appropriate toolkit to deal with strategic infrastructure applications presents many challenges." He sums the challenges up with theoretical references:

...those whose role as professionals is to gather evidence and make ethically responsible decisions on the basis of policy and other material considerations. They must unpack layers of both lay and professional knowledge (Wynne, 1996), sometimes tactically manipulated, and while identification of the “most appropriate knowledge” (Alexander, 2008) might be established through its ability to be tested (Rydin, 2008), inspectors will be challenged by complex conundrums. Here, of particular significance, are Forester’s (1989) comments that planning decision-makers are expected to be aware of their own power and limitations (McKay, 2014, p. 19).

This, to a large extent, concerns a struggle between objectivism and subjectivism, i.e., expert-based versus the deliberative approach to decision-making. When it comes to the explicit planning discipline, Friedmann (1989) has argued that it consists of an expert-based type of objectivism inherent in the profession:

Planners claim that their advanced degrees in relevant disciplines and professional fields give them access to scientific knowledge and know-how. They also claim that this knowledge is generally superior to knowledge gained in other ways (from practical experience, for example). In this respect they speak as true heirs of the Enlightenment (Friedmann, 1989, p. 40).

The focus of this thesis is more concerned with the legal selection of knowledge, what type of experiences and statements gain traction in court and in legislative revisions. The model above is simplistic in the sense that the communicative side of knowledge types may be further debated, for example, how the Habermasian approach that has stimulated much of the communicative turn in planning can be nuanced and criticised from a Foucauldian perspective. There is, simply put, a great difference between accounts of “best arguments” and accounts of the pragmatics of power also in the micro-perspective of everyday actions. Flyvbjerg & Richardson (2002, p. 53) describe this difference in terms of “both Habermas and Foucault are ‘bottom-up’ thinkers with regards to the content of politics, but where Habermas thinks in a ‘top-down’ moralist fashion concerning procedural rationality – having sketched out the procedures that are to be followed – Foucault is a ‘bottom-up’ thinker with regards to both process and content.” This means that the communicative side of the model presented above may have to deal with both communicative rationalities as well as power analytics.

Therefore, the communicative side is not as simplistically characterised as the model (figure 1) may seem to imply. In fact, the nature of how to handle citizens in decision-making that concerns many people is a challenge any state wrestles with and is at the core of spatial planning. What is perhaps not sufficiently elaborated in the simplistic model is the difference between direct democratic decision-making, other versions collectivist decision-making, and representative democracy. The latter is also of direct relevance to Swedish municipal spatial planning, not the least due to the fact that every municipality is run by an elected city council which, for instance, often deals with the so-called municipal veto for wind power establishments. The stronger proponents of the communicative turn in planning have also been criticised for displaying an overly simplistic version of the rationalistic planning that

is often linked to Faludi (e.g. Strömngren, 2007, pp. 38-44). Strömngren (2007) describes the treatment that Sandercock and Innes give the rationalistic planning as a “straw man” that they use to knock down. Strömngren argues that one mistake sometimes made is to fail to separate the post-war blueprint planning from the rationalistic planning theoretically developed by, for example, Faludi. Strömngren also argues that the starting point for Faludi was representative democracy. Faludi describes the plan process as a collaborative exercise and interaction between elected officials, planning experts and the citizens. Accordingly, the best way to enable the implementation of programs is to “formulate them in such a way that people regard them as their own because they have been involved in drawing them up” (Faludi, 1973b, p. 289). This leads to the fact that the model outlined above (figure 1) may also seem too simplistic on the calculating side – which of course is a characteristic feature of models: They cannot contain all the nuances that may be needed in the following analysis. The concepts in the model should therefore be regarded as ideal types that are used as instruments for the analysis.

2.3 ON LAW: FROM FORMAL TO EMPIRICAL

The analysis of policy is of key importance when studying the outcome of legally regulated management processes. There are various, possible takes on environmental policy analysis and even on what a scientific approach towards landscape planning would mean. Taking the socio-legal approach that is found in the discipline of sociology of law, for one, involves an empirical approach to law and its social or societal consequences (see also Article V below; Larsson, 2013). Research within sociology of law tends to focus a social fundament of law that argues that law is shaped by, and dependent on, the social and economic structures of society (Drobak, 2006; Ellickson, 1991; Ellickson, 1998; Ellickson, 2001; Larsson 2011a; Svensson, 2008). One way to distinguish between legal (dogmatic) intentions on the one hand, and the empirical consequences on the other, is to follow in line with what Roscoe Pound a century ago coined as *law in books* and *law in action* (1910; cf. Larsson, 2008b; 2013b), which I refer to in several of the articles in this thesis. This represents a field of literature, mentioned above, which Nelken has termed as a difference between “law’s promise and achievement” (Nelken 2007; see also, 1981). Trubek, for example, has called for an analysis of the tension between “ideals and reality” within the legal order (Trubek, 1977, p. 566; see Article V below, Larsson, 2013).

Of particular relevance, here, is the assessment of the differences between the intent of a legal regulation and what it actually leads to. A socio-legal approach to the legal revisions made for the regulations of the wind power permit system in 2009 is a fitting case for such a study and analysis. The revision itself has been analysed from a socio-legal perspective prior to the revisions coming into force (Larsson, 2009b). What is of interest here is to study to what extent the intentions expressed in the legal revision, for example in terms of making the management more “efficient”, have been fulfilled, or have failed.

One way to analyse law from an empirical perspective based on the outcomes of its implementation would be to use theory developed by the highly influential sociologist Robert Merton. Merton is known for his “functionalist” approach to assessing effects of actions, which has reverberated in a multitude of areas that often refer to Merton (Aubert 1954; Brown 1992;

Christie 1965; House 1968; Larsson and Svensson, 2010; Mathiesen 2005; McAulay 2007; Ridgway 1956; Roots 2004; Sunstein 1994). By formulating the “unanticipated consequences of purposive social action” in 1936, Merton lent a higher profile to the idea of hidden effects of actions. Merton defined *function* as “those observed consequences, which make for the adoption or adjustment of a given system” (1949/1968, 105). “Function” is therefore something other than “dysfunction,” in the sense that just as structures or institutions might contribute to the maintenance of other parts of the social system, they could also have negative consequences for them. These can either be manifest (intended) or latent (unintended). Further, there are *latent functions* that are unintended but still operate in line with the intended purpose of the initial action. This means that *latent dysfunctions* are unintended and have “negative consequences for the structures and systems under consideration” (Merton 1949/1968, 105). When it comes to law, these latent dysfunctions can be direct consequences of what Sunstein speaks of as “self-defeating legislation” (1994).

This clearly relates to what often has been referred to within the planning literature as implementation issues. Issues of implementation on a national scale through law and policy that need local implementation have, for example, been addressed by Pressman and Wildavsky (1973), and the perspective – along with much of the governance literature – is often found within political science, or developed there to be applied in other disciplinary contexts. Spatial planning and environmental governance is to a large extent dependent on the steering functions that overarching policy levels use to govern the lower levels, as mentioned above in chapter 2.1 regarding tiering. The aspects of implementation as a theoretical foundation that are relevant in this subchapter deal with how formal instruments are dependent on local level characteristics for their realisation. Just as Lipsky (1980) showed that public service workers, in fact, constitute the services delivered by government, it is reasonable to assume that the formal steering mechanisms with regards to mobile infrastructure implementation and wind power development are also, to some extent, dependent on the setting of the local context and the character of the low-level administration (cf. Sinclair, 2004; Vedung, 2009). The outcome is, to some extent, depending on the “street level bureaucrats” that execute and apply the legislation, or, translate it into actions. With regards to the relevancy of implementation theory in Swedish municipal planning that concerns outdoor recreation and nature tourism, see Petersson Forsberg (2012).

2.4 TWO “PARADIGMS” OF GOVERNANCE

I have presented the theoretical “map” above (figure 1) in Article I (Larsson, 2014; cf. Larsson, 2011) and have aimed to elaborate on its theoretical connections to planning theory in a broad sense, in order to justify the concepts I use in the analysis below. To a large degree, the “map” is inspired by or retrieved from the work of Emmelin who used it to emphasise different modes of thought that govern land use and environmental planning. He does so in terms of an “environmentalist paradigm”, which he places on the top left, indicating centralistic and expert-based decision-making, and a “plan paradigm”, which he places on the bottom right, indicating a more deliberative approach within a local setting. Emmelin argues that these are consolidated through various legislations (basically, The Environmental Code versus the Planning and Building Act), education, and professional and administrative cultures

(Emmelin, 2009; Emmelin & Kleven 1999; Emmelin & Lerman 2006, pp. 21– 35; cf. Larsson, 2014; Petersson Forsberg, 2012; Vuorio, 2003, pp. 23-25). They have also been described as normative, that is to say, containing directives for decision-making processes (Larsson, 2008, p. 116-117; Larsson & Emmelin 2007). The “paradims” can serve as explanation for what type of knowledge is regarded as legitimate in a specific setting of decision-making. The environmentalist paradigm takes its starting point in a scientific approach to the decision-making process. A decision is legitimate when it is based in the best possible scientific assessment. The key actor here is the expert who owns a comprehensive overview of a field of knowledge. In the plan paradigm, the governance of and decisions concerning land governance and environment should be based in balanced deliberations between various, legitimate, but not necessarily compatible interests, and in compromise, if possible. Its legitimacy lies in that the various concerned interests have a voice and that the deliberations are based in representative, democratic, communal decision-making.

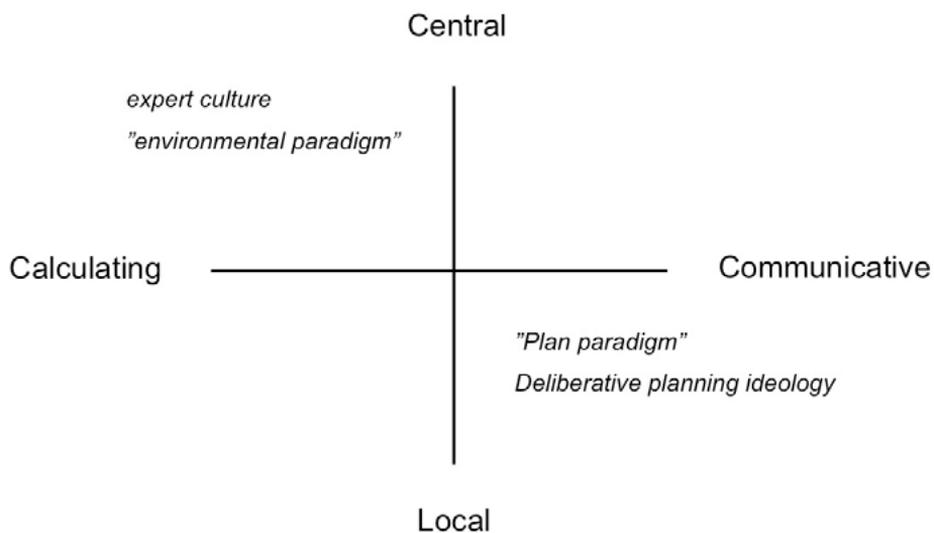


Figure 2: The notion of two paradigms in planning and environmental governance can be placed in the model outlined above, from Emmelin and Lerman (2006, p. 27).

Depending on which paradigm one operates within in the decision-making process, this will determine how the decision should be made, as mentioned above. The knowledge base that constitutes the grounds for decision-making according to the environmentalist paradigm will be assumed to be able to address whether the decision is correct, that is to say, optimal. And the knowledge base that constitutes the basis for decision-making according to the plan paradigm is assumed to be able to address whether the decision, for better or worse, corresponds to the submissions of the concerned parties, that is to say, whether the decision represents a good compromise between in and of themselves contradictory, but legitimate, viewpoints.

The perception of public participation in the decision-making process will diverge drastically within the two paradigms. Where the expert-emphasis of the environmentalist paradigm leads to an attitude that the correct decision can be reached by a competent enough expert, the plan paradigm leads to an attitude that a good answer cannot be reached without deliberative participation from the concerned parties, and that it is those parties who own the knowledge.

3. Method & Material

This chapter initially describes the sources and the material used for the study of the two cases, and thereafter reflects somewhat on the more methodological issues following from this type of study. In general, it is often argued that case studies are suitable for answering “how” and “why” questions, that is, an understanding that extends beyond the merely descriptive (Yin, 2009). Case-based research has been argued to be a basic feature of social science research (Ragin & Becker, 2009). Nevertheless, the case study approach may also be suitable for discovery, description, and relational mapping (Vissak, 2010, p. 371). The key question here, when it comes to representation and generalisation, is what these cases are cases of. First of all, the roll-out of both the 3G infrastructure and wind power development is clearly related to the planning of the physical and spatial domain and the management of the environment. The masts and the wind turbines have physical attributes that impact the landscape – environmentally and aesthetically – in a way that makes them a concern not only for the constructors and property owners of the actual sites but also for the local authorities, neighbouring property owners, and – to some extent – anyone with a vested interest in the local landscape. Secondly, both cases, in being both a local as well as a planning concern, are very much regulated by law. Thirdly, the tiered challenge is apparent in a way that also explains why the two cases may conjunctively provide insight. A comparison of the two cases will likely shed more light on the general issues related to local implementation of national policy that are both regulated by law and highly dependent on local decision-making.

The methodology is rich in the sense that I triangulate the object of study (cf. Perri 6 & Bellamy, 2012, pp. 270-272) through various types of methods that include the collection of case databases, partaking of national questionnaires as supplementary material, performing interviews, as well as studying law dogmatically (as in, what is *existing law*?) and assessing how the legal framework functions in terms of outcome, implementation and the empirical perspective. Mixed methods research can “collect a richer and stronger array of evidence than can be accomplished by any single method alone” (Yin, 2014, p. 66). Perri 6 & Bellamy (2012, p. 82) also state that case-comparative researchers often “employ multi-method designs to develop a more holistic understanding of the cases than is possible with a single method.” The simple fact that there are two cases under scrutiny, both 3G and wind power development, is arguably an asset when it comes to the corroboration of generalised results: “Analytic conclusions independently arising from two cases, as with two experiments, will be more powerful than those coming from a single case alone” (Yin, 2014, p. 64).

A comparison may also help deconstruct what may be seen as unique or inimitable, but it may also arrange unity from what would seemingly be divergent, practical categories (Wievorka, 1992, p. 170). The process of making results generalisable is to isolate theoretical

argumentation of some form or other that would be expected in well-defined circumstances or contexts in order to produce similar phenomena (cf. Palmås et al., 2014). Danermark et al. normatively state that “science should have generalising claims” (2002, p. 1). Any generalisation of the results of this study depends on what the cases can convincingly be said to be cases of. Let me first address the question of what the two cases share in common:

- National policy: they are both, to a major degree, the results of national policy-making that at face value is somewhat dependent on supra-national policy-making;
- Non-traditional, or at least more dispersed infrastructure: As outlined and clarified in the introduction, 3G and wind differ from traditional infrastructure planning (concerning roads and railways, for example) on a number of accounts, which may contribute to some of the imbalances in the implementations;
- They do not constitute a physically connected and continuous system that cannot be adjusted or adapted;
- Only certain individual components of the system require a legally defined permit, e.g. the siting of wind turbines or wind farms and the siting of 3G masts but not the base stations and antennae.

This type of infrastructure, if we are to view it as that, is dependent on thousands of public authority decisions, and is flexible in the sense that its constituents are adjustable, but the total effect of the entire system is what defines the rate of success of the implementation. This can be measured in coverage as in the 3G case or in extracted TWh energy as in the wind power case. Given these circumstances, how does one adequately reconcile the systemic and national with the fragmented and local? This could be addressed through two questions: How does one establish the national perspective (energy type, telecom system) as relevant at a municipal level; how does one include local values and individual visions into national policies?

This chapter describes the methods that have been used to answer the research questions, as well as the material. In order to be able to tell what can be generalised from this study, or these studies, I will here not only clarify what can be said with this methodological approach but also what *cannot* be said.

3.1 THE WIND POWER CASE

The wind power case is studied at the national level in relation to the local level, and mainly through its legal representations. The main material used regarding the wind power case concerns five main sources which are combined in the analysis:

- Legal documents such as preparatory work for the revision of how wind power is assessed and how the permits for the turbines are considered, where an important legal revision was made in 2009;

- A sample of court cases from southern Sweden where turbine permits have been appealed in both the court of appeals as well as the environmental court of appeals;
- A sample of turbine permit documents from southern Sweden, irrespective of whether they were appealed or not, which includes documentation from consultations processes and EIAs;
- Interviews with a handful of key persons of relevance for wind power development;
- Supplementary material, such as reports from relevant agencies as well as NGOs.

Legal documents

The legal material has already been mentioned and consists of explicit legal regulations such as the Planning and Building Act (revised in May 2011, from 1987:10 to 2010:900) and the Environmental Code (1998:808), but also of the regulation of economic support for wind power planning (2007:160)⁶, the main directive for the wind power commission (Dir. 2007:94) and the supplementary directive that is of most interest to the wind power processes (Dir. 2007:184). Further, the most important sources for studying the intentions behind the legal revisions implemented in August 2009, which may represent the manifest intentions of the law, consist of the proposal that was drafted by the Environmental Process Commission (Miljöprocessutredningen) in late 2008 (SOU 2008:86) and the subsequent governmental bill that followed in the spring of 2009 (Prop. 2008/09:146).

Appeal cases

For the analysis, a sample of appeal permit cases was collected from the Land and Environmental Court (LEC) of Växjö [Mark- och Miljödomstolen] as well as the Land and Environment Court of Appeal (LECA) [Mark- och Miljööverdomstolen] (see Article III, Larsson & Emmelin, forthcoming). These two courts were created 2 May 2011 in their current arrangement. There are five LECs in Sweden that divide the country into five jurisdictional areas, and one LECA which accepts cases after approval in the “supreme court” sense. The sample of judgements from both the LEC and LECA has been selected from decisions passed since 2 May 2011, because the complexity that would follow from comparing different court systems on top of the already established research questions would risk obscuring the clarity I have pursued in the analysis. Therefore, cases analysed from LEC Växjö concern cases appealed from the area of Skåne and where the decision has been made between 2 May 2011 and November 2013. There are 20 cases in the sample from LEC, and 9 cases in LECA, of which only three received leave to appeal and were tried in court, and of which the first two are the most relevant for this study.

Sample of permit applications

For the study on wind power development in Sweden, a sample consisting of 30 wind power processes in the county of Skåne was collected, which is one of 21 counties in Sweden, and the county that during 2011 had the second most installed wind power effect and number of

6 Förordningen (2007:160) om stöd till planeringsinsatser för vindkraft.

wind power turbines of all the Swedish counties (Statens Energimyndighet, 2011, p. 12). The permit processes consist of applications from developers, letters from the public, consultation documents, appeal documents etc., including information on height, number of turbines, dates, locations etc.

Interviews

Interviews have been conducted with a handful of key persons, such as two expert judges in the Land and Environment Court as well as the appeal court, a regional officer handling and assessing turbine applications, and the wind power coordinator appointed by the government to facilitate the development in southern Sweden. This has been used for the interpretation and analysis of court cases thus aiding the understanding of the permit processes, particularly those cases that have been appealed, and how the courts evaluate various pleadings and opinions.

Supplementary material

The material described so far has been collected within this study. We have also used materials collected by others that consist of other studies relevant to the Swedish wind power processes. For example, the agencies that are involved have produced a number of reports, such as the Boverket report on the outcome of the economic support for wind power planning (2012a) and the report from the Swedish Energy Agency on the development of permit processes for facilities that produce renewable energy (2012). In June 2012, the Swedish Energy Agency commissioned Ramböll Management Consulting to study cases concerning renewable energy, which includes wind, hydro, electricity generation plants using biomass and/or waste, and a small number of cases relating to energy supply facilities, where it is not clear which type of energy is involved. The study included 198 cases. Moreover, a survey regarding the so-called municipal veto carried out by the wind industry association *Svensk Vindenergi* and targeting the developers is included. The survey was conducted amongst 23 of the member companies of the industry association during October/November 2010, that is, 15-16 months after the legal revisions of August 2009.

3.2 THE 3G INFRASTRUCTURE CASE

The empirical data for the 3G study concerns the following five main sources:

- A regional sample of 248 permit processes for 3G masts in Blekinge, from the initiation of 3G construction in 2001 until late 2005;
- Two PTA questionnaires;⁷
 - A quantitative survey of all municipalities, and a qualitative study on 25 municipalities (7 April 2003);
 - A quantitative survey of all municipalities (29 December 2003);
- Legal cases, appealed permit processes and other cases of relevance;

7 Data made available by the PTA, conducted by Temo AB for the PTA.

- Legal documents, preparatory work, law studies etc;
- Both the PTA and other reports and PTA regulations and other documents, such as the call for 3G licence applicants.

The collecting of empirical data of the permit processes in Blekinge was initiated in a pilot study on the infrastructure development which was undertaken prior to this research project (Emmelin & Söderblom, 2002), leading to the licentiate thesis (Larsson, 2008a) and was central for Article I below (Larsson, 2014).⁸ The Blekinge material concerning permit processes continued to be collected after the pilot study project. For the purpose of understanding and explaining sustainability issues in spatial planning via the 3G case, the Blekinge material has been extended and completed with the use of PTA questionnaires, as well as legal studies and document studies of PTA reports and others, as outlined below.

Building permits

Of the legally regulated structures for 3G infrastructure development, one of the most important and relevant legal documents is the building permit. The Emmelin & Söderblom pilot study (2002) collected the initial permit processes of the infrastructure construction in Blekinge. This collecting of building permits was continued until late 2005 and early 2006 in the municipalities. There are 248 permit processes in the sample for this study, see table 1. These building permits allowed scanning for main issues and conflicts of interest that concern how the planning and environmental administration functions from a sustainability perspective. A selection of the permits was further analysed according to the research questions. For quantitative analysis of the Blekinge material, an access database and a SPSS database were built.

The Blekinge data forms a case study which is then compared to the national questionnaires administered by the PTA. As mentioned, this has meant a sort of triangulation in the methodology, which consists of the use of various data on similar issues that can corroborate the results and raise the likelihood of reliable results. Systematic errors in any of the collected data are not likely to be reduced in the other (Esaiasson et al., 2004, p. 61ff).

The Blekinge permit process data is primary in the sense that it has been retrieved from documents that concern, for instance, when the applicants applied and the actual application sent in to the local authorities, as opposed to the national questionnaire data in which planning officers answered a web based survey on matters of the permit process within their respective municipality. The important difference between these two types of data with regards to the validity of scientific method is that where the Blekinge data describes the actual dates and figures, I cannot similarly corroborate the questionnaire data, because this may in some cases indicate the opinion of the local planning officer rather than precise, measured figures. This is where one can assume that many different types of data all pointing in the same direction are more likely to be true (Denscombe, 2000, pp. 102-104). This increases the validity of the method, meaning that the chosen method is more likely to measure what it is claimed to measure.

⁸ This data was collected by Lovisa Bjarting and Lars Nilsson, Master students at BIT, under supervision by Lars Emmelin.

The PTA questionnaires

The two questionnaires on the building permit process performed by Temo on behalf of PTA addressed to the municipalities of Sweden are from 29 December 2003 and 7 April 2003. Both surveys are quantitative, however, the latter is complemented by a qualitative study based on interviews with handling officers, politicians and trade and industry spokespersons of 25 municipalities and 2 county council boards. The interviews were conducted via telephone and a semi-structured interview guide. The two quantitative PTA questionnaires were conducted through a web based survey. The municipalities received e-mails containing a link leading to the web form. A number of reminders were sent during the research period to ensure high participation. All of Sweden's 290 municipalities were included in the survey. The quantitative questionnaire of 2 April 2003 had a participation rate of approximately 75 per cent, meaning 218 municipalities. We have been given access to the raw data and information of this questionnaire. The questionnaire of 4 December 2003 had a participation rate of ca. 75 per cent, or 217 municipalities.

The qualitative research of 2 April was conducted through interviews with the help of a semi-structured interviewing guide. A total of 25 municipalities and 2 county councils (Kalmar Län and Västra Götalands Län) participated. In the municipalities, the responsible handling officers, local politicians and corporate representatives were interviewed. In the county council, the responsible handling officers were interviewed. A total of 73 interviews were conducted by Temo AB on behalf of the PTA.

3.3 ON VALIDITY

The basic methodological question, irrespective of whether one seeks to describe, explain or interpret a phenomenon, has been posed by Perri 6 & Bellamy (2012, p. 12) as "how and how far can you argue from the particular data to the particular conclusions, or, to put it in another way, what argument, if any, do these data actually support?" While it is of sufficient interest to draw conclusions that are valid for the specific cases alone, one aim has been to draw analytic conclusions that tell of more than just the cases. Take, for example, Jane Jacobs' famous book *The Death and Life of Great American Cities* (1961). This book is mainly based on experiences of one great city, NYC, from which Jacobs develops broader theoretical principles in urban planning. Methodologically, the validity of the methods used needs to be judged by the details in the data and the methods. The interviews conducted for the wind case, to begin with, were semi-structured, with a few prepared key topics and questions that nonetheless retained an openness to follow up and develop the answers provided by the respondents. This means that all respondents approached the noise issue as well as the veto issue relatively voluntarily, indicating that in practice these are in fact significant challenges. The samples of permit processes and appealed cases are from southern Sweden (Blekinge and Skåne), while the preconditions in topography, settlement patterns and the overall landscape characteristics can be, and are, different in other regions in Sweden. The vast and less populated areas of northern Sweden also host larger parks of wind turbines that face other pressing challenges compared to the more densely populated southern Sweden. Furthermore, it is possible that other relevant factors, such as the attitudes of concerned parties and property owners, may

be related to different attributes in different regions. The study focuses more on the permit processes as they become juridified in appeal rather than the prior consultation process.

The administrative system for land use planning is nationally regulated. This means that it is designed to be uniform for the entire country of Sweden. The country is divided into 290 municipalities (21 regions/counties) which, with regards to the larger portion of the spatial environment planning, are sovereign or delegated to the local authorities under the supervision of the county council. The region of Blekinge has a coastline with archipelagos as well as a rural inland, containing valuable culture and nature. The urbanised areas of Karlskrona, Karlshamn and perhaps Ronneby represent many of the middle sized urban areas of Sweden. Blekinge County is representative at a national level from several perspectives. Neither the Blekinge region nor Skåne, however, exemplify the extremely sparsely populated areas to be found, for example, in the northern parts of Sweden. The Blekinge focus of the 3G permit processes of the empirical data leads to the possibility that some issues and conflicts in the region of Blekinge to some extent do not find their representation at a national level. In such cases, this will be visible in the PTA national questionnaires. To be able to generalise issues of interest at a national level, however, the national questionnaires issued by the PTA during 2003 can be compared to the permit processes of Blekinge. The questionnaires provide a national snapshot of a few selected moments (a comparison that is further elaborated upon in Larsson, 2008a).

The legal documents are necessary for depicting not only the existing framework but also its legislative history. The legislative history can explain some of its political context and also which concepts were implemented early in the process, such as demands for “efficiency”, which also effect the legal revisions that result from the legal revisionary process. The legal material may, however, not tell us all about what happens when the formal statutes meet the local practice, nor the implicit narratives in court decisions. Other data is needed for that, such as the actual appeal cases or the use of interviews with concerned parties, for example. In socio-legal research, there is an expressed understanding that in studying law and legal authority, the researcher runs the risk of too closely accepting the legal terminology and conceptual framework, and thereby becoming less able to actually analyse law from any point of view other than the legal (Larsson, 2011a, pp. 76-79). Niemi-Kiesiläinen et al. (2007, p. 81), for example, emphasise the need for creating distance between lawyers’ methods of reading texts and the fact that the “objective” and neutral style of legal texts tends to mask “their discursive and constructive nature” (cf. Larsson, 2012).

4. Wind power development

The implementation of wind power has been studied far more extensively than the explicit implementation of 3G, which motivates why the presentation of literature on wind power here will also be more extensive than in the following chapter on 3G. The academic literature of most interest for this exposition concerns the reasons for local opposition or resistance, the legal frameworks – to the extent this aspect is studied – and the case of Denmark, which often is seen as a model due to having established a method to obtain a high proportion of wind energy, which I then relate to developments in Spain, Germany and the US.

Wind power in Sweden has expanded the last few years and while it may continue to be overshadowed by Denmark, Spain and Germany, this has not stopped the Swedish government setting high targets for renewable energy. The Government has set a goal of reaching a share of at least 50 per cent of renewable energy in gross financial consumption by 2020 (Government Offices of Sweden, 2009). In 2011, 35 per cent of total energy was supplied by renewable energy sources, mainly from the addition of onshore wind power and solid biofuels (International Energy Agency, 2013) and in December 2013 the Swedish Government reported that the share of energy from renewable sources was 51 per cent (Regeringskansliet, 2013, p. 4). The Swedish Energy Agency in June 2014 reported that at the end of 2013, there were 2,640 wind turbines in Sweden with a total installed capacity of 4,194 MW. Total electricity generated from wind power amounted to 9.8 TWh in 2013. The three counties with the most extensively installed wind – Västra Götalands län, Västerbottens län och Skåne län – accounted for more than 1 TWh each. According to statistics from 2013, the contribution to electricity consumption from wind power was 7 per cent, compared with 41 per cent from hydropower and 43 per cent from nuclear (Swedish Energy Agency, 2014, p. 6). Despite the growth in wind energy in recent years, much of the literature on Sweden and its implementation of wind power seems to focus either on the negative aspects of the slow and cumbersome wind power planning and permit process, or otherwise on the local opposition to wind turbines (cf. Bergek, 2010; Pettersson et al., 2010; Söderholm et al., 2005).

Writing on the influence of national wind power planning instruments in Sweden, Bergek notes the legal role that local municipal authorities have in land planning in identifying the areas that “are suitable for different types of activities as well as areas that need to be protected from exploitation since they are of high public value” (2010, p. 2359). Given this high level of responsibility in the planning of the use of land, the courts are also poised to pay attention to municipal planning in wind turbine permit decisions brought to the court of appeal (Söderholm et al, 2007). Vuorio has conducted a study on planning and outdoor recreation in the Swedish mountains which included a study on attitudes towards wind power (2003, pp. 134-135). It is interesting to note the scale between positive and negative attitudes towards wind power in

the mountains that correlates to a scale which ranges from the general view on wind power to a very concrete situation in which a group station is visibly salient to the respondents. The most positive attitudes were noted in the “general view of wind power in the mountains” and the most negative attitudes were noted in the example in which the respondents were informed that a group of 10-12 windmills would be visible from their residence. This is perhaps not a surprising result, but it clearly contrasts the inherent challenges of planning an infrastructure that is beneficial as an infrastructure – be it for telecommunications or renewable energy – with local impact in terms of the clear effect the physical constructions have on landscape aesthetics, as well as possible noise, lights and, at least arguably, electromagnetic radiation. It also points to the argument that perception is of relevance for the expressed attitudes and opinions.

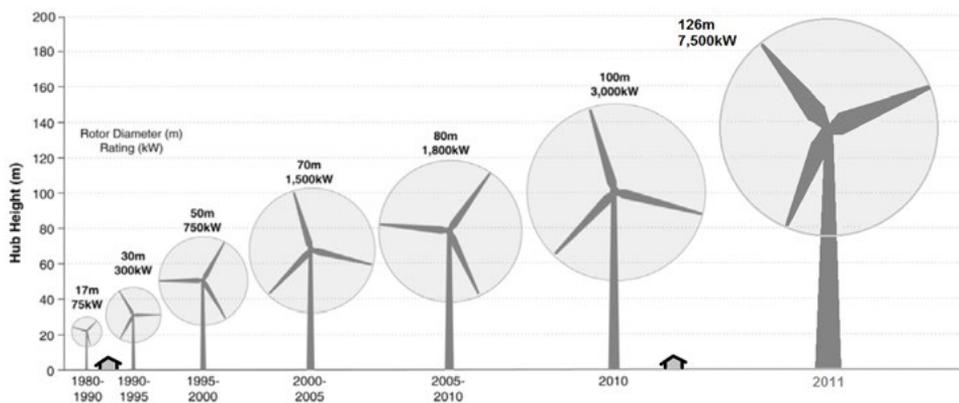


Figure 3: Development of sizes of wind turbines.⁹

Much literature has been written on local opposition to wind turbines and wind farms (Ek, 2005; Petrova 2013; Devine-Wright, 2005). This concerns a number of perspectives, such as:

1. Noise and shadows (Agterbosch et al., 2007; Devine-Wright, 2005; Strachan and Lal, 2004; Wolsink, 2000);
2. Decreased property values (Toke, 2005);
3. Detrimental effect on tourism (Vuorio, 2003; Strachan and Lal, 2004);
4. Environmental concerns (Agterbosch et al., 2007; Strachan and Lal, 2004; Toke et al., 2008); and
5. Visual and aesthetical concerns (Agterbosch et al., 2007; Devine-Wright, 2005; Johansson and Laike, 2007; Toke et al., 2008; Wolsink, 2000).

9 The image is made available under the Creative Commons CC0 1.0 Universal Public Domain Dedication.

Concerns for the sustainability of electricity production and the rising cost of current practices have seen countries around the world setting targets for renewable sources of energy. The European Council has implemented a directive for the promotion of the use of energy from renewable sources. This directive sets the target at a 20 per cent share of energy from renewable sources by 2020 for the European Union (EU) Community (European Parliament, 2009). Meeting such targets has seen many countries turn to wind power as an internationally important, sustainable energy alternative. As such, many countries around the world are seeking ways in which to promote wind power development. These developments range from adopting more straightforward permit handling legislation to providing incentive schemes for green energy providers. However, while wind power has become a component of official energy policy at the national level, it is well documented that it is often at the local level that wind power schemes meet the most resistance (Agterbosch et al., 2009; Bell et al., 2005; Gross, 2007; Pasqualetti, 2000; Wolsink, 2000; Parkhill, 2007).

The following review of literature aims to provide an outline of the current, international legal framework for wind power permit handling to determine how planning and environmental legislation provides a basis for the issuance and construction of wind farms. It concentrates on four EU member states, Denmark, Spain, Germany and Sweden, to compare how different legislative structures and policy goals have resulted in different outcomes when it comes to wind power development. This literature review also provides a perspective from beyond the EU by briefly looking at the legal framework for wind power permit handling in the United States (US), and it also addresses the dissatisfaction and resistance often faced at the local level.

4.1 INTERNATIONAL APPROACHES

At the European Council Summit in March 2007, the heads of state reached an agreement that the EU should adopt “a binding target of a 20 per cent share of renewable energy... consumption by 2020” (Council of the European Union, 2007). However, as acknowledged by Cowell and Strachan, “as with all such steps...the prospect of closer integration brings with it exacting questions about the coordination of domestic action among the member states” (2007, p. 285). The actual implementation of wind power is multifactorial and involves numerous laws, policies, economic schemes and support at the national and local level (Anker et al., 2009). This exists not only at the member state level but also at the EU level, with legislative instruments such as the European Landscape Convention posing questions on the development of wind farms (cf. Oles & Hammarlund, 2011).

In a hierarchic sense, the target goals for renewable energy are top-down and it is left to the local or regional level to implement these goals, which creates problems in the tiering between the levels in the Swedish wind power development as well (Larsson et al., 2014). This approach, while creating support at a general level, fails to filter down to the local level where wind turbines are either constructed or fail to gain permits. The literature tends to focus on the success of Denmark in bridging this top down approach and providing an effective system, where each decision from a government body is integrated to the next, penetrating all the way down to the local or municipal level and thus creating certainty in policy and influencing

success and support at both the national and local level (Agnolucci, 2007). With regards to an analysis of the successful implementation of renewable energy plants, Wolsink argues that success hinges on the socio-economic institutions that are “conditional to planning in two main domains – spatial planning and energy policy” (2007, p. 2693). In this sense, it is easy to see how Danish policy manages to tick off both categories in the process of wind power permit handling.

Exploring this facet of the interaction between the integration of wind power and the European Landscape Convention, Contesse (2011) acknowledges that additional costs arise in the case of master planning by regional or local authorities that must perform preliminary analyses of non-landscape aspects, such as wind energy potential in landscape planning. This is in order for member states to meet the requirement of the European Landscape Convention in recognising landscapes in law “as an essential component of people’s surroundings, an expression of the diversity of their share cultural and natural heritage, and a foundation of their identity” (Article 5a). While such additional steps may pose a burden on member states, they nevertheless must be met to ensure compliance with legislative instruments and directives at the EU level, in conjunction with domestic laws. Furthermore, within the EU, the domestic legal framework for issuing wind power permits varies from country to country. The literature suggests that Denmark, Germany and Spain are the leaders in propelling wind power forward within the EU Community and as such this literature review will focus on their legal frameworks for issuing wind power permits.

Denmark

The success of Danish wind power has been the focus of many articles (cf. Sperling et al., 2010; Möller, 2006) that often emphasise a long tradition of successful development and implementation of wind power technologies, in conjunction with a generally high rate of public support (Sperling, et al., 2010). In a comparative study focusing on England, Wales and Denmark, Loring identified that local public involvement in wind energy planning was an important variable for project success, factoring Denmark’s encouragement of local, cooperative ownership of such projects in the 70s and 80s as contributing to strong wind energy development in Denmark (2006, p. 2659). In addition to this, or perhaps as a result of its long history in Denmark where wind power turbines date back to the 1890s, one could argue that Denmark also has an effective legal process in place for wind power permit handling.

The establishment of new wind turbines in Denmark is almost always regulated within the framework of spatial planning, meaning that localisation issues are integrated in the planning system (Denmark’s Wind Turbine Owners’ Association, 2007). There is not an extensive amount of literature focusing exclusively on the legal process and its impact on the success of wind power in Denmark. However, a comparative study of Nordic countries by Pettersson et al. (2010, p. 3120) has identified two important characteristics of Danish legislation relating to wind power development: “rammestyning” and the “strive for” provisions. Rammestyning relates to the various plans extending from the national authorities through to the municipal authorities which are, in essence, vertically integrated. This is connected to the “strive for” provisions, meaning that the planning authorities strive to implement the plans or planning guidelines that have been adopted when exercising authority in accordance with the Danish Planning Act (Pettersson et al., 2010, p. 3120).

Spain

In 2005, Spain ranked as the second largest wind energy producer in the world and in 2014 it has been heralded as the only country where wind energy is the primary electricity source (Sustainable Business News, 2014). The purpose of the wind power movement in Spain seems to be based on a more economic perspective, with the head of the European Wind Energy Association, Corin Millais, proposing that environmental concern has not been the driving force behind wind power expansion (Millais, 2005). While it has transformed the countryside, with windmills now dotting historic landscapes such as the Camino de Santiago Christian pilgrimage route, Graber reflects that the income from wind farms is “literally [saving] some communities” in the poorer rural areas (2005). In a comparative study of Spain, India and China’s leading wind turbine manufacturers, Lewis (2007) identifies that Spain uses particularly aggressive policies to directly support Spanish wind turbine manufacturers, with several Spanish, autonomous, regional governments insisting on local assembly and manufacture of turbines and components before granting development concessions. Exploring the role of policy in the diffusion of wind power in Spain, Dinica (2008) likewise accounts the success of wind power to policies of stimulative investments through public-private partnerships.

Despite incentives at the national level, it is the local regions that grant authorisation for the siting of wind farms, and the administrative barriers and authorisation procedures have been argued to be a major obstacle for the deployment of wind energy (Blanco, 2008). In an analysis of the different administrative procedures for granting authorisation for the siting of wind farms, Inglesias et al. (2011) recognise the importance of an authorisation model that involves multi-criteria bidding procedures and provides a more objective and transparent authorisation procedure. They argue that greater cooperation is needed between the regions to “reduce investment costs and encourage wind energy deployment” (Inglesias et al., 2011, p. 4075).

Germany

According to Sahu et al. (2013, p. 351), Germany leads the European wind power market with 29.06 GW of installed wind power capacity in 2011. Focusing on the policy behind wind power in Germany, Szarka and Blühdorn (2006, p. 8) acknowledge the success of basing the policy framework on the concept of ecological modernisation, essentially “a reconciliation of technological, economic and environmental objectives to achieve a sustainable energy supply” of which the feed-in tariff proved an experimental success. Once again, the success of the feed-in tariff for the development and deployment of wind energy in Germany seems to be the focus of much of the literature (cf. Drechsler et al., 2012; Ohl and Eichhorn, 2010; Ragwitz et al., 2012). While economic incentives prove important to successful development of wind energy, there are other factors that make conditions in Germany favourable for developers, including a framework in which planning tools operate in union with economic schemes (Jobert et al., 2007). For example, the law in Germany dictates that local authorities can be forced to accept wind turbines on their territory.

United States

The US is a leader in wind power as a source of alternative energy. At the national level, it has set a target for renewable energy to make up 20 per cent of all energy consumption by 2020 (Obama, 2013). It is suspected that wind energy will form a large bulk of this renewable

energy source with wind energy already generating up to six per cent of the nation's electricity (Natural Resources Defense Council, 2011). As with Sweden, opposition against wind power within the US has been the focus of much of the literature, with visual and landscape concerns colouring negative discourse (Petrova, 2013). Notably, while wind power is framed within an environmental dialogue due to its non-polluting properties, it is also the environmental legal framework that is often used to prevent the construction of wind power. As Dinnell and Russ argue (2007, p. 538), environmental statutes are “formidable foes” to development projects such as wind power, despite its environmental benefits. Another barrier to wind power is the fact that within the US, wind farm regulation varies from state to state, with some states having no regulation at all and others leaving wind farm regulation to local governments through municipal or county zoning boards. As such, the focus of academic writing seems to be on the planning and regulation of large wind farms in particular states (Rosenberg, 2008; Hansen, 2005). Since the US does not have any centralised regulation or authority designed to address wind energy, potential projects are often left to “traipse through a mire of local, state, and federal regulations” (Bova, 2013, p. 572). Perhaps due to this de-centralised framework, there is little information on the regulation of backyard wind turbine systems and local government involvement. However, regulatory models have been suggested to address this gap in the local legal framework, one suggestion being a model that allows for small wind turbines for accessory use in all residential zoning districts with tight regulations surrounding height, security, noise and appearance (Merriam, 2009, p. 309).

5. Swedish 3G infrastructure

Two issues relating to 3G infrastructure development reported in the academic literature concerned health – for example, links to electromagnetic radiation – and aesthetics or visual amenity. The literature is often country specific, dealing, for example, with the UK (Allmendinger, 2007; Drake, 2006; Walton, 2002), including Scotland (Law and McNeish, 2007), Sweden (Larsson, 2008a; 2013; Palm & Wihlborg, 2007) and other countries. Palm and Wihlborg (2007) focus on the interplay between implementation and design of technological innovations by analysing broadband and 3G infrastructure at the local level in Sweden. The changing regulation is studied within the UK context (Walton, 2002), and it is argued that the resulting, differentiated approach to mobile phone mast control represents an early and important departure from what constituted a unified planning system within the United Kingdom. The licentiate thesis preceding this particular study (Larsson, 2008a) has summed up much of my previous research on Swedish 3G development. There, I studied the handling of sustainable development in the 3G infrastructure development in Sweden by formulating indicators found in the 3G case that demonstrate the handling, or non-handling, of different aspects relevant to sustainable development. The case of 3G development in Sweden shows the conflict between authoritative, scientific knowledge and local knowledge, which has been addressed in general by writers such as Feyerabend (1987) and Wynne (1996), and also addressed in this specific case by Larsson (2008a) and Larsson and Emmelin (2009). I return to the question of knowledge-types and rationalities in the analytic chapter below.

5.1 FEAR OF RADIATION

Electromagnetic radiation has been a widely debated issue during the infrastructure roll-out in Sweden (Larsson, 2008a, pp. 80–88; Soneryd, 2007) as well as in several other countries such as the UK (Allmendinger, 2007; Burgess, 2004; Drake, 2006; 2011; Stilgoe, 2007) and Denmark (Kristiansen et al., 2009), although it has been debated differently in different countries (Burgess, 2002). The magnitude of the issue was not foreseen prior to the roll-out. There has been public debate, the media have been very much involved, non-profit organisations have been formed, websites established and numerous opinion articles have been produced in protest against 3G development in Sweden. Stilgoe (2007) analyses mobile phone health risks as an example of the “public understanding of science” through an explanation based around the coproduction of scientific and social order. Drake (2006) conducts an in-depth study into the attitudes and beliefs of one local protest.

The electromagnetic radiation has been the subject of many legal processes in Swedish 3G development, especially in regards to mast building permits, as shown in Article I (Larsson, 2014) below. The questions have concerned whether or not the radiation is hazardous for residents living nearby, and in line with this, whether this worry or fear of radiation is a matter that can be acknowledged legally and, for instance, constitute reason to deny a building permit. For example, the legal decisions refer to the responsible governmental authority, the Radiation Protection Authority, which in June 2002 appointed an international expert group (Independent Expert Group on Electromagnetic Fields) to follow the ongoing scientific research on electromagnetic fields and its effects on human health. On 18 September 2003, the group presented its first report.¹⁰ In short, the experts stated that no comprehensive results in recent years provide any reasons to amend the risk estimates of electromagnetic radiation. In an extensive and comparative analysis of the precautionary principle in practice Zander (2010) also has studied the Swedish context and included the specific case of 3G development. He argues that due to the fact that the national radiation protection authority concludes that the radiation is not hazardous, the precautionary principle is side-lined in municipal planning.

5.2 BACKGROUND ON THE 3G DEVELOPMENT

I shall, here, merely provide a brief introduction to the 3G development, since it can be found in the articles below, especially Article II (Larsson, 2008b). The infrastructure for the third generation of mobile telephony in Sweden formally began in late 2000 as the licence allocation process, the so called beauty contest, came to its conclusion. Four operators were given licenses to build the infrastructure. Following from the promises the licence winning applicants had made in order to receive the licences, the operators were obliged to build partly competing systems within three years. The licence conditions stated that 8,860,000 persons, at that time meaning more than 99.98 per cent of the population, were to be covered by 31 December 2003. The legal framework allows the responsible authorities, the Post and Telecommunications Agency, the PTA, to sanction operators who have not fulfilled their licence conditions with a large fine. The coverage by the end of the period, however, was found lacking by between 34 and 26 per cent of the 8,860,000 persons, with only three remaining operators still participating in the development. It was not until 1 December 2006, roughly three years after the initial deadline for coverage reach, that the first operator reported to the PTA that their common net had reached the promised coverage, followed by the remaining two operators seven months later.

The operators blamed a slow municipal permit handling for the delay, a reason that “could not have been foreseen”, which would exempt them from the PTA sanctions. The operator actions, the appeal of PTA decisions and the application for changes in licence conditions during the roll out postponed the formal deadline. This is compared in Article II to the PTA handling of the situation, as well as national and regional coverage data at various points in time, in order to see how legitimate the reasons stated by the operators were, with regards to the claim that the municipal permit handling processes unforeseeably slowed down

¹⁰ Recent research on mobile telephony and cancer and other selected biological effects: First annual report from SSI's independent expert group on electromagnetic fields, Dec 2003. www.ssi.se/english/EMF_exp_Eng_2003.pdf

the roll out (cf. Larsson, 2008a). The licentiate thesis of 2008 shows that a slow municipal permit process cannot explain the lack of coverage by the end of the roll out period in some areas of Sweden. The “regional balance” and social cohesion aspects tied to the extreme coverage were not implemented as designed. The market logic had been formally controlled, but had been applied in practice. The PTA did not sanction any operators, and operators not given a licence did not sue the PTA.

3G in Europe

In February 1995, following the workshop “Towards 3rd-Generation Mobile Communications Systems” held in Brussels, the European Commission set up the UMTS Task Force, with the mission to propose a Universal Mobile Telecommunications system, UMTS, strategy for Europe (The UMTS Task Force report 1996). UMTS is the 3G standard of choice in Europe. The UMTS Task Force was a high level advisory group consisting of twenty recognised persons from network operators, manufacturers and European regulatory authorities, appointed by the European Commission. The group submitted a final report on 1 March 1996, which included a preliminary program for developing and introducing UMTS by 2002. In December 1998, the European Parliament and the Council came to a decision (Nr 128/1999/EG) whereby all the European Union member states were to enable a coordinated and gradual introduction of 3G services in their respective countries, starting no later than 1 January 2002 (Lindmark et al., 2004, p. 315). A directive by the European Parliament and the Council (97/13/EG, 10 April 1997) states that the member states shall grant 3G licenses on grounds that should be objective, non-discriminatory, specified, transparent and proportional. In article 10, section 3, the directive emphasises competition and benefit to the consumers, with regards to how the selection criteria for the licences should be organised.

In the decision of the European parliament and the Council of 14 December 1998 (nr 128/1999/EG), it is clear that the purpose is to facilitate a fast and coordinated construction of compatible UMTS-nets and services within the community. In 1998, the European Commission stipulated that member states reserve at least one 3G license. It was left to the member states to decide on the licensing terms. In practice, two main licensing formats were used: The auction and the “beauty contest.” In the auction system, the licenses were given to the highest bidders (which sometimes turned out to be sold at the minimum price, since participatory parties were in some cases fewer than the available licenses). In the “beauty contest”, the contestants could be assigned a license based on qualitative criteria. Finland, Ireland, and Portugal also chose the so-called beauty contest as a means to allocate the 3G licences. France, Spain and Norway had a form of beauty contest that has been described as a sale with a set price. Seven countries chose to allocate the licences through auctions (Hultkrantz & Nilsson 2001, p. 52).

Legal changes prior to the infrastructure roll-out

Prior to the distribution of the licences, three main changes were made in the Telecommunications Act (SFS 1993:597) (replaced by the Electronic Communications Act on 25 July 2003). *The first change*, undertaken by Parliament on 8 December 1999, meant that mobile operators with their own infrastructure were obliged to offer net capacity to companies without an infrastructure of their own. The purpose was to make it possible for operators to offer mobile services to consumers via networks owned by other operators. Good accessibility and regional

balance were stressed as part of the political telecom goals (Prop. 1999/2000:1, utg. omr. 22, p. 92). *The second change*, decided on 14 April 2000, concerned the operators' obligations to allow other service providers to use the infrastructure. The competitive aspects were stressed, stating the importance of allowing market conditions to rule (Prop. 1999/2000:57, p. 15 ff.). A minor change was also made at the same time to make it possible to hold a so-called beauty contest as a method for net capacity allocation. *The third change* of the Telecommunications Act was decided by Parliament on 14 June 2000 and concerned the fact that operators that owned their own network for mobile services were obliged to supply national roaming for other operators within their own network. National roaming can be of much assistance for coverage for an operator that is to establish itself at a later stage than the already existing operators. Thus, once again, competition aspects were stressed (Prop. 1999/2000:100, p. 129). The changes were in force by 1 July 2000.

Utility easement

The amendments of the Utility Easement Act (1973:1144) to include the siting of 3G masts marks an event during the roll-out that is of interest both concerning the tension between public and private interests and the perception of 3G as a joined infrastructure, as outlined in Article I (Larsson, 2014, pp. 172-173) and the licentiate thesis (Larsson, 2008a, pp. 49-50, 79, 158). The law was amended during the infrastructure roll-out to explicitly include 3G masts from 1 August 2004 in order to "facilitate the roll-out" (Prop. 2003/04:136, pp. 9-10). Utility easement signifies the utilities owners' right to use property owned by others, for example, to set up power lines or communication wires of *public interest*.

One of the reasons for changing the law was that all of the operators had claimed that difficulties in attaining building permits had slowed down the roll-out (Prop. 2003/04:136, pp. 9-10). The possibility of a utility easement decision for an operator who wished to erect a mast on another person's property strengthened the operator's position in contract negotiations with the landowner. The amendment can arguably also be seen as emphasising the notion of the 3G roll-out as a joined infrastructure as opposed to a dispersed set of singular masts.

5.3 THE LICENCE CONDITIONS

Applications were assessed by an initial consideration in which financial capacity, technical and commercial feasibility and access to appropriate expertise and experience were investigated. At the second stage of the review, the operators were awarded points according to the extent and speed at which they offered coverage by the end of 2003, 2006 and 2009 (cf. Article II, Larsson, 2008b). Coverage was defined on the basis of three factors: Proportion of population, territorial coverage and distribution throughout Sweden. The applicant had to promise to cover 30 per cent of the populated areas of Sweden with their own coverage, and up to 70 per cent collectively.

The 30 per cent self coverage obligation was a prerequisite set up by the PTA to ensure competition amongst the operators (PTA 22 Mar 2001, section 3.1). The licence conditions in themselves did not contain any sanctions for the operators should they not fulfil the requirements. Instead, the sanctions were expressed through a more general description in the legal provision controlling the PTA. According to chapter 7 section 5 of the Electronic Communications Act (2003:390), there was an option for the PTA to issue "such orders and

prohibitions as are necessary for a rectification to take place” when it came to operators not fulfilling the conditions bound to the 3G licence. This is of importance especially since the operators did not complete the coverage within the time limits of the licence conditions, and given that one of the operators withdrew its participation in the construction. The most important licence condition concerned the fact that the licence holders by 1 March 2004 at the latest should verify that 8,860,000 persons in Sweden were covered by 31 December 2003 (PTA 22 Mar 2001, section 1.1.2 and 1.3.1). In regards to the starting point of a functional network, the licence holders were to make net capacity available by 1 January 2002 (PTA 22 Mar 2001, section 2). Another important aspect was that the licence conditions were in force until 31 March 2006. After this date they could be reviewed, which they also were.

6. Results and analysis

Since the purpose here is to better understand and explain the role of law in planning and environmental management, responses to the research questions will be controlled by these preconditions. The following chapter answers the research questions before elaborating on this purpose, in relation to the contribution provided by the thesis. Law is explicitly present in RQ1 from a structural point of view and deals with levels of governance, while RQ2 from an empirical and alternative (to the dogmatic perspective) point of view deals with situations in which siting and permit conflicts go to court. In the third RQ, the emphasis on “efficiency” is in relation to law in order to analyse it as an explanatory factor for some of the challenges in the debate surrounding “efficiency” in the implementation of these types of infrastructures. The responses to the research questions are closely connected to the theoretical concepts and the model elaborated on in chapter 3 above. Given that this is a compilation thesis, there are a fair amount of references to where the data and results can be found in the articles below, following each RQ. Subsequently, the results are recollected and further developed within the scope of the thesis.

6.1 LEVELS

The issues relating to levels of governance specifically relate to the first research question outlined in chapter 1.2 above. The key interest lies in how to adequately reconcile the systemic and national with the fragmented and local, which can mean both how to establish the national perspective (energy type, telecom system) as relevant at the municipal level as well as how to include local values and individual visions into the national policies. The research question, however, has deliberately more of a descriptive approach in order to build support for the more normative statements that follow in the suggestions below for the planning legislation and permit system.

- RQ1: What is the role and the practical implications of law for the tiering of the national to local in the planning and implementation of the cases studied?

Chapter 6.1 answers this question by referencing and elaborating on the most relevant sections of the articles included in the thesis. When it comes to the hierarchical issues in the studied cases, the question is explicitly dealt with in Article IV regarding Swedish wind power development, and more secondarily in the combination of Article II (national level game of licence conditions) and Article I (public participation and appeal of building permits) in 3G

development. I have also discussed the tiering issues in the licentiate thesis on 3G development (Larsson, 2008a) and elsewhere (Larsson, 2009b; 2011). Chapter 6.1 recollects the most important findings and attempts to combine them in order to find more general insights in infrastructure planning and implementation with regards to law and levels of governance.

The bottom-up dependency of dispersed national infrastructure

First of all, the so-called *riksintresse*, which roughly translates to “area of national interest”, is an instrument at the governmental level – to a disputed degree – to steer land use that otherwise largely falls under the local planning monopoly. The national interest areas have not been a prominent part of the analysis in the articles of this thesis, but the institution represents a somewhat contested instrument for governmental steering of local level planning, and should therefore be mentioned here. They address areas and interest that are of particular importance for preservation, and the national authorities are responsible for pointing out the national areas of interest in line with their respective subject areas. For example, the Swedish Energy Agency is responsible for selecting area of national interest for wind power. Designated national interest areas shall, according to chapter 3 of the Planning and Building Act (2010:900), be recognised and addressed in the municipal comprehensive plan. In December 2013, there were 310 areas of national interest for wind power, with 281 areas on land and 29 at sea and in lakes. The total area is 7,868 km² and accounts for just over 1.5 per cent of the country’s land area, including Swedish waters.¹¹

The problem is that there are a number of different types of area of national interest and combined they cover a significant part of the surface of Sweden, while also overlapping each other (Cars et al., 2013, p. 69). In an assessment of how the municipal authorities implement and handle the designated areas of national interest, it is argued that they are so vague, poorly described or out of date that they cannot function as support for planning (SKL, 2011, p. 2). Critics claim that the system of designating area of national interest does not work (Cars et al., 2013; SKL, 2011; cf. Petersson Forsberg, 2012, pp. 98-100).

Wind power development represents an inherent conflict between the national and local level in which the local decisions will cumulatively determine whether a national political objective can be reached or not. This begs the crucial question of how to balance management of spatial planning in which one key lies in the legitimacy of centrally governed developments that are dependent on local implementation. The bottom-up dependency of this particular type of infrastructural implementation is emphasised in a study on local involvement in wind power development in North Rhine-Westphalia, where Breukers (2010) discusses the importance of understanding the perspective of social acceptance in order to be able to properly assess the conditions for implementation:

Implementation achievements cannot be explained with reference to technological, economic, or climatological conditions only. These conditions are no indication of the capacity that will be realised, for that depends on the motivation to invest in the technology, as well as on social acceptance of wind projects (Breukers, 2010, p. 38).

11 According to the Swedish Energy Agency, <http://www.energimyndigheten.se/Om-oss/Var-verksamhet/Framjande-av-vindkraft/Riksintresse-vindbruk/> [last visited 4 August 2014].

Hindmarsh and Matthews (2008, p. 218) state that “the key problem for wind energy expansion is socio-political. Wind is confronted by a maze of inconsistent state, federal, and local government policy positions and planning approval processes that also direct community consultation processes.” Article IV below (Larsson et al., 2014) to a large extent deals with the so-called municipal veto right in Swedish wind power regulation; that is, that the municipality in which a planned wind power turbine is located has to approve the project when it is applied for at the regional county council. This right can be seen as a compromise in lawmaking in the major revision of 2009. Originally, the municipalities were not intended to have this influence in the regional environmental assessment, but it was added during the five months following the preparatory bill to the final legal proposal. The results indicate that various parties perceive the municipal veto differently. Interestingly enough, as indicated in the consultation documentation, concerned citizens tend to want municipalities to assume a greater role in the process, even when the process is mainly located at the regional level. The wind-power companies tend to regard the veto as an instrument that increases uncertainty and makes it harder to foresee the outcome of the permit processes. Wind power, as with many national policies that have clear local environmental and spatial implications when implemented, becomes in essence a different issue at the various levels. People may agree upon the need for renewable energy as a general, abstract goal, but not necessarily that the actual wind turbines should affect their local landscape.

If we compare to the large scale telecom infrastructure of 3G, it likely means a balancing of partly conflicting goals at the national central level. In the Swedish 3G development, the competitive aspects were centrally emphasised at the national level alongside regional development, in a decision based on a strong belief in the technology and its benefits for both social cohesion and growth. The environmental impact of four, partly differing, physical infrastructures was never assessed, however, which entails that the sustainable development management in the 3G decision is distorted by the fact that the ecological dimension remained unhandled at a central level, and was allocated downward to be handled in local building permit assessments, as well as in the regional “natural impact” assessment of the 12:6 consultations. This means that the vertical dimension remains un-tiered, since the extreme coverage requirements and rapid roll out speed pressured the municipal handling system, and to some extent undermined the local planning monopoly. In Article II (Larsson, 2008a), we see that coverage by the end of the first licence period (31 December 2003) was significantly lower than the promised coverage, at between 66 per cent and 74 per cent of the promised 8,860,000 population coverage, with only three of four remaining operators continuing in the development of the infrastructure. It would take three to four more years for the operators to reach the promised coverage. The municipal permit processing was blamed for the delay, a reason that remarkably was considered as “could not have been foreseen”, and which helped the operators avoid sanctions from the responsible agency (Article II, Larsson, 2008a; 2008b). A perhaps surprising feature was that environmental aspects were not handled at the national level but assessed locally in the building permit process, as well as in the regional 12:6 consultations within the county council boards (Emmelin & Söderblom, 2002). This is why the municipal permit process holds many of the keys regarding environmental management and planning, and why the design has been criticised for its lack of comprehensive assessment (Emmelin and Lerman, 2004, pp. 78-79; Larsson, 2008a, pp. 128-131).

One point, from the perspective of infrastructure planning, would be that different types of infrastructures might cause differences in what constitutes the most reasonable method of organisation from a developmental and implementational perspective. Wind power and mobile infrastructure are not physically and spatially linked or as rigid as is transport infrastructure. Wind turbines are dependent on being sited where wind conditions are adequate, while 3G infrastructure needs to be more rigidly and evenly distributed, albeit with a focus on where the services are most needed.

“About” or “for” wind power development?

The Environment Process Investigation’s report (for legal revision in the wind permit process) underscores the importance of a comprehensive plan, and during 2007 and 2008 it was possible for municipalities to apply for planning grants in order to improve these plans. My report from 2009 describes how several experts bear witness to many shortcomings in the current status of the municipal comprehensive plans (Larsson, 2009b). The experts stated that the comprehensive plan instrument in practice failed to live up to its expectations – at least at that point in time. Whether planning grants for comprehensive plans for wind power, for instance, lead to increased development of wind power in the country’s municipalities or solely to “clarify the preconditions”, as the regulation stipulates (2007:160), is up for debate. It is claimed that the comprehensive plan, in practice, generally has not attained the importance that was initially intended in The Planning and Building Act, which is particularly visible in the fact that many municipalities have not updated their comprehensive plan for far too long (Emmelin, in press; cf. Larsson, 2009b, and the interviews presented in the report). Seen from a Foucauldian power perspective, when it comes to the issue of who governs over land and environment, one might raise the question of whether increased state funds for such a targeted development constitute a way of circumventing the planning monopoly. The impression, then, is that it (too) creates political pressure on the municipalities to abide by national policy. The intent is, of course, perceived as necessary: to increase wind use and decrease, for example, nuclear power dependency, but it simultaneously highlights the *who*-question, the issue of who should decide over land and environment planning. Should the development consist of a dependence on local decision-making and planning, as tradition has emphasised, or is it preferably forged through centralised expert decision? In the background looms a classic legal sociological dilemma pertaining to legitimacy and potential problems in the wake of top-down management.

Summing up results on RQ1 from papers and licentiate thesis

- The (national and local) levels interact or communicate poorly. The national decisions, irrespective of the normative viewpoint of who should control the landscape planning, could be better informed of the preconditions at the local level that factually define the outcome of the implementation.
- The municipal 3G mast permit processing was blamed for the delay of the infrastructure development for being a reason that was claimed “could not have been foreseen.” This played an essential role in allowing the operators to avoid sanctions from the responsible national agency, the PTA.

- Regarding the 3G infrastructure, in many parts of Sweden it is highly unlikely that municipal decision-making was the cause of delays in the process. The applications arrived late and were often of low quality or incomplete.
- In a multi-levelled system, the local decisions will cumulatively determine to what extent national policy-making objectives can be reached or not. Local decision-making, however, tends not to be assessed when national policy is drafted.

6.2 KNOWLEDGE-TYPES AND PARTICIPATION

The knowledge-types and rationalities in legally controlled decision-making are dealt with primarily in Article I, with regards to both the appeals of building permits and fears of electromagnetic radiation in 3G development, and Article III, on wind power permit appeal and the role of the municipality in the governmental strive for efficiency in national implementation. The thesis is particularly attentive to understanding the role of law in infrastructure planning, which here includes how law functions as a filter for what values, experiences and types of knowledge (or *knowledges*, in plural, as in Rydin, 2007) that prevail in shaping the grounds for decisions. The explicit research question was accounted for in chapter 1.2 as:

- RQ2: How does juridification of siting and permit conflicts determine what type of knowledge that can legitimately affect the decision-making and thereby set conditions for participation?

While juridification and legitimacy are somewhat commonplace as analytical concepts in socio-legal research, participation and knowledge-types are emerging more often in planning relevant studies. The thesis has studied these aspects in two legal forms, where one constitutes the formative and national perspective on *the legislature* and concerns how law is revised, developed and implemented, and the other constitutes *the judiciary* system that concerns – primarily – how the courts rule in the appealed permit cases. How *public participation* is handled in decision-making and planning is also of clear relevance, which also links to expert and lay knowledge and the representation of these types in formal decision-making. A perspective brought up in literature on the aspects of the control of who may appeal, for what reason and so on, which can be seen as an expression of administrative power, is also relevant here. For example, a common occurrence among private individuals in both the 3G as well as the wind power case is to object to more than just single mast and turbine establishments. A broad take on wind power development, at least, is supported by Ellis et al. (2007, p. 521), who contends that “the key issues facing wind farm development are not ‘objective’ policy blockages, but clashes of values related to inter alia, governance, technology, landscape aesthetics, issues of participation and power inequalities.”

Ellis et al. (2007, p. 535) further argue that previous research in wind power planning has focused almost exclusively on the objectors: “the way in which support is constructed has been rather neglected.” Their study provides an insightful account of the divergent views of

both the objectors and supporters and highlights the numerous, and often conflicting beliefs, experiences or values which influence and shape individuals' attitudes towards particular wind power developments, and to wind power in general. This is also in line with the notion of steering towards "acceptance." This is evident not least in, for example, Wizelius' (2007) procedural advice which stresses the importance of not having any *formal* meetings with municipalities at an early stage in a wind power development process, because this would risk leaking information of such a development and thereby contribute to a negative attitude from the supposedly excluded and alienated local population. This perspective is also present in Klintman and Waldo's advice, suggesting that an establishment preferably "should not be presented as a yes/no question (and neither as an already settled yes-issue). It is better to present a couple of alternatives that the public and other parties may respond to and perhaps elaborate" (2008, p. 49). Here, the researchers offer insights on methods to encourage concerned people toward a more positive stance on wind power development, presented as a technique for how to frame a particular siting.

The legislature and "municipal values"

From a legal perspective, it is of interest to see what rationalities or types of knowledge come to be represented in the legal revisionary process. In the Environment Process Investigation's preparatory legal work from 2008, there is a clear centralistic notion concerning who should set the agenda for the Swedish wind power development. They see problems with the fact that "municipal values" may be affecting the implementation of wind power:

...there is a risk that an extensive use of the detailed development plan instrument will mean that wind power development in Sweden will depend on different municipal values of what is regarded as appropriate in the particular municipality and that wind power will not be developed in the areas that from an objective perspective are seen as the most suitable (SOU 2008:86 p. 229).

This succinctly expresses the paradigmatic conflict between a central policy based on calculating rationality and the local, political power over the landscape (cf. chapter 2.4). The proposal that laid the ground for the following legal revisions reveals a quite centralistic and expert-based perspective on how the development of wind power should be handled. The "objective perspective", for example, does not include opinions, political stances or any participatory values, but solely wind measurement. This means that the discussions concerning efficiency in the planning and permit systems seem to be based mainly in a perception of local planning processes and the right to appeal permit decisions as technical obstacles to the implementation of a national development – be it reaching politically set goals for wind power or administratively determined modes of coverage for mobile telephony.

The Environmental Process Investigation expresses its stance in this paradigmatic conflict extremely distinctly in claiming that the municipalities' involvement in the licensing process is problematic within the context of wind power development, as quoted above. The approach of the calculative environmentalist paradigm expresses that "municipal evaluations" risk being an obstacle to wind power development at the "objectively perceived" most favourable sites. An inherent problem with such policy goals is that their emergence and origins do not lie in an assessment of what can reasonably be achieved within the framework

of a planning system that extends deep into the local context. The starting point is not to first test the realism of an objective based in the system's preconditions and its principles as much as for the processes to remain legally secure. Problems such as the abovementioned arise in what planners may call tiering problems, i.e., the entirety is not level-coherent, and the parts do not fit together. A decision is made at an overall national level that the authorities and the public are then left to sort out as best they can at a local level. From that perspective, top-down requests may easily arise for local and regional processes to, at least, not stand in the way of, or constitute any obstacle to, the objectives that have been decided nationally. The Swedish 3G expansion is a good example of this. Similar developments have been noted regarding wind power in Great Britain where governmental and industrial goals for solving the "planning problem" have emerged, aided by strengthened national control (Cowell, 2007).

Public participation

From a relatively straightforward perspective of whose knowledge, rather than what knowledge, various aspects of how public participation is handled is of interest. In Article I (Larsson, 2014), I show how different types of knowledge are perceived as legitimate at different levels in the planning system, regarding the Swedish 3G development.

The right to appeal is one of the most important means for taking part and having a say in both cases studied for this thesis. It also serves as a protective mechanism for individual rights from overly far-reaching governmental expropriation in the name of public interest. This right to appeal is tied to the "concerned party" to the actual mast or wind turbine permit process. This rather fundamental right risks being eroded if appeals never change the outcomes of the permit process. This has been called a "token participation" (Evans-Cowley & Hollander, 2010). I further address this in Article I, regarding 3G mast permits and appeals from concerned people, in relation to the governing administrations:

Are they, to use the title of the Conrad et al. (2011) article, 'Hearing but not listening'? In that case it risks looking like a right, without functioning as one, and the already taken decision to roll out infrastructure for an extreme mobile coverage may end up in a top-down information strategy aiming at only convincing the public that the decision is for the best—as a 'token participation' (Article I, Larsson, 2014, p. 176).

Bell et al. (2005, p. 463) have noted; "[t]he structure of the planning system may encourage 'oppositional' participation but planning policy and government support for wind energy may make successful opposition increasingly difficult." The question of public participation raises the efficiency dilemma once again in the sense that it asks what type of planning we prefer. A communicative, participatory approach may be time consuming from an efficiency perspective, but it may also lead to consensus and "good planning" from an efficiency perspective.

The judiciary: Courts and the selection of knowledge

The radiation issue in 3G development is particularly lucid from the perspective of what constitutes knowledge and how courts distinguish between expert knowledge and lay opinion. The centralised decision of how radiation should be taken into account in 3G infrastructure development is instrumentally rationalistic and calculating, as concluded in Article I:

From this perspective the issue of whether or not the public fears the radiation is irrelevant. From this perspective the public should not fear the radiation, since expert judgment claims that it is not hazardous (Article I, Larsson, 2014, p. 177).

Questions of who should decide and based on which knowledge are closely related to issues of legitimacy. The investigation included the issue of controversial factors in the license and appeals processes, and parallels to 3G development can be drawn advantageously here. At the same time, one might question the legally drawn boundaries and how the affected individuals perceive these. The relation between that which disturbs and worries the public and scientific perceptions of the problem is interesting. In the case of 3G, we have the example of electromagnetic radiation which many people expressed concerned for and perceived as a potential hazard. This also lay at the root of relatively many appeals filed against building permits (see Larsson 2008, pp. 80-87, 143-147, Larsson, 2009b). Noise pollution from wind power plants is probably less of an issue from a scientific point of view than from the complainants', and there are therefore some similarities to 3G. None of the respondents bring up the issue of infrasound from wind power as a matter of any particular controversy. Very few legal cases in higher instances mention infrasound in their assessments.

Aitken (2009) analyses the scope for non-experts to influence decision-making, including how the planning process structures relations between "lay" and "expert" roles. Wynne (1992) demonstrates the value of local lay knowledge and expertise, which according to Aitken (2009, p. 50) typically is given a marginal role in decision-making in scientific or technical issues:

It is ... interesting to consider the role of public involvement in planning processes for wind power developments. In particular it is worth questioning the role played by lay knowledge in policy decisions. Planning policy statements and guidelines typically highlight the important contribution of the public and the need to reflect public interests. However, this paper demonstrates that planning policy limits the contribution of the public in decision-making and therefore the role that lay knowledge can play (Aitken, 2009, p. 54).

Soneryd (2007, p. 4), in a study on public deliberations in Swedish 3G development, argues that "[t]he boundaries between 'uncertain' and reliable knowledge are drawn in negotiations that take place in hybrid science-policy "communities." Furthermore, my analysis (Article I, Larsson, 2014) of the sample of 248 building permit processes in Blekinge on 3G masts suggests that even if there were tendencies towards a more deliberative approach at a local level that also included fears of electromagnetic radiation, the "juridification" of a permit conflict that emerged when a permit was given and appealed meant that an appeal hardly ever led to a permit being revoked, irrespective of the reason. Of the 37 appeals raised by neighbours or other non-operators, only one finally led to a permit being denied (Larsson, 2014, p. 174).

These [deliberative] features fade, however, as the appeals reach the higher courts, and the ‘black box’ of law closes in on the decision making and expert knowledge takes over as the more heavily weighted knowledge (Article I, Larsson, 2014, p. 178).

Article III, in general, deals with the horizontal axis of the model – the knowledge-types and rationalities at play in wind power development in Sweden, with particular focus on the legal side. The wind power case displays a number of interesting features along the axis of calculative and communicative rationalities. As mentioned above, the common complaints and objections are related to noise, decreased property values, effects on tourism, environmental concerns for example regarding birds and bats, but also visual and aesthetical concerns (Agterbosch et al., 2007; Strachan and Lal, 2004; Toke, 2005; Wolsink, 2000). Common among the analysed cases from southern Sweden was the concern for noise, various fears, concerning for example the aesthetic effects of an erected wind turbine or plant on the area, and also for property values.

Noise, as discussed in the introduction to this thesis, upsets many people. And the issue of noise is particularly interesting here, because the court cases reveal a constant battle surrounding threshold values, what they mean, to what extent they constitute guidelines or absolute rules, who has assessed the expected noise levels for the particular turbine that is to be erected and even how the models for measurement are constructed, as in one case in Tomelilla (M3665-10, LEC 26 November, 2011) or another case from Linderödsåsen in Kristianstad, where the resident plaintiffs in the area used a research report from Aalborg University to support their claims on the unreliability of noise measurements (M 1492-11, LEC 30 January 2012). The expert judge in the Land and Environment Court of Appeals (LECA), i.e. the “supreme court” of these types of cases, raised objections to how people, municipalities and even lower courts exaggerate the importance of drawing exact borders in terms of decibel levels, and authoritarian definitions of what level should govern. The LECA judge claimed the assessment to be much broader than such a narrow and singular attribute allowed for, where the noise issue was only one of several aspects to take into account. Interestingly, however, irrespective of this dogmatically holistic perspective – which by legal standards is correct, since the highest courts set precedential standards on a number of issues – from a wider empirical perspective, the issue nevertheless remains present; people, companies, municipalities and lower courts, in practice, continue to handle the issue of noise as a sort of scientific threshold value.

People’s perception of what seems relevant is by no means necessarily mirrored in what the court finds to be of relevance for its decision-making on permits. For example, on the issues of property values and how property owners feared value would decrease if wind power turbines were erected, often an anxiety emerges that can be seen in appeal cases as well as in the consultation documentation from the environmental examinations by the county councils. The expert judge of the Land and Environment Court (LEC), which is the first appeal court, expressed bluntly, following the decision in the county council that “we do not take that issue into account.”

The role of birds and bats, particularly nesting sites for raptors, indicates a strong argument in opposition to turbine permits. The LEC expert judge expresses this as “eagle owls, bats and eagles are very much taken into account.” This is seen, for example, in the debate of to what extent a wind turbine establishment in Hallabjär, Kristianstad, would be inappropriate due to the presence of a “very rare bat” – *Barbastella Barbastellus* (Case M 2687-12, LEC 18 December 2012). Another example of strategic formation of argumentation can be exemplified by the Linderödsåsen case mentioned above:

The golden eagle is probably not nesting in the area yet, but the nearest known breeding site is only a few kilometers away and a new establishment of territory is to be expected if the area remains undisturbed (M 1492-11, LEC 30 January 2012).

Or, as argued for by plaintiffs in a case from Helsingborg: “[t]he golden eagle and the eagle owl is about to be established in the area” (Case M 1180-11, LEC 1 March 2012).

Appeal, control and power

Interestingly enough, not least from a socio-legal perspective, is Aitken’s et al. (2007) suggestion that the planning appeals process, through various means, serves an implicit role in controlling democratic processes and can be taken to represent an exercise in “social control” by steering how, and according to what standards, citizens may engage and participate. Social control is also the terminology used by Ellickson, which has influenced many studies on behaviour and normativity (cf., Svensson, 2013; Svensson & Larsson, 2012). For example, a central, relevant consideration for Aitken et al. (2008) is how a particular individual or group can be perceived to possess (or not possess) power.

Some of the appealed cases for wind turbines reveal a mismatch between the courts’ (regulated) unwillingness to let the plaintiffs speak for a wider context against the infrastructure development and what are described as “concerned parties” (see Article III below). This can be problematic, as noted in Article I below, with regards to 3G development:

The mast-by-mast participation in the case of 3G development in Sweden can be analysed in relation to public participation and its legal formalisation. In relation to a wider context, the single-case participation may bypass participation in solving problems of a more structural character. And some issues in the case of 3G are of a structural nature: many have protested against the rollout as a whole, which is tied to the extreme coverage of the infrastructure, and its landscape impact and the feared hazardousness of the radiation. It is safe to say that many of those protesting have wished for more scope to participate and affect the infrastructure roll-out, far beyond the individual cases (Article I, Larsson 2014, p. 177).

This is one way in which the formal legal system structures and controls the possibilities for participation and opposition. Aitken et al. (2008, p. 794) address Lukes’ (1974 (2004)) definition of the three-dimensional view of power which acknowledges the power to shape people’s beliefs and ideologies. There is a systemic constraint that moulds the objectors’ beliefs of what constitutes “appropriate” objections set out in the planning system:

Clear boundaries exist as to what is acceptable and admissible within the inquiry and arguments that fall outside of these boundaries are simply dismissed. However, such boundaries do not exist naturally but rather are constructed and reinforced within each inquiry (Aitken et al., 2008, p. 793; cf. Wynne 1982).

Furthermore, as stated by Aitken et al. (2008, p 793), inquiries maintain legitimacy by creating the illusion of being objective “fact-finding” exercises; however, this illusion conceals a number of subjective value judgements, which are necessary in order to reach a decisive outcome (Wynne 1982, O’Riordan et al. 1988). With regards to how the law determines what is relevant knowledge for the decisions in permit applications, the complainant is allowed only to represent their affiliation to a property:

...the need to present their arguments in the appropriate language and within the boundaries of acceptability defined by public inquiry structures. Such observations resonate with Wynne’s (1982) assertion that the public inquiry can be taken to represent an exercise in social control whereby individuals must express themselves in accordance with accepted knowledge or be categorised as irrational. In this case study it became clear that witnesses who could not back up their evidence with ‘reliable’ data or scientific reasoning were discredited as illegitimate and as having little to contribute to the inquiry process (Aitken, 2009, p. 62).

This also justifies practices which clearly differentiate between expert and lay knowledges, as if each existed *a priori*. However, there is also evidence in the sample of wind turbine appeal cases that the plaintiffs formulate their arguments based on a notion of what constitutes winning concepts.

The judge in the Land and Environment Court stated that plaintiffs seemed to “throw in” narratives of nesting eagles, eagle owls living in the area or the importance of bats in the area of testing. Several of the appeal cases indicate this too. Toke (2005a, p. 1528) also observes that, “one should be wary of associating such linguistic judgements (which are made to fit in with planning law) with ‘real’ factors which will motivate people to oppose wind power schemes.” It is likely, in agreement with my observation at the seminar on wind power noise mentioned in the introduction of the thesis, that people have all sorts of driving-forces and emotional responses to planned wind turbine establishments, but when facing the legal administrative system in appeal cases, the concerns are voiced in a more strategic manner. This could also be related to the NIMBY-issue, where Esaiasson (forthcoming 2014) has experimentally shown NIMBY to be a driver for protest also regarding wind power establishment, while simultaneously being a motive that is overlaid with more altruistic arguments, contradicting what Wolsink (2000) has described as the “NIMBY-myth” in wind power.

Summing up RQ2

- There is a legal-rhetorical adaptation to the expert-based decision-making in court;
- A common cause in the case of 3G, among several, for appeals was fear of, or concern for, possible hazards of electromagnetic radiation;
- In court, the radiation issue was clearly handled from an expert perspective stating that the electromagnetic radiation is not hazardous, and therefore that the citizens' "ought not" fear it;
- In the appeals, verdicts indicate that the plaintiffs formulate their arguments based on a notion of what constitutes winning arguments, as opposed to the concerns that might be the actual, underlying driving force for objections;
- However, the citizen plaintiffs tend to make broader arguments (i.e. for the area etc.) than the court accepts their role to consist of, which they tend to link to being concerned property owners.

6.3 ON EFFICIENCY AND EFFECTIVENESS

As mentioned in the introduction, aspects of efficiency in terms of speed are a common call in infrastructure developments. The UK Renewable Energy Strategy (2009, p. 14) promised a "swifter delivery" for wind power development (McKay, 2014, p. 4). It was emphasised in the Swedish 3G development, where the municipalities were blamed for delays, and it is continuously repeated in the Swedish wind power implementation and a key reason for the legal revisions that came into force in 2009, as I have shown above. In line with this, it is appropriate to address what we actually wish the review and planning system to achieve.

- RQ3: What are the results of the strong emphasis on "efficiency" in the planning and permit processes for wind power and 3G-infrastructure and what can be learnt from the experiences of the attempts at increasing efficiency?

The necessity of efficiency and speedy permit trials are emphasised from the policy-making perspective in both 3G and wind power development in Sweden. This emphasis, as it has played out, can be seen as an attempt to control the infrastructure implementation from a centralist and national perspective, arguably at the loss of local and municipal impact. Furthermore, this emphasis on formalising quicker processes may also be studied from the perspective of there often being a difference between the formal side and what is played out in practice.

What is considered efficient depends on how "efficiency" is defined. One way to refine the debate surrounding calls for efficiency is exemplified in discussions within planning literature concerning the terms "efficiency" and "effectiveness" (Emmelin, 2006; Hilding-Rydevik, 2006; Törnqvist, 2006). These may be divided into the aspect of speed on the one hand and the quality of the process on the other. "Efficiency" could thereby be referred to as following goal-rationality, whereas "effectiveness" follows process-rationality. An underlying

assumption in the cases studied here seems to be to translate efficiency to speed. If one were to include a concept such as “democratically justified” within the definition of efficiency, the task would become more complex – and interesting. Here, one could of course argue that the democratic aspects are sufficiently included through being represented by elected professionals, primarily at national and municipal levels, but also at the regional level. On the other hand, one could argue that representative democracy is a weak form of democracy and an unsuitable tool for reaching justified and balanced decisions in very local landscape matters. This could be related to the *new localism* reaction in the UK which expresses a concern for the lack of citizen involvement in political life (Corry and Stoker, 2002; Pratchett, 2004). Another challenge to the representation argument is that some issues that actually deal with political acts of balancing develop into technocratic decision-making as a result of features embedded in the legal processes.

From purpose to consequences

Any legislative action has a manifest purpose, be it to reduce crime, pollution or to stimulate a creative sector. This purpose is often quite clearly expressed in preparatory work, in directives for the task force preparing the texts or in the initiatives taken early in the legal revisionary process. The manifest purpose of the revisions of relevance for the Swedish wind power development that entered into force in 2009 can be studied in the supplementary directives for the so-called Environmental Process Investigation, which states that “[t]he purpose of the review will be to identify the need for regulatory changes that facilitate the continued expansion of wind power in accordance with established goals while environmental objectives are to be achieved...” (dir. 2007:184, see SOU 2008:86, p. 321). The purpose is further clarified through the proposals from the investigation that “should mean that the permit processing is coordinated and allows for a more transparent and temporally shorter and more efficient handling, while the trial at the same time should remain diligent and in accordance with the rule of law.” They are also emphasized in the proposals following (SOU 2008:86) which state that the background is a “demand for a faster and easier process from design to erection of a wind turbine in conjunction with a planned greatly expanded wind energy use” (SOU 2008:86, p. 13). Consequently, in the governmental bill following the proposal, it is stressed that “it is important that the handling processes become simpler and more efficient” (Prop. 2008/09: 146, p. 18), but the bill also stresses that the purpose, here, is to achieve the set objectives of the planned goals for wind power, and to reduce the climate impact of energy use in order to “facilitate the transition to an ecologically sustainable society” (p. 17). It is also here that municipal influence is accentuated through the municipal approval that has been called a “municipal veto”, as a direct response to critique of the foregoing proposal.

Speed, efficiency and rule of law are emphasised as manifest purposes. In light of this it is, of course, of interest to note to what extent the manifest purpose is fulfilled, and to what extent latent functions of the legal revisions emerge, that is, consequences that were not foreseen but emerge as a direct consequence of the regulatory reform. The legal revisions for wind power development that entered into force in August 2009 contained threshold values, based on the height and number of turbines, for when the permit process is to be initiated as a municipal building permit and when it is to be initiated as an environmental permit at the regional county council. Since 2009, the environmental permit process must be conducted by the county council when two or more turbines are taller than 150 meters, or seven or

more plants are taller than 120 meters. Under these limits, it is sufficient for notifications and building permits to be managed at the municipality level. As outlined in Article IV below, the results indicate that the industry sees the “veto” as leading to problematic uncertainty in the process at a regional level and, therefore, prefer to keep the applications at a level that entitles them to use the municipal handling system – which is determined by height and number of turbines – a consequence contrary to the aims of the legal commission when revising the legal system.

Efficient or effective wind planning?

Much of the Environmental Process Investigation’s mission lay in “effectivising” the wind power review, which is goal-oriented in the sense that the process leading to increased wind power development and the fulfilment of planning objectives is emphasised. However, the intent of this effectivisation is not as obvious, aside from there having been – and continuing to be – a politically grounded wish to speed the review up, which is expressed in the investigation’s amendment directive.

One interesting problem concerning potential development delays caused by permit processes is what they are compared to when making claims about the length of the process. As far as wind power development is concerned, many concerned parties claim that the total review process is too lengthy. This applies particularly to developers and the Energy Agency, and the main point of The Environment Process Investigation with regards to wind power therefore also concerns “effectivising” wind power development. The majority of the concerned parties, however, would appear to agree that the process could be improved, without being in agreement on how. Some feel that the issue is a matter of the reviewing authorities’ resources, others that the role played by appellations in the process should not be exaggerated.

3G – blaming local decision-making for delay

On a similar note regarding time-frames and speedy implementation schemes, the 3G development in Sweden put much pressure on local decision-making concerning building permits for antennas and masts. The argument that municipal planning was an obstacle to rapid development was voiced at a very early stage of the development with limited, actual evidence. In the licentiate thesis (Larsson, 2008a), I showed that this argument was, at least partly, wrong. For example, a majority consisting of 61 per cent (122 of 201) of the municipalities that answered the questionnaire of 2 April 2003 did not receive a single building permit application for 3G base stations with antenna during the first three years of implementation (there are 290 municipalities in the entire country). In fact, only about one fourth of the municipalities received more than two permit applications during the first of the initial three years of infrastructure implementation (2001). This led to a significant element of the roll out; it reached the municipalities with a slow start. For example, only *one* building permit for a 3G mast was applied for in Blekinge during 2001, the first of the three years. This means that municipal planning is in fact not an obstacle but was a very convenient excuse for the operators to evade the commitments made in the licensing process at the height of the IT-bubble. Furthermore, the data shows that in a large number of cases, delays were caused by incomplete applications.

Public participation as inefficiency

There have been many attempts to increase citizen engagement in spatial planning practice (Arnstein, 1969; Leino and Laine, 2011; cf. Article I, Larsson, 2014). The majority of such approaches discuss intensifying participation in terms of a higher degree of citizen empowerment. The famous “ladder of citizen participation” by Arnstein (1969) became a very influential basis to measure the degree of empowerment (Leino and Laine, 2011). As Arnstein shows, citizen participation reflects the level of control afforded to participants, ranging from feedback-only options to interactive, participatory self-determination. Further, Arnstein discussed the difference between the “empty ritual” and “having the real power needed to affect the outcome of the process” (Arnstein 1969, p. 216). Important factors that influence the acceptance and support of public participation are personal characteristics such as education or age, but also the involvement of citizens in their neighbourhood, trust in the agency and previous experience of citizen participation (Putnam, 1995; Dekker, 2006).

The argument here is that an interesting issue pertaining to Swedish wind power development concerns the tension between national decisions of a strategic nature on the development of this particular energy type, the local implementation and the approaches towards citizen participation that this displays. As Larsson and Emmelin have noted (2009), this is comparable to similar structural challenges found in the Swedish development of 3G-infrastructure for mobile telephony (Larsson, 2014). In Article I below, I discuss the dilemma that public participation poses to a centralistic development perspective:

From a development perspective, public participation becomes nothing more than an irritating element and an obstruction to the roll-out. The result of such an approach is that the issues that are most important to the public are likely to be bulldozed over, and the result can be perceived reduced legitimacy of the legal order, which in some cases have led to dismantled masts and sabotaged sites, in the case of 3G development in Sweden (Larsson, 2014, p. 177).

One reason for why the topic of “efficiency” in planning is interesting is in part because it is part of the balancing of levels in the governance system. If local decision-making is to be a strong factor in land-use planning, it has to entail that it is less controllable from a national implementation perspective. You cannot reasonably have a swift implementation of national policy on physical infrastructure and at the same time allocate the planning powers to the local level. In such cases, the local level must have the freedom to not streamline their land-use in line with the national infrastructure implementation, and may even have the right to plan against it. This is also one of the reasons that pro-implementation legislation to some extent needs to be masked by the policy-maker to avoid local level protests. Local level protests are the factor that seem to have led to the insertion of the so-called municipal veto into Swedish wind power permit regulation (Prop 2008/09: 146, pp. 39-40). On the other hand, the reduction of local power was not very well masked in the original proposal for legal revision.

The broader issues of the multiple roles and tasks of planning and permit systems do not seem to enter into these discussions. The search for efficiency may lead to lowered effectiveness – the democratic legitimacy of a governance system is an inherent component of its effectiveness. This is also the case in what Lundquist (2004) terms “environmentally

rational governance” where criteria for local involvement and democratic decision-making – as opposed to technocratic policymaking – are central. What is presented as technical and legal issues of clearing up inefficiencies are in fact major shifts in the power over the landscape from the local level to the national, with a shift also from political deliberation to decision making by courts and administrative agencies. The attitude of the Energy Agency in stressing local understanding and acceptance of wind power development, as opposed to local self-determination over the landscape, is consistent with this. One risk is that of lessened public legitimacy for national developments. McLaren Loring shows in a study on wind power in England, Wales and Denmark that projects with a higher degree of participatory planning are more likely to be successful due to their public acceptance (McLaren Loring 2007). This risk is further emphasised by Wolsink’s conclusions, who states: “Hence, for wind power, local involvement to represent the local values of site-specific landscapes is crucial” (Wolsink 2007). This can be compared to Cowell’s (2007) studies of why certain states are inclined to resolve “the planning problem” for wind through strengthened national control, where spatial planning has been a method to avoid conflicts and more sensibly and deliberately steer wind power toward areas of less conflict.

Further, it should be clarified that there may be a contradiction inherent in a *speedy* process and a *good* process. Reasonably, there is a lower limit to how much the review process may be reduced before it begins to lose the qualities pertaining to, for instance, participation and legal certainty, which are vital ingredients in our planning tradition and within our legal system. Henecke and Khan confirm this contradiction:

...the problems of introducing genuine civic participation in spatial planning is largely based in the fact that it conflicts with the parallel goal of achieving an effective and speedy planning process (Henecke & Khan, 2002, p. 34)

This may be expressed in the claim that civic participation takes time. To refine the wind power debate on “effective planning”, there is also the issue of whether the results of the planning process for wind power development come through “good planning”, which naturally plays a key role in the planning system (and hence depends entirely on what the concept of “good planning” is loaded with). One might suggest that there may be a minimum time frame required for “good planning” to continue to be just that. “Good planning” requires, among many things, time expenditure to maintain any sort of quality. In other words, one should remain observant of the risk, when strong pressure is applied to the planning system to speed processes up, of achieving a procedural effectiveness but, as far as results are concerned, poor planning – that is to say, as far as the intent of the planning is concerned. The difficulty, then, is to achieve an efficient process, something both the Energy Agency and the review directive explicitly aim for, which simultaneously is effective - that is to say, legally secure and mindful of the planning’s various other measurements of quality.

According to Henecke and Khan (2002), in addressing civic participation in spatial planning, aspirations of efficiency have time after time led to restrictions on actual civic participation, even when the impact of increased civic influence and actions to combat the effects of political imbalance is emphasised in directives and legislation. It is here that the dilemma of simplifying regulation lies: How much should one simplify and reduce without

losing the most important deliberation in the review? Therein lies a danger that the political discussion and directives that strive for efficiency primarily concern themselves with time and cost aspects, while quality aspects are awarded limited attention in these contexts. If one all too often defines an inefficient system in terms of “a lengthy process”, this risks leading to the perception that a speedy process is translated precisely to a good process.

The struggle for efficiency is end-focused rather than means-focused and likely an expression of the centralistic, calculating and politically oriented will to control the development of wind power. This leads to legal proposals to change the balance between the two main laws for a particular energy type, to the detriment of local governance and planning.

Summing up RQ3

- The right to appeal most permits in the 3G development can largely be seen as merely a “token participation” due to the fact that it only very rarely changed the outcome of a permit decision;
- Despite the manifest purpose of making the permit process more efficient for wind development, many people do not perceive the legal revision of 2009 as leading to that;
- Efficiency or effectiveness? The struggle for efficiency is end-focused rather than means-focused and likely an expression of the centralistic, calculating and politically oriented will to control the development of wind power;
- The results indicate that wind power permit applicants prefer to remain below the 150 meters level and choose the municipal building permit process. This is due to the insecurity that the so-called veto has added to the environmental assessment, whether perceived or factual, in combination with the mandatory threshold levels for when to initiate the process at the county council level;
- The discussions concerning efficiency in the planning and permit systems seem to be based mainly in a perception that local planning processes and the right to appeal permit decisions are technical obstacles to the implementation of a national development;
- Speed, efficiency and legal certainty are emphasised in the directives for and the legal revisions concerning both infrastructure implementations. The 3G development was far from speedy, and the national handling was not legally transparent and secure;
- There are indications in the wind power case that the processes have become more unpredictable due to the so-called municipal veto;
- What is presented as technical and legal issues of clearing up inefficiencies are, in fact, major shifts from local power over the landscape to the regional and national level.

7. Law and spatial planning – concluding reflections

One argument throughout this thesis on spatial planning emphasises the importance of law for planning and environmental management. Further, the emphasis has been on seeing law as an empirical object of study which success and failure can be measured and understood by its outcomes. As pointed out in the introductory chapter, empirical studies in law teach us that the actual outcome of laws and formal statutes are not necessarily precisely what they were intended to be. This discrepancy, how to address it, theorise around it and study it, is of fundamental importance to spatial planning, including large-scale implementation of telecommunications infrastructure and wind power development, and can be summed up accordingly:

- The legal framework plays a significant role in allocating power and balancing between authorities, but the outcome of the legally regulated actions is to a large extent an empirical question.
- Planning theory and research tends to disregard the fact that spatial planning to a large extent is a legally regulated activity, which adds to the fact that law and its implementation is not reflected upon as a problematised issue relevant to planning and its outcomes.

For example, Article II deals with the explicit difference between policy/law and its implementation in the case of 3G development at the national level. This includes the licence conditions and the regulatory framework for the Post and Telecommunications Agency (PTA) responsible for the control of the operators. The article argues that the results of the licence conditions and lack of promised coverage, in conjunction with a lack of sanctions, cannot be explained by aspects of the regulatory framework alone. Instead, financial aspects in combination with the size of the project are used here to explain what at first glance is not understandable – why were no sanctions placed on the operators when they so clearly failed to fulfil the prerequisites of the licence conditions? The more likely explanation “included non-legal aspects to a decision-making that was defended by legal rhetoric” (p. 195). I argue that “there seems to be a bigger game unlocking the legalistic approach” (p. 195; see also Article V, Larsson, 2013, p. 300). The 3G development was underpinned by a technological optimism that included a perceived positive national economic development including notions

of sustainable development in terms of promoting regional development (Larsson, 2008a). The discrepancy between law and its outcomes is returned to in Article V in order to theorise on complexity, legal (internal) contradictions and extra-legal interference in legally controlled decision-making.

Another issue relates to legal complexity and uncertainty when addressing the benefits of a strengthened awareness of the consequences that the legal system leads to in spatial planning. Complexity is an issue when it comes to law, particularly for the people it concerns. An overly complex system may alienate those that the system – at least in part – serves to protect, in practice excluding them from the right to appeal and what has been called “access to justice” (as in the Aarhus Convention). As expressed in Article V, with regards to a worst case scenario in 3G development:

Three different legal institutes, handled at two administrative levels, by three authorities – all with its own court hierarchy for appeal – create a complex assessment system (Larsson, 2013, p. 292).

Not only do citizens face problems when the legal system becomes overly complex, but so do the entrepreneurs that need permission to site masts and turbines. Breukers illustrates this in stating that “[w]ind project developers (German) states were complaining about local permitting procedures, which they regarded as lengthy, inconsistent and complex” (Breukers, 2010, pp. 45-46). As mentioned above, in the policy perspective planning tends to be the transformation of policy into spatial action with less attention to the bounding aspects of the planning legislation as a subsystem of the general legal system and context of a given jurisdiction.

7.1 GENERAL CONCLUSIONS

As outlined above, one of the objectives of this thesis is to develop a theoretical understanding of the intersection of the legal system with its internal tensions in the environmental and planning fields, and the management dilemmas in multilevel governance specifically the tension between national policy and local sovereignty over the landscape. This dialectic re-emerges in national infrastructure ventures that are dependent on local planning and permits. The advantages of the theoretical model arguably lie in its three-headed combination of strands within planning theory, and the usefulness of the elaborated approach to analysing the role of law in planning and infrastructure implementation. The conclusions that combine the results of the two cases studied in this thesis can be listed as follows:

- There is a legal-rhetorical adaptation to the expert-based decision-making in court.
- The levels interact poorly. The national decisions, irrespective of the normative viewpoint of who should control the landscape planning, could be better informed of the preconditions at a local level that will factually define the outcome of the implementation.

- In a multi-levelled system, local decisions will cumulatively determine to what extent national policy-making objectives can be achieved. Local decision-making, however, tends not to be assessed when national policy is drafted.
- The discussions concerning efficiency in the planning and permit systems seem to be based mainly in a perception of local planning processes and the right to appeal permit decisions as technical obstacles to the implementation of a national development.
- Speed, efficiency and legal certainty are emphasised in the directives for and the legal revisions concerning both infrastructure implementations. The 3G development was far from speedy, and the national handling was not legally transparent and secure. There are indications in the wind power case that the processes have become more unpredictable due to the so-called municipal veto.
- What is presented as technical and legal issues of clearing up inefficiencies are, in fact, (attempted) shifts in the power over the landscape from the local level to the regional and national.

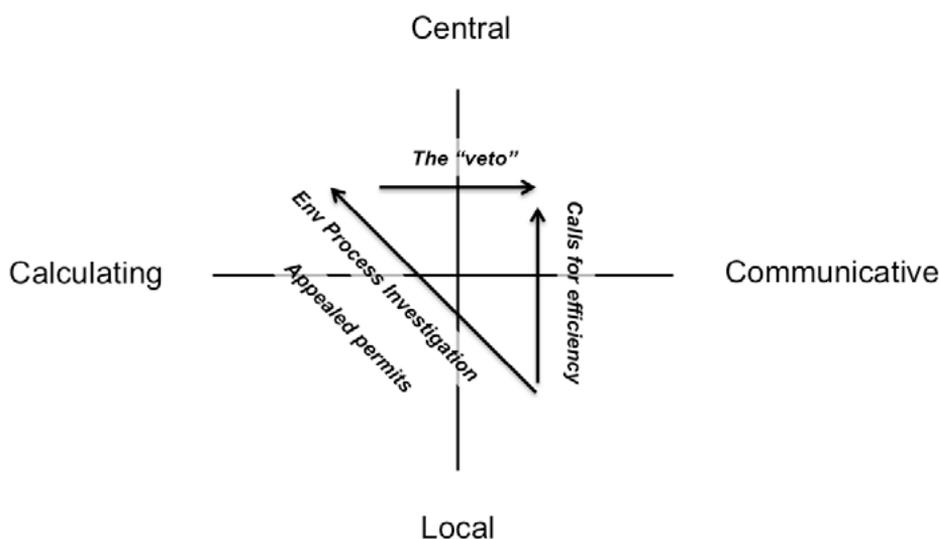


Figure 4: Some analytical conclusions of the study.

Regarding wind power, the so-called municipal veto seems to constitute an unclear compromise between two systems. Here, one could discuss what we in Article IV tentatively suggest ought to be the point where the main permit handling should be conducted, whether at the local planning level or at the regional environmental assessment level. One could here argue that the decision-making powers should be reinstated on the planning side, as opposed to the environmental permit side, but there is at the same time a need for more regional planning for cases of infrastructural characteristics, such as wind and also telecom.

Furthermore, there seems to have been too strong a focus on the legal design in the legal dogmatic perspective of the investigators with regards to the legal revision of the wind permits process, amended in 2009, as opposed to the practice and outcome of the regulations. This is likely a combination of the investigation lacking methods to measure as well as lacking theory to predict the outcome of the regulatory revisions, perhaps in combination with the fact that permit handling in many first instances is paper-based and not part of a digital system capable of aggregating information on the processes on a larger scale. Simply put, compiling such data involves hard work. Based on this argumentation, at least two recommendations can be made: The first one concerns the permit handling, and the second the official investigations and commissions that propose new legislations:

- Digitise the permit handling for aggregation possibilities in a transparent way. There are at least two strong benefits to this: The feedback on the effects of the legal design is direct and can provide information for further revisions; the democratic value of allowing participants, investors and citizens in general to take part in the processes in an effortless way.
- Add multidisciplinary competence to the legislative commissions. Proposals, of course, need to be legally correct, but merely the opportunity to create new law that actually leads to what it is manifestly intended to do would provide many benefits. However, at least two advantages are clear: Law may function better as the steering instrument it is intended to be, which includes a more predictable rule of law, as well as making law-making more efficient and less of a waste of public funds.

An overarching question indicated by the results relates to the question of to what extent there is a trend towards less local self-determination and more strength in national policy-making in infrastructure related development. For example, from a broader perspective, it may be relevant to pose the question of whether the Environment Process Investigation's proposal is an expression of a broader tendency to dismantle "participation" in the planning of land and environment. Is there a trend within planning towards more centralised and rationalistic planning, that is to say, a growing mass in the direction of this normative pole? If one compares the issue of interested parties in wind power development with the same issue in 3G development, one difference is that smaller actors may invest in individual wind power plants. This means that the polarisation that emerged in 3G development between a few, large developers operating under the condition that they cover a large portion of the country and people residing in the proximity of masts and antennas is broken down into a more complex situation. One important difference regarding the potential for conflict is that wind power does not suffer from the same coverage problems as does 3G development. There are, in other words, degrees of freedom within a potential construction, and planning can be adjusted to avoid conflicts. Moreover, it is when one succeeds in making wind power projects a part of "the local identity" and "an asset to the local community" that a critical perspective can be turned towards a more positive attitude, according to Klintman and Waldo (2008, p. 47). As the international literature on wind power implementation suggests, the biggest hurdle to successful implementation of wind power is local opposition at the private and public level.

However, this can be addressed through a comprehensive approach that takes into account the legal, political, economic and public opinion frameworks.

Emmelin and Lerman (2006) identify a conflict between the environmentalist paradigm in the upper left corner and the plan paradigm in the bottom right. One way to describe this conflict between the paradigms, in this context, is to observe how the planning objectives for wind power emerge. The Energy Agency defines the planning objectives as, “the planning objectives for wind power, within community planning, are to create conditions for an annual production of wind power generated electricity of a certain amount of TWh” (ER 2007:45, p. 8). The proposed planning objectives initially mention an “appropriate level of ambition for a planned objective by 2020 is dependent of the division of burden of the EU’s renewable energy target, as well as its implementation.” This bears witness to an instrumental rationality that leads to the perception that the available space for wind power sites in Sweden is not the result of an assessment, the land owner’s will or local interests in having wind power in the county. The planning objective comes from a top-down or central perspective of the proportion of renewable energy that is politically desirable. This leads to the “vertical” conflict of who is to govern over land and water between the national political decision-making process and the municipal monopoly on implementing plans. There are also possibilities for countermeasures to any centralistic trend. For example, in the UK there has been a reaction against what is seen as the increasingly centralised nature of the political system in recent years and concerns over the lack of citizen involvement in political life. This reaction has been called *new localism* (Corry and Stoker, 2002; Pratchett, 2004). Devolving power to local communities and neighbourhoods is not a new idea (Burns et al., 1994; Illsley et al., 1997) but it is, according to Illsley and Coles, one that has been gathering significant momentum in recent years (2009).

7.2 CONCLUDING REMARKS

As stressed in the introduction, without understanding the legal logic and the fact that infrastructure planning is caught in a “struggle between daring and deliberating” (cf. Larsson, 2008a), I argue that we are likely to miss something crucial in the understanding, and how to change the outcomes, of national infrastructural development. The case studies of 3G and wind power in Sweden can be seen as an expression of infrastructures in one sense, but can also be seen as a very particular type of infrastructure that depends, at a componential level, on local and regional decision-making. The entirety affects the nation’s energy use and its systemic telecommunication status, but each mast or turbine requires either a building permit or an environmental permit. Thus, an inescapable dialectic arises between national policy and local permit-giving. Participatory involvement for the general public also manifests itself differently at the various levels. Where the national level is primarily concerned with representation, in local events this representation is combined with the inclusion of residents and affected parties in the consultation process, in local debate and in the possibilities to appeal in individual cases.

In this study, I have largely focused on various types of knowledge in terms of how they are legitimised or not in the encounter with legal regulation in this field. This therefore concerns juridification, formalisation and to some extent the encounter between the residents’ conceptual world and the administrative system the society has created to manage landscape

and environment through official plans and legally binding decisions. This seems often to occur within the tension between preservation and progress. Viewed from an aggregate systemic level at a national level, it is understandable that efficiency becomes a central issue; one needs to know what one may or may not do and the political visions are not made relatable to the more difficultly determined permit handling at the highly decentralised, local level.

A part of this difficulty lies precisely in the extremely distributed legal reviews that this particular form of infrastructure is divided into. Since masts and turbines are units in themselves, they are easier to conceptualise as such entities. There is no similar counterpart in the spreading expanse of roads or railways. There is, therefore, an ontological difference in these infrastructures which is reproduced within their administrative organisation and planning. Thus, there is also some flexibility in the localisation of masts which has not been included in traditional infrastructure, even though the 3G mast cells, i.e., their coverage, do not extend beyond a few kilometres. From a participatory perspective, it could be argued that there is a gap in the level of influence that residents were allowed. In many of the appeal cases, as well as in documentation from the consultation process, residents expressed a desire to have some influence in such establishments beyond the relatively narrow avenue that the law affords “concerned parties” in regards to specific mast or wind power establishments.

On the other hand, one can state that both municipal as well as national politicians are elected by popular vote and that the municipal comprehensive plans can be debated during their conception. Whether this is sufficient remains an unanswered question, however. Opponents to 3G mast infrastructure and wind power energy have generally often felt that their opportunity to influence at a higher level other than in regards to individual establishments has not been sufficient. Therefore, one might at least discuss whether this particular form of dispersed infrastructure could be more effectively *planned* at a regional level.

The relatively common wish for more efficient processes for this type of infrastructure that is voiced both in Sweden and within an international context could be seen as a sort of developmental imperative. This often concerns ensuring at the national level that the politically determined and private enterprise-dependent infrastructure comes to fruition and is not hampered by local autonomies or conservative landowners and residents. There are problematic aspects on both sides of the developmental imperative; on the one hand, one does not want vocal minorities to overly annex the issue and undemocratically and self-assumedly act towards preservational goals, which also tends to colonise the opinions of confused residents when faced with a new establishment, and on the other hand there is a built-in ostensibility in creating law under the guise of the concept of efficiency which largely appears to concern relocating decision-making power upwards within the hierarchy towards the national rather than the municipal level. From a development perspective, it often appears that steering the issue away from values – and thereby a need for deliberation – and instead towards public interest, sustainability and measurability is key to the expert paradigm. If one successfully frames the issues in terms of expertise-dependence, even more centralised decision-making appears more legitimate.

So we return to the dichotomy of preservation and progress, the dilemma of daring and deliberating. We must not let vocal minorities stand in the way of societally desirable developments. However, what a history of socio-legal studies has taught us is that law and policy – and likely infrastructure development – cannot function in a normative vacuum and control from above what is not perceived as legitimate from below. Any implementation is

depending on legitimacy. This is also why some of the suggestions above relates to method in law-making; we need to know what parts of the system that is perceived as not legitimate, we need feed-back on the law “in practice” to be able to make functioning and useful amendments to the law “in books”.

With regards to an argued lack of a broader, legal understanding – both empirically and theoretically – it can be stated that within the planning discipline the legal system is expressed as an instrument of control and change, while its outcomes are not considered an empirical object of study. This thesis’ main line of argumentation concerns highlighting precisely this aspect. The potential benefits of a more profound understanding of the legal system’s role in planning and infrastructure development is equally as large as the gap between law’s promise and its achievement is diminished.

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Article I

WHAT TYPE OF KNOWLEDGE RULES WHERE?

Legally Regulated Participation in a Large-Scale Mobile
Infrastructure Planning in Sweden

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What type of knowledge rules where? Legally regulated participation in large-scale mobile infrastructure planning in Sweden

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Abstract. I investigate the field of tension between the national and the local level in spatial planning from a decision-making perspective. In doing so, I analyse the legal regulation for a large-scale 3G mobile infrastructure development in Sweden with a focus on how participation is expressed both in terms of the ‘law in books’ as well as empirically, ‘in action’. Theoretically, a model of decision making is elaborated, based on two axes: one concerning the decision level on a central or national to local scale, and one concerning what type of knowledge is regarded as the most legitimate in terms of a calculating approach versus a communicative approach. These two issues or approaches to decision making—*who* decides and based on *what knowledge*—are of direct importance for understanding the frameworks as well as the practical outcomes of public participation. The case of 3G in Sweden demonstrates how different types of knowledge are perceived as legitimate at different levels in the planning system. For example, appeals against building permits rarely change the outcome of permits issued, and appeals based on fear of electromagnetic radiation are always rejected. The juridification of a given mast conflict meant a development from a deliberative approach, where any concern is heard, to a calculating and expert-based one, where the general stance on a particular topic (such as whether or not the electromagnetic radiation from mobile masts is hazardous) is applied. This means that *what* knowledge is legitimate depends on *where* in the permit process it is presented.

Keywords: public participation, calculating, communicative, law in books, law in action, 3G infrastructure, UMTS, electromagnetic radiation, spatial planning

Introduction: between policy and participation

Planning theory was, up until the early 1980s, very much preoccupied with the typologies derived from Faludi (1973), who based his approach on the distinction between substantive and procedural theory (see also Allmendinger, 2002, page 79). Allmendinger (2009) describes Faludi’s understanding of planning as the application of scientific method to policy making (page 31; see Faludi, 1973, page 1). This has developed in a number of directions, both in terms of elaboration (Yiftachel, 1989) as well as critically—namely, that the Faludi distinction represents too technocratic a mode of planning which excludes different groups in society (eg, Sandercock, 1998, page 4). Furthermore, from a more contemporary perspective, which we can call postpositivist, Faludi’s distinction would probably be seen as a false dichotomy (Allmendinger, 2009, page 41). The collaborative planning perspective targets this in terms of what type of knowledge should be regarded as the proper type to govern planning and decision making (Larsson, 2011a; Larsson and Emmelin, 2009). The kind of rationality that Faludi mentioned was of an instrumental variety, which was based on a particular view of objective knowledge. Planning theory based on Habermas’s theories (1981) on communicative action

argues that there are other forms of rationality (Allmendinger, 2008, page 50). This has been a way of arguing for the necessity of public participation in planning.

Conrad et al (2011) state that, although public participation is now accepted as an essential requirement of planning, there is limited literature that considers the effectiveness of participation in practice (see also Davies et al, 2005). One way to analytically categorise it from a sociolegal perspective, as is done below, is to separate the ‘law in books’ from the ‘law in action’ or ‘planning in practice’ (Larsson, 2013). With this paper I study the legally regulated participation from an empirical perspective in the case of developing infrastructure of the third-generation mobile phone system, 3G, in Sweden. Conrad et al (2011) touch on an inherent tension in modern planning that exists between positivist views of planning as an expert discipline and public expectations of democracy. The case of 3G development in Sweden here serves as an interesting field of conflict between national goals for technological development and local land-use planning and governance, in that it demonstrates how different types of knowledge are perceived as legitimate at different levels in the planning system. The point that Conrad et al take up is expressed here in terms of approaches to decision making—*who* decides and based on *what knowledge*—which are of direct importance for understanding the frameworks for public participation and the practical effects of its regulation. The analysis of policy is of key importance when studying the outcome of legally regulated participation in planning. Emmelin and Lerman (2006) have presented a model that can be used for such a policy analysis, based on two axes, one where the central or national level opposes the local, and one where the calculating is opposing the communicative approach. In the following this model is elaborated via planning literature, especially regarding citizen participation.

There are different possible attitudes to what policy analysis should look like or even what a scientific approach towards landscape planning would mean. According to Dryzek (1996), in policy analysis and planning there is an often-seen objectivism, stemming from an Enlightenment legacy and those “who believe in a universal logic of scientific inquiry, which can be applied, with a few emendations, to the logic of public policy” (page 213). This objectivism may arguably lead to an approach of instrumental rationality as a model for human behaviour. Dryzek concludes that objectivism and rationality underpin one side of modernity—one that is “clean, calculating, and homogenizing” (page 213). We need to state this ‘objectivist’ side of the perspective in order to see and evaluate the logics of much planning and environmental law. But the perspective needs to be complemented by another side, to form a balanced model for a trustworthy assessment. In the 1980s the idea of participation grew strong in planning theory, advocating a deliberative democracy in decision making (Nilsson, 2003, page 57). The communicative view in planning has dominated theoretical discourse about planning since the early 1980s, and has to a large extent been referred to as ‘collaborative planning’ in UK literature and ‘deliberative planning’ in US literature (Tewdwr-Jones and Allmendinger, 2002). What today is referred to as *the communicative turn* in urban planning is a range of different theoretical influences mixed together by Habermasian and/or Giddensian thinking (pages 206–207; cf Harris, 2002; Healey, 1992; Wiklund, 2005; Wiklund and Viklund, 2006). Collaborative planning insists on participation rather than representation, and values the process rather than the result and consensus rather than compromise. Healey (1997) sees collaborative planning as a term closely related to democratic concerns of management, opposing more oppressive planning mechanisms and states that “[Collaborative planning] is about why urban regions are important to social, economic and environmental policy and how political communities may organise to improve the quality of their places” (page xii; cf Healey, 2003). It is the argumentative turn that is often opposed to the objectivist and instrumental notions in the policy analysis mentioned above (see Amdam and Veggeland, 1998, part III; Bernstein, 1983; Dryzek, 1996; Eriksen, 1993).

The argumentative turn in policy and planning, especially as it is extended into discursive democracy, involves not the abandonment of science but rather “a selective radicalization of scientific principles” (Dryzek, 1996, page 229):

“One image of science stresses the value-free investigation of causal relationships according to a fixed set of rules. But another face of science, however much it is observed in the breach, involves free debate and dispute in which the only legitimate force is good argument.”

If we expand the Habermasian notion of ‘ideal speech’ that may underpin the ‘good arguments’, we can allow ourselves to reach for the deliberative ideal—that it is not necessarily the best arguments which will take the lead, but the democratic value base or social norms that decide whether a policy decision is perceived as legitimate or not.⁽¹⁾ It is with this notion of planning and regulating in a publicly accepted and legitimate manner that citizen participation is often discussed.⁽²⁾ The question of how to include democratic concerns in landscape planning and how to formalise this through regulation has been a key issue for a long time. The idea has been described as ‘eating spinach’ in the Arnstein (1969) article, drawing up a typology: “no one is against it in principle because it is good for you” (page 216). In detail, however, the issue is difficult. As Arnstein shows, citizen participation reflects the level of control afforded to participants, ranging from feedback-only options to interactive participant self-determination. Arnstein identified the difference between the “empty ritual” and “having the real power needed to effect the outcome of the process” (page 216).

Public participation is, indeed, a broad concept used in various theoretical traditions, aiming at some type of inclusion of members of the public in setting the agenda (see, for instance, Rowe and Frewer, 2004) and can be discussed in terms of consultation, deliberation, and representation—for instance, with the purpose of achieving good governance or a well-functioning environmental assessment. However, the notion of public participation in planning is also, by some, a contested one. Innes and Booher (2007) describe the ambivalence found in literature on public participation. Although participation is sometimes said to be particularly attractive in the environmental sphere because of the historically fraught relationship between democracy and ‘green’ politics (for instance, Lee and Abbot, 2003), and participation is said to form an important content of the ‘good governance’ discourse beginning in the late 1980s or the early 1990s (Doornbos, 2003), much focus is placed on the problems of how to implement public participation. For example, by listening to only the protest groups, it may be that only small sections of the public are represented. This has led to the effectiveness of public participation in science-based policies being questioned (Burgess, 2004; Miller, 2001). Following the early suggestions for how to include the public in decision-making regarding urban or other planning (such as Arnstein, 1969; Davidoff, 1965), much of the focus has been on discussing the problems of public participation (Baum, 1998; Hibbard and Lurie, 2000); and, as Innes and Booher (2007, page 421) conclude, the literature concerning participation (in the US) is dominated by dilemmas, paradoxes, and ambivalence transferred to practitioners.

⁽¹⁾The social foundation of law is widely discussed in sociology of law and by sociolegal scholars. Law is shaped by, and dependent on, the social and economic structures of society (Drobak, 2006; Ellickson, 1991; 1998; 2001; Hydén, 2002; Larsson 2011b; Larsson et al, 2012; Morales, 2003; Svensson, 2008; Svensson and Larsson, 2012; Vago, 2009).

⁽²⁾Lately, there have been calls for using the increased connectedness to digital networks as a possible means of inclusion and ‘crowdsourcing’ knowledge about how to plan a particular project (Brabham, 2008; 2009; 2010; Conroy and Evans-Cowley, 2006; Evans-Cowley, 2011; Evans-Cowley and Hollander, 2010).

Yearley (2006) discusses the role of public participation in the business of bridging the science–policy divide. This divide, I argue, is relevant in relation to the appealed cases concerning fear of electromagnetic radiation in the development of 3G in Sweden (see also Lidskog, 2008). A reason for more citizen inclusion, which is often mentioned, is that the authorities will probably note less hostility and more acceptance from citizens when there is a high level of participation (Berry et al, 1993). However, the inherent danger in any claimed participatory approach lies in it turning into a mere form without meaningful content, which Evans-Cowley and Hollender (2010) express in terms of ‘token participation’. This happens in programmes that lack depth and tend to “emphasize simple, one-way forms of communication that merely educate citizens to accept decisions that have already been made” (page 399).

A model of decision making based on two axes: central versus local, calculation versus communication

The briefly mentioned approaches to decision making, relating to who decides and what knowledge this is based on, can be developed in terms of a vertical axis with ‘central’ and ‘local’ as the two poles, as well as a horizontal axis with ‘the calculating’ and ‘the communicative’ rationalities as the two opposites (see Emmelin and Lerman, 2006; Larsson, 2008a; 2009; Larsson and Emmelin, 2007; 2009; Sager, 1994).

Central versus local: who decides?

Arguably, the postpositivist domination of planning theory in recent years has highlighted the social and political context of theories (Allmendinger, 2002). One of the benefits to Allmendinger’s approach is that it provides a possibly diverse and unique interpretation of planning theory at the national and subnational levels which rejects the idea that local interpretation of theories and their application can be assumed to be consistent with ideas operating at a higher (often supranational) level. By this, he is stressing the importance of understanding the interplay between local and more centralised levels, such as the national level, which is sometimes brought up in planning literature (Liebschutz, 1984; Page and Goldsmith, 1985).

The *first axis* in the suggested model can be described in simple terms by the question of *who decides*, and may include discussions of top-down approaches versus bottom-up approaches in a planning system (see figure 1). This can be applied to an implementation dilemma in a case where a national infrastructure system entails changes to the local landscape, and the outcome of a national development agenda with land-use implications that will rely on implementation in a local context. This is a natural conflict between the national and the local level, where local decisions will cumulatively determine whether a national policy goal can be reached or not. For instance, in the UK there has been a reaction towards what is seen as the increasingly centralised nature of the political system in recent years and concerns about the lack of citizen involvement in political life. This reaction has been called the *new*

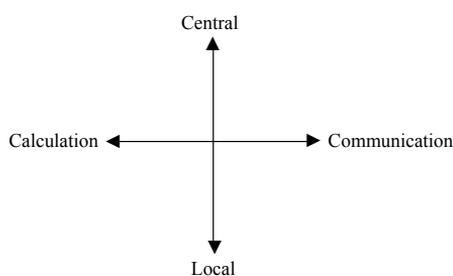


Figure 1. A model of levels and rationalities in decision making (source: Emmelin and Lerman, 2006).

localism (Corry and Stoker, 2002; Pratchett, 2004). Devolving power to local communities and neighbourhoods is not a new idea (Burns et al, 1994; Illsley et al, 1997), but according to Illsley and Coles (2009) it is one that has been gathering significant momentum in recent times. Irrespective of the level of local autonomy in a particular regulatory system, the issue raises the primary question of how to balance the control over spatial planning and the legitimacy of centrally governed development, which is dependent on dispersed deployment. Legally regulated participation plays an important role in this conflict. In practice, the centralised and often expert-based decisions related to instrumental rationality are often dependent on local and often participatory implementation. This is why, from an infrastructure development perspective, local planning and participation can be perceived as ‘getting in the way’ when implementing national policy (Larsson, 2009; Larsson and Emmelin, 2009). Public participation can sometimes be seen as a frustrating obstacle to a swift and effective process. The problems with the introduction of genuine public participation in the planning process are in many ways rooted in the conflict with the parallel goal of an efficient and rapid planning process (Henecke and Khan, 2002, page 34).

Within a framework of rational decision making a common conception of strategic decision making is one of a hierarchical system with an increasing level of detail as you move down to implementation and daily operation. This is termed *tiering* in the strategic environmental assessment literature (Lee and Walsh, 1992). The tiered system is assumed to be internally consistent, top down, and, in the case of environmental issues, based on scientific, calculating rationality (Emmelin and Kleven, 1999; Larsson and Emmelin, 2009; Sager, 1994). The problems of local implementation of national policies have interested political scientists for a long time, as exemplified by Wildavsky’s (Pressman and Wildavsky, 1973) studies and the concept of ‘street-level bureaucrats’ (Lipsky, 1980). How implementation is enhanced, hindered, or deflected by local decision makers within the same policy system has been the main focus. In infrastructure planning the environmental assessment system, in particular, has been blamed for delays and for increasing costs of major road projects (Emmelin and Lerman, 2004). Nilsson et al (2009) have recently studied similar mechanisms for local decisions about waste incineration in Sweden, where national policy is implemented at the local level and there are conflicts with other local concerns.

Calculation versus communication: what type of knowledge?

Drawn from Habermas’s theory about communicative action, in planning and governance literature the communicative rationality has been seen as the democratic solution to the top-down government of society (Sanderson, 1999). The Norwegian planning theorist Sager (1994) describes a contrast between two fundamental approaches to planning—calculation and communication—suggesting that each approach can be fully rational in its own way, and defining a range of possibilities between the two.

The *second axis* of the suggested model can be described in simple terms by the question of on what *type of knowledge* a decision is taken, and can be viewed against a backdrop of planning theory development in the ‘argumentative turn’ (see figure 1). It is because of collaborative planning being intended to serve both as a framework for understanding and as a framework for practical action that the issue of what type of knowledge is regarded as legitimate in a legally regulated process is of such great interest. It is important to distinguish between the type of knowledge that has to do with an expert-based approach, which is the calculating and optimising character, and therefore often adopts a top-down perspective, and the knowledge type that is based in deliberation or communication, which is probably more often seen in the local context in which national decisions must be implemented. For a wider discussion on approaches to integrating local and scientific knowledge and the challenge

of developing ‘user-inspired’ and ‘user-useful’ management approaches whereby local knowledge is considered alongside scientific knowledge see Raymond et al (2010).

Aspects of public participation in planning have been debated from a number of perspectives in *Environment and Planning C: Government and Policy*—for example, regarding the different ways in which local governments are implementing citizen participation (Yetano, et al, 2010) or outlining some concerns relating to the principles on which small-scale advisory participatory processes are constructed (Davies et al, 2005). For example, Yetano et al (2010) look for three main objectives for citizen participation highlighted by local governments. These related to *consultation* in terms of ‘learning about citizen preferences’, ‘adapting local government initiatives to citizens’ needs’, and ‘improving existing services’ and active participation in terms of ‘fostering citizen influence in decision making’ and ‘achieving better customer satisfaction levels’, as well as an *information stage*, giving an idea of ambitious goals for citizen participation initiatives.

Research questions

The main purpose of the paper is to better understand how different types of knowledge are perceived as legitimate at different levels in the planning system, and to what extent this affects public participation. To do so, I analyse the legal regulation of a large-scale 3G mobile infrastructure development in Sweden, with focus on the local practice of mast permits. Theoretically, two central approaches to decision making are presented—*who* decides and based on *what knowledge*—which arguably are of direct importance for understanding the frameworks for public participation. Three research questions can thereby be formulated:

- (1) To what extent is public participation formally regulated as well as exercised in practice in the case of developing 3G infrastructure in Sweden?
- (2) What type of knowledge dominates at different stages of the decision-making process in the development of 3G infrastructure in Sweden?
- (3) Is the scale of planning in the specific case likely to have an influence on legally governed decision making at local and regional levels?

As mentioned, the practical outcome of the formalised framework is not always easily predicted, and it cannot be measured by studying the framework alone; in this case the documented permits and appeals are the source for studying the law in action.

Method and data

The single most important source of data for this study is a database of approximately 250 building permits in the County of Blekinge from the period between 2001 and early 2006 (see table 1). These consist of first-instance decisions at local level and appeals against these. The collection of this database was done in a research programme located mainly at Blekinge Institute of Technology, and some findings have been reported in Emmelin and Söderblom (2002) and also in my licentiate thesis on spatial planning, *Between Daring and Deliberating: 3G as a Sustainability Issue in Swedish Spatial Planning* (Larsson, 2008a).⁽³⁾ When it comes to aspects of how the public could, or could not, participate and affect the 3G development in Sweden, the most important formalised means are found in the building permit process (page 11). Legal sources have been studied, as well as precedent cases to some extent—for instance, to clarify legal boundaries of who has the right to appeal, which is a question that in its detailed content has been defined by case law.

For the analysis conducted at regional level the documents and legislation used consist of 900 so-called ‘12:6 consultations’ carried out by the Stockholm County Administrative Board according to the Environmental Code, as well as utility easement decisions made

⁽³⁾The research programme is called ‘Tools for environmental assessment, MiSt’, and is headed by Professor Lars Emmelin.

Table 1. 3G mast permit processes in the five municipalities in Blekinge County between 2001 and early 2006.

Municipality	Frequency	Percentage
Karlshamn	51	20.6
Karlskrona	82	33.1
Olofström	30	12.1
Ronneby	71	28.6
Sölvesborg	14	5.6
Total	248	100.0

by the National Land Survey (NLS). In addition to this, a survey was conducted with the twenty-one county administrative boards in Sweden during the autumn of 2008, of which twelve replied to the questions regarding 12:6 consultations.

In terms of a possible generalisation of the results from Blekinge to be indicative for all of Sweden, a few notes can be made. The administrative system for land-use planning is nationally regulated. It means that it is the same for the entire country of Sweden. The country is divided into 290 municipalities (twenty-one regions/counties), which have supreme power over most of the planning of the spatial environment, or who delegate matters to the local authorities, under the supervision of the county administrative board. Blekinge County is representative on a national level from several perspectives (page 11). It is the most industrialised region and the most densely populated area outside the three big city areas. The region of Blekinge has a coastline with an archipelago as well as a rural inland, containing valuable culture and nature. The urbanised areas of Karlskrona, Karlshamn, and perhaps Ronneby are representative of many medium-sized urban areas in Sweden.

The case: the Swedish 3G infrastructure development

Sweden has a strong local dominance in the spatial planning system. The outcome of a national development agenda with land-use implications will therefore rely on implementation in a local context. The infrastructure for 3G in Sweden is governed by mainly two pieces of legislation with differing histories and partly differing purposes, the Planning and Building Act (PBA) (1987:10) [translation of Plan- och Bygglag (1987:10)] and (2010:900) [translation of Plan- och Bygglag (2010: 900)] and the Environmental Code. The PBA processes are municipal, whereas the environmental aspects fall under the county administrative board or the Environmental Court. Two major issues relating to 3G infrastructure development were health—for example, related to electromagnetic radiation—and also aesthetics or visual amenity. This has been the case in Sweden (Larsson, 2008a; 2013), and the UK (Allmendinger, 2007; Drake, 2006), including Scotland (Law and McNeish, 2007), and other countries. The case of 3G development in Sweden shows the conflict between authoritative scientific knowledge and local knowledge, which has been addressed in general by writers such as Feyerabend (1987) and Wynne (1996), and addressed in this specific case by Larsson (2008a) and Larsson and Emmelin (2009).

The local implementation issues in the Swedish 3G infrastructure development cannot be understood without some knowledge of the tensions and details of the overall national setting. The infrastructure roll-out formally started in December 2000 in Sweden, pursuant to which applicants had received licences, and continued until 2006. At the time of the decision about the licence terms for the development of the 3G infrastructure, the goal of the Swedish government was to maintain Sweden's position as one of the leading nations within information technology (IT) and telecommunications (SOU, 1999:85). However, the years following the initial decision were filled with protests from people fearing the radiation and landowners

who wanted to be left alone. Many felt they had been disregarded by the central decision to roll out infrastructure, when it was uncertain whether it would be beneficial (Emmelin and Lerman, 2004, pages 85–87; Emmelin and Söderblom, 2002, pages 35–37; Larsson, 2008a, pages 142–143). No comprehensive assessment was made of the entire system; the infrastructure roll-out was effected through one permit for each mast, at local level, providing the administrative system with an extreme challenge, and causing unexpected environmental and social outcomes as a result from the lack of a comprehensive assessment.

After the initial allocation of spectra by means of proposed criteria in a selection process, the so-called ‘beauty contest’, four operators were given licences to build the infrastructure for 3G. Within three years the four operators were to build competing systems to cover 8 860 000 people, which at the time was about 99.98% of the population (Post and Telecommunications Agency decision of 16 December 2000). An estimate stated that a reasonable area coverage would be around 170 000 km², or about 41% of the total Swedish surface area (Björkdahl and Bohlin, 2003).⁽⁴⁾ The coverage by the end of the original licence period was significantly lower than the promised coverage, at between 66% and 74% of the promised 8 860 000, with only three remaining operators still participating. The first operator did not complete the required coverage until 1 December 2006, followed by the two remaining operators on 1 June 2007. The municipal permit processing was blamed for the delay, a reason that reportedly “could not have been foreseen”, and which helped the operators avoid sanctions from the responsible agency [the Post- och Telestyrelsen (PTA)—the Swedish Post and Telecom Authority].⁽⁵⁾ The interactions between the PTA and the licence-winning operators, resulting in a postponed deadline for the fulfilment of the licence conditions, have been studied from a sociolegal perspective, showing in Larsson (2008b) the PTA as being part of the ‘game’. These issues at national level are important for the local and regional levels, since the development of the national system was heavily dependent on local and regional implementation. A feature that was perhaps surprising was that environmental aspects were not handled at national level but assessed locally in the building permit process, as well as in the regional 12:6 consultations within the county administrative boards. This is why the municipal permit process holds many of the keys regarding environmental management and planning, and why the design has been criticised for its lack of comprehensive assessment (Emmelin and Lerman, 2004, pages 78–79; Larsson, 2008a, pages 128–131).⁽⁶⁾

Electromagnetic radiation has been a widely debated issue during the infrastructure roll-out in Sweden (Larsson, 2008a, pages 80–88) as well as in several other countries, such as the UK (Allmendinger, 2007; Burgess, 2004; Drake, 2006; 2010; Stilgoe, 2007) and Denmark (Kristiansen et al, 2009), although it has been debated differently in different countries (Burgess, 2002). The magnitude of the issue was not foreseen before the roll-out. There has been a public debate, the media have been very much involved, nonprofit organisations have been formed, webpages established, and numerous opinion articles produced in protest against the 3G development in Sweden. Much of this is related to the feared hazardous effects, or health problems, of the electromagnetic radiation from the base stations. The

⁽⁴⁾The national level and the initial stages of 3G development in Sweden have been studied from a planning perspective by Emmelin and Söderblom (2002) and from a sociolegal perspective by Larsson (2008b); and other studies have focused on the licence allocation process (Andersson et al, 2005; Hultkrantz and Nilsson, 2001).

⁽⁵⁾The Larsson study, however, shows that a slow municipal permit processing cannot explain the lack of coverage in some areas of Sweden (Larsson, 2008a, pages 68–69 and 125–127).

⁽⁶⁾The 3G infrastructure development has been further studied from a sustainability perspective by Larsson (2008a), where participation is discussed in relation to social sustainability, and by Larsson and Emmelin (2007).

perceived lack of participation in the decision-making process of where to erect the masts has led to the masts being sabotaged or simply dismantled by angry 3G antagonists, either due to a general objection to the technology and its effect on the landscape or due to a more local NIMBY-approach.

The Swedish Radiation Protection Authority has been criticised for the way it has handled, or not handled, the issue. Despite the information from the Radiation Protection Authority and other national agencies, during the roll-out municipalities were facing the radiation fear in the shape of resistance towards mast construction, not least in the form of appeals against mast building permits. Several municipalities responded to the public debate by planning ‘mast free zones’ or ‘radiation free zones’, either as a result of scepticism or as a way of handling the radiation issue (Emmelin and Söderblom, 2002, pages 31–32).⁽⁷⁾

Participation at regional level

The regional level includes the county administrative boards and the public authority managing the Swedish surveying system, the NLS. The county administrative board is both the authority which decides about activities that fall under chapter 12, section 6 of the Environmental Code (1998:808) [translation of Miljöbalk (1998:808)] and the first instance of appeal on matters concerning municipal building permits. The NLS has nationwide responsibility, but the most common contact point for the public is via one of the twenty-one NLS agencies that follow the county administrative map.⁽⁸⁾

The responsibility to report 3G masts to 12:6 consultations is parallel to the process for building permits. This means that, even if the mast gets a municipal building permit, the site can be prohibited by the county administrative board to protect the ‘natural environment’. This lack of coordination has been criticised for showing bad legislative coordination, but also a manifestation of “competition between professions as well as governmental authorities, and is an expression of the distrust towards municipal permit processes that exists within the environmental sector” (Emmelin and Söderblom, 2002, page 28). Since many 3G mast sites are applicable to the 12:6 consultations, the participative aspects at the regional level are tied to the involvement of this particular legal instrument. The operator in question can appeal a decision by the county administrative board that prohibits the construction of a 3G mast to the Environmental Court.⁽⁹⁾

The right to appeal a decision based on the 12:6 consultation requires that the person is affected by the decision in the sense of being the property owner, or have some special right to the land, such as renting it. This can be compared with a case in the Supreme Administrative Court, where it was concluded that anyone who owns property that is affected by a decision according to the Environmental Code has a right to appeal the decision if it negatively affects

⁽⁷⁾For an analysis of mobile phone health risks as an example of the ‘public understanding of science’, with an explanation based around the coproduction of scientific and social order, see Stilgoe (2007). For an in-depth study into the attitudes and beliefs of one local protest see Drake (2006).

⁽⁸⁾The county administrative board can prescribe the person responsible for the activity to take precautions or even forbid the activity. This duty to report has a wide application, and the focus lies on the impact on the natural environment. The activity can be prohibited by the county administrative board “in order to protect the natural environment” (12:6, section 4). The purpose of the duty to report for consultation is, according to the preparatory work of the Environmental Code, that it creates a possibility to see what activities are performed in sensitive areas, and to ensure that activities hazardous to the natural environment are prohibited. This can steer anyone exercising the activity away from sensitive areas to areas where there is no duty to report (Prop 1997/98:45, page 304).

⁽⁹⁾If an operator wants to construct a mast on another person’s property, a County Administrative decision has no legal implications when it comes to building permit or utility easement. This means that, even if the county administrative board sees no hindrance for a mast from a natural environment point of view, it does not necessarily mean that the Planning and Building Act permits the mast.

his or her legal status—for instance, by limiting the possibility of using the property (RÅ 83 2:85).⁽¹⁰⁾

The practice

The number of mast sites that have been prohibited by the county administrative boards pursuant to the 12:6 consultations is very low. Only 8 sites out of the 900 reported to the Stockholm County Administrative Board during the first three and a half years of the roll-out were prohibited pursuant to chapter 12, section 6 of the Environmental Code, which is less than 1%.⁽¹¹⁾ The consultation decision ‘concerns’ people who have some kind of special right to the property—for instance, the owners. They have a right to be heard before the decision is made.⁽¹²⁾ The term ‘consultation’ could generate participative associations; but, despite this, the assessment is made at regional level, by the county administrative board, and the public has little say in how the decision is made, which is corroborated by the survey (see also Larsson, 2008a, pages 76–78).⁽¹³⁾ Other than this, the consultation has an outspoken environmental conservation emphasis, and radiation issues are not found to be a part of the decision. Radiation is defined as nonhazardous as long as it is falls below the limits set by the Swedish Radiation Protection Authority.

The other permit of relevance to 3G mast construction at regional level is utility easement under the Utility Easement Act (UEA) (1973:1144) [translation of *Ledningsrättslag* (1973:1144)].⁽¹⁴⁾ Utility easement means a right for the possessor of the utilities to use the property of others in order to erect power lines or communication cables in the public interest, for example. The utility easement concerns power lines or cables that are intended for public purposes.⁽¹⁵⁾ The utility easement is tried and decided by the NLS, and attaches to the property.⁽¹⁶⁾ The NLS performs an assessment of its own, regardless of whether there is already a municipal permit to build the mast. The building permit does not necessarily mean that the utility easement decision is positive. The decision by the NLS determines the level of compensation the owner of the property is allowed.⁽¹⁷⁾ Utility easements can be granted against the property owner’s will. The UEA was changed during the infrastructure roll-out to include 3G masts explicitly from 1 August 2004 in order to “facilitate the roll-out” (Prop. 2003/04:136,

⁽¹⁰⁾ RÅ 83 2:85. In a case from the Environmental Court of Appeal (Case M 7839-03, 8 February 2005) a person appealed the Environmental Court decision to allow a 3G mast in accordance with chapter 12, section 6 of the Environmental Code. The person had no connections to property affected by the decision, and therefore was not found to have the right to appeal the decision with reference to public interest.

⁽¹¹⁾ The survey of the county administrative boards reveals that the operators (or consultants on behalf of them) and the administrative boards are often able to negotiate about the exact locations, so that the mast site will not be located in the most sensitive areas. Another reason for the low number of prohibitions is the fact that the reporting operators receive signals beforehand on what the decision will be and can withdraw the application when they can expect a negative decision. This means that direct conflicts between the operators and the county administrative boards are often likely to be avoided, and a low number of prohibitions can be seen in the statistics. According to the county administrative board survey, the statements of the county administrations’ administrative officers responding to the question of how often they have cases of appealed 12:6 decisions were of the type ‘a few’, ‘maybe one during the last few years’, or ‘I don’t recollect any’.

⁽¹²⁾ As in the case in the Environmental Court of Vänersborg (M 5148-04, 22 April 2005), where the decision was appealed because the county administrative board had not communicated the decision to the property owner, which led to the case being redirected to the county administrative board.

⁽¹³⁾ ‘Consultation’ is translated from the Swedish *samråd*.

⁽¹⁴⁾ *Ledningsrättslagen*.

⁽¹⁵⁾ Section 2, point 1 of the UEA.

⁽¹⁶⁾ This handling is called *förrättning* in Swedish.

⁽¹⁷⁾ Sections 13 and 22 of the UEA.

pages 9–10). By September 2006, fewer than 100 utility easement cases had been decided by the NLS in relation to 3G masts in Sweden. The data are not easily collected, since the NLS does not differentiate between 3G or GSM or other telecommunication masts.⁽¹⁸⁾ The administrators of the NLS dislike the unpleasant situation of being in the middle of such a clear conflict as the one between landowners who do not want a mast site on their property and the operator who applies for utility easements to put up a mast on the same property. The landowners often find that the utility easement results in low compensation levels.⁽¹⁹⁾

The possibility of a utility easement decision for an operator who wishes to erect a mast on another person's property strengthens the operator's position in contract negotiations with the landowner. This could mean that a number of cases never surface at the NLS, since the landowner knows that the possibilities of avoiding the mast are slim, and the compensation from the utility easement decision is low.⁽²⁰⁾ Even if utility easement conflicts in the 3G roll-out in Sweden have resulted in few legal cases, many issues regarding compensation levels are probably solved through negotiation. But since the changes in legislation have changed the negotiation position for the landowners, it is likely that they accept lower compensation levels than would have been the case if the utility easement alternative was unavailable to the operators. The compensation level is an interesting issue in itself with regard to the Expropriation Act, the legal regulation controlling the compensation levels decided in cases of utility easement (Larsson, 2008a, pages 158–161). During 2006, the Court of Appeal (appealed Land Court decisions) decided in three cases regarding compensation for GSM or 3G sites.⁽²¹⁾ All three were appealed to the Supreme Court, which set the compensation levels at between approximately €1100 and €28000.⁽²²⁾ The participation in the utility easement process is, of course, necessary for the landowner in question, but it is likely that reluctant landowners will wish they were able to decide on their own whether or not to have the mast site on their property.

Participation at local level

It is the local level of the planning system that has attracted the most debate, the most protests, and the most court cases relating to the Swedish 3G development.⁽²³⁾ In the process of constructing 3G masts the operators often need to apply for a building permit at the municipal building committee.⁽²⁴⁾ The PBA states that, including radio and telecommunications aerials or towers in the statement, “buildings shall be placed and designed in a suitable manner with regard to the townscape or the landscape and the natural and cultural values of the site.”⁽²⁵⁾

⁽¹⁸⁾ A few examples can, however, be mentioned regarding the number of cases, which in Stockholm had been around 8, in Uppsala 1, Kalmar 0, Skåne 12, Västra Götaland 7, and Jämtland 1, until September 2006.

⁽¹⁹⁾ Interview with Carl-Erik Sölcher, *Lantmäteriet*, 27 September 2006.

⁽²⁰⁾ From 1 August 2010 new compensation rules are in force for expropriation and other situations where the property is occupied by force, including utility easement (Prop. 2009/10:162; SOU 2008:99).

⁽²¹⁾ Skåne and Blekinge Court of Appeal, Case Ö 152-06, 24 October 2006, Göta Court of Appeal, Case Ö 1719-06, 22 August 2006, and Svea Court of Appeal, Case Ö 4136-05, 20 November 2006.

⁽²²⁾ Supreme Court Cases Ö 4636-06, Ö 3780-06, Ö 5083, decided on 15 May 2008.

⁽²³⁾ Sweden is divided into 290 municipalities, each with mandate over land-use and water use planning and acting as the permit authority regarding numerous construction practices, including the construction of many 3G masts. The municipal government consists of elected politicians and salaried employees.

⁽²⁴⁾ See chapter 1, section 4 of the PBA.

⁽²⁵⁾ The building committee has to communicate that it has received a permit application to concerned parties, such as neighbours [8:22 PBA, the Administrative Court Procedure Act (1971:291, sections 10–12), [translation of *Förvaltningsprocesslag* (1971:291)], which can attach a statement regarding their opinion of the permit application. This material forms part of the decision material of the committee.

If someone, for instance a neighbour, wants to appeal a mast permit, this is done to the county administrative board.⁽²⁶⁾ According to general administrative principles, the right to appeal is available to those who are concerned by the decision, if it goes against (has a negative result for) them.⁽²⁷⁾ In the permit processes the key is whether the complainant is *a concerned party* or not.⁽²⁸⁾ And this refers to ‘concerned’ in its legal sense. If the complainant is found to be a concerned party, the appeal will be tried in substance. If not, the appeal will be dismissed, irrespective of how legitimate the appeal would have been *in substance*.

When it comes to defining the ‘concerned party’, the Blekinge permit process data show that the line is sometimes hard to draw for the county administrative board. About one out of five of the 3G mast building permits were appealed (49 of 248). This includes both operators’ appeals against the municipality’s rejection of a building permit application as well as individuals who do not like the municipal decision to approve a building permit and decide to appeal this decision (see table 2).⁽²⁹⁾

Table 2. Appeals against local mast 3G permits in the county of Blekinge 2001–05.

Permit finally granted	No	Yes	Not yet decided	Total
Appealed by nonoperator	1	36	2	39
Appealed by operator	7	3	0	10
Not appealed	44	141	14	199
Total	52	180	16	248

Appeal is futile

When a permit has been granted, an appeal has hardly ever led to a permit being revoked, no matter the reason. Out of the thirty-seven appeals raised by neighbours or other nonoperators, only one led to a permit being denied in the end (< 3 %).

The permit processing data from Blekinge show that, even if the concerned parties are allowed to participate in terms of right to appeal, this hardly ever changes the final outcome if the process goes above municipal level (see table 2). Of the thirty-nine appeals from nonoperators in Blekinge, thirty (77%) mentioned a fear of radiation as part of the reason for appealing (see table 3). This makes it a very common reason, indicating the importance and range of the radiation issue in Blekinge.

Table 3. Fear of electromagnetic radiation as reason for appeal.

	Not due to electromagnetic radiation	Electromagnetic radiation is one reason	Lacking	Total
Appealed by nonoperator	5	30	4	39
Appealed by operator	10	0	0	10
Total	15	30	4	49

⁽²⁶⁾ Chapter 13, section 2 of the PBA.

⁽²⁷⁾ See section 22 of the Administrative Procedure Act (1986:223) [translation of Förvaltningslag (1986:23)].

⁽²⁸⁾ See RÅ 1992, ref 81, regarding appeals of permit to build a wind power station, and RÅ 2005, ref. 36.

⁽²⁹⁾ Out of the fifteen appeals that were dismissed (the factual matter was never tried because the county administrative board did not find the complainant to be a party concerned in a legal sense) the same person made twelve appeals.

Permit appeals under the PBA based on fear of electromagnetic radiation are in practice always rejected in court. The courts state that the radiation cannot be said to be dangerous, meaning that it refers to scientific evidence not showing that the radiation is dangerous. Legally, which also means most importantly, the fear of radiation has met with no recognition. Since the issue has been so widespread among the general public, many permits has been appealed for this reason, which means that the roll-out has been delayed to some extent, even though the permits have not been denied in the final court decision. It is possible that public fear has affected local decision making to some extent as well.

Summary of results

Not everyone could participate in the decision or the permit processes of the infrastructure roll-out. Public participation is almost exclusively steered towards the ‘one-mast-at-a-time’ trial process that the legal system provides. During roll-out this means that the opportunities for taking part in and affecting the 3G infrastructure depend on whether the complainant is legally defined as a concerned party in the assessment of several or single masts. This concerns the 12:6 consultations, the utility easements, and, most importantly, the building permits, and is often connected to the possession of property impacted on by a mast site (table 4).

Table 4. Summary of key results: how the public can affect 3G mast permits.

	Law in books	Law in action
Regional	Concerns appeals of 12:6 decisions, utility easement appeals, and is tied to being a concerned party, which generally means being an owner of property next to the mast site (or of the mast site itself), or the applicant.	In practice, this rarely concerns anyone outside the county administrative board and the operators when it comes to 12:6 consultations. There are only a few appeals out of several thousand decisions. The utility easement is likely to be negotiated; the power relationship is asymmetric due to the operator being likely to expropriate the land anyway.
Local	Concerned parties can appeal a building permit granted, which generally means being an owner of property next to the mast site or being an applicant. Concerned parties can make a statement regarding building permit applications.	Appeals rarely change the outcome of permits granted. Appeals based on fear of electromagnetic radiation are <i>always</i> rejected. There are examples of when statements, early in the planning process—before it has been ‘juridified’—have changed the location of the site.

Analysis

As outlined above, the purpose of this paper is to shed some light on how different types of knowledge are perceived as legitimate at different levels in the planning system, and to what extent this affects public participation. Theoretically, I have argued for a model based on two central approaches to decision making, where the central–local axis has formed the question of *who* decides and the calculation–communication axis has formed the theory on planning-approach formulated in the question of *what knowledge* is to govern the actual decision. In order to reach this purpose, I formulated three specific questions which I repeat below, with an analysis.

- (1) To what extent is public participation formally regulated as well as exercised in practice in the case of developing 3G infrastructure in Sweden?

For the public to participate the public must have the opportunity to change or affect a public planning decision. If not, this is no more than a token exercise [see Evans-Cowley

and Hollander (2010), mentioned above]. Participation at local and regional level in the case of 3G development in Sweden is tied to being a ‘concerned party’, which generally means being a landowner or having some other direct connection to a property in the close vicinity of where a mast is to be constructed. The consequence of this is that you have to activate your participation within certain time frames, and in regard to only predefined matters. Although the municipalities do not clearly acknowledge fear of radiation as a reason for denying a permit, the examples above show that the municipal planning process is open to the opinions of individuals who are affected by mast sites. Listening to concerned parties before the decision lies within the existing law, but acknowledging fear of radiation lies outside the existing law in the case of 3G in Sweden. However, the examples indicate that the issue of exactly where this line is drawn is not the most pressing issue in local planning. In the legal process which may follow an appeal, however, appeals based on fear of radiation are always rejected, which demonstrates the separate ways in which the legal decision is made.

(2) What type of knowledge dominates at different stages of the decision-making process in the development of 3G infrastructure in Sweden?

It is likely that some local disputes can be solved by the involved parties communicating. For instance, a mast can be relocated to a less disruptive place for the neighbours, and hence never show up in the appeal data. From this perspective the appeal data show cases that could not be solved communicatively, where the opinion of the appealing party differs too much from the views of the operators and the municipality which legitimates the building permit decision under the PBA and legal practice. As regards municipal decisions, neighbourhood opinions have often been taken into account. There are examples of how neighbour objections are a factor in a ‘negotiation’ of the exact location of the mast site.⁽³⁰⁾

(3) Is the scale of planning likely to have an influence on legally governed decision making at local and regional levels?

The presentation has so far concerned the right to participate mostly in the sense of having a right to appeal, and where this line is drawn legally. Another aspect of the law in books is that this right to appeal can be questioned if the public participation never affects the decisions taken. Are they, to use the title of the Conrad et al (2011) article, ‘Hearing but not listening’? In that case it risks looking like a right, without functioning as one, and the already taken decision to roll out infrastructure for an extreme mobile coverage may end up in a top-down information strategy aiming at only convincing the public that the decision is for the best—as a ‘token participation’ (see Evans-Cowley and Hollander, 2010, page 399). People are let in, but never listened to. Such a state of law can be investigated and revealed only in its application. The permit process data from Blekinge show that, even if the concerned parties are allowed to participate, their appeals hardly ever change the final outcome. When the permit has been given, an appeal, no matter for what reason, has hardly ever led to a revoked permit. This is a sign that the process may include people, may give them formal access, but does not take any notice of what they say. It shows that what the complainants regard as an issue is rarely acknowledged as an issue legally.

⁽³⁰⁾ It is seen, for instance, in the cases of Tararp 3:5, where the permit was denied partly due to the notifications from the neighbours (although the operator appealed and finally got the permit), and Uttorp 4:2, where the neighbours referred to fear of radiation, the negative effect on the view of the landscape, and an assumed decrease in property value. The operator responded and suggested moving the site by 100 metres, and the building committee granted the permit after this. In the case of Färmanstorp 4:1 a neighbour objected that the mast was too close, the radiation could be hazardous, and the property value might decrease. The operator responded, altered the site location, and the municipal building committee stated that the permit could be granted after the relocation, as the conditions in chapter 3 of the PBA were now satisfied.

Who decides: central or local decision making?

The implementation of a national system for infrastructure entails changes in the local landscape, and the outcome of a national development agenda with land-use implications will rely on implementation in a local context. This is a natural conflict between the national and the local level, where local decisions will cumulatively determine whether a national policy goal can be reached or not. This raises the primary question of how to balance the control over spatial planning and the legitimacy of centrally governed development, which depends on dispersed deployment. In the 3G infrastructure development the argument that municipal planning was an obstacle to rapid development was voiced at a very early stage of the development, with limited actual evidence. As Larsson (2008a; 2008b) has shown, blaming slow municipal planning for standing in the way served as a convenient excuse for the operators to get out of the commitments made in the licensing process at the height of the IT bubble, no matter how false the premise was.

The mast-by-mast participation in the case of 3G development in Sweden can be analysed in relation to public participation and its legal formalisation. In relation to a wider context, the single-case participation may bypass participation in solving problems of a more structural character. And some issues in the case of 3G are of a structural nature: many have protested against the rollout as a whole, which is tied to the extreme coverage of the infrastructure, and its landscape impact and the feared hazardousness of the radiation. It is safe to say that many of those protesting have wished for more scope to participate and affect the infrastructure roll-out, far beyond the individual cases. The 3G case shows a system that has been governed in a way which, on one hand, meant that it permits reduced operator investment will and ability—contrary to formal agreements and law—and, on the other hand, puts pressure on the legal system and municipal permit processing. This is in part contradictory. From a development perspective, public participation becomes nothing more than an irritating element and an obstruction to the roll-out. The result of such an approach is that the issues that are most important to the public are likely to be bulldozed over, and the result can be perceived reduced legitimacy of the legal order, which in some cases has led to dismantled masts and sabotaged sites, in the case of 3G development in Sweden.

Knowledge types: calculation or communication

The local building permit process shows elements of being both inclusive and exclusive, depending on how far the ‘juridification’ of the specific case has gone. A way of analysing decision-making rationality in terms of who decides and what type of knowledge is used is to place the studied data onto a central–local axis and a calculating versus a communicative view (see Emmelin and Lerman, 2006; Larsson, 2008a; Larsson and Emmelin, 2007; Sager, 1994). Viewed from the perspective of what matters are allowed to be part of the participative process, the decision making at municipal level bears elements of weighting or balancing of legitimate but not necessarily compatible interests (communicative). The local decision is seen as good and legitimate if it is reached in a process where interests are explicit and weighted. Although methods may vary over a wide scale, from strictly rationalist to deliberative, the ultimate decisions in spatial planning are political. This means in simple terms that a problem is a problem if one of the concerned parties thinks it is, which is the case with fear of radiation in a local context. The centralised decision of how radiation shall be taken into account in the 3G infrastructure development is instrumentally rationalistic and calculating (Swedish Radiation Protection Authority standards, higher court decisions) rather than communicative or deliberative [note the inherent ‘objectivism’ in this perspective—see Dryzek (1996), mentioned above]. From this perspective the issue of whether or not the public fears the radiation is irrelevant. From this perspective the public should not fear the radiation, since expert judgment claims that it is not hazardous. This relates

to the appealed permit processes above municipal decision-making level. On a local level the participatory aspects are stronger. The municipal building committees tend to consider neighbours' fears or sceptical attitudes towards the radiation as a problem worth taking into account in the local planning. This sometimes leads to a refusal of a 3G mast building permit. These communicatory features of the planning process point the local planning towards the more deliberative planning paradigm [for more on this see Emmelin and Lerman (2006), Larsson and Emmelin (2007), and Larsson (2008a)]. These features fade, however, as the appeals reach the higher courts, and the 'black box' of law closes in on the decision making and expert knowledge takes over as the more heavily weighted knowledge.

Such an example of lack of participation in practice may add to a loss of public confidence in political and administrative performance which some scholars have witnessed (Welch et al, 2004). The problem displayed by the appeals handling processes in the case of 3G development in Sweden is, however, not the problem of policy implementation being hindered by local handling processes "shaped by local-scale actors, cultures, routines, and decisions", as is the focus in Nilsson et al (2009). Nor is it focusing the street-level bureaucrats (Lipsky, 1980) in the sense of revealing in what way national policies are altered in its local implementation. On the contrary, the dilemma or focus in this study lies in looking for the balance between two interests that may be in conflict: one national development agenda tied to a specific technology on the one hand, and local governance and public participation and inclusion in the process, on the other. The handling processes at least suggest that the latter process is affected by the former—that is, the development agenda may have led to a pressure on the legal system, when faced by appealed decisions, to exclude complainants from having a say in the processes of mast location. This is especially clear when it comes to appeals relating to fear of electromagnetic radiation.

This addresses the broader question of the relationship between science and the citizen, which Irwin (1995) has addressed within the field of environmental risks. As described by Lidskog (2008, page 78):

"There is a clash between science's universal and 'decontextualised' character and lay people's local understandings. From this science-centred perspective, there is a need to educate citizens, which is believed to lead to greater acceptance for a (scientifically guided) policy. Thus, science is placed at the centre of policy-making, whereas the public are seen as passive spectators, as witnesses rather than participants."

Irwin is critical of this understanding, claiming that science is not a homogenous practice. He claims that one reason for a clash between science and the public can be found in science's ambition to create abstract, universal, and formalised knowledge, which ignores the more context-specific, contextually generated understanding of lay people. The way forward suggested by Irwin is to adopt a symmetrical understanding of different kinds of knowledge, and to start from the public understanding of a certain problem rather than a science-centred view which often alienates the public. This viewpoint, in relation to this study, is particularly interesting in the case of electromagnetic radiation from 3G masts. The decisions regarding electromagnetic radiation are, in the case of 3G development in Sweden, clearly expert based, instead of deliberative. Different norms seem to reach legitimacy at different levels of the planning and environmental administration. This may be illustrated by the question of *where* in the permit process *what* knowledge is legitimate.

Suggested future research

The case of 3G development in Sweden shows features of a more general interest which could be studied in a comparative approach to similar development projects. These could concern the interplay between national policy and its local implementation. In a Swedish context a fruitful comparison suggested is wind power development (Larsson and Emmelin, 2009;

see also Larsson, 2011a), which is a research project in process. The case of wind power development in Sweden shows similar features to the 3G development in terms of conflicts between national policy and the local administrative level. The local level may be under similar pressure from the national policy and politics, and both cases concern a development having a major impact on the local landscape. This opens up for the study of a complex set of interrelated topics concerning participation in planning, rights connected to property, environmental as well as aesthetic issues, and to what extent political and economic pressure can affect decisions governed by principles of legal security.

Conclusion

The case of developing infrastructure of 3G in Sweden has served to display how legal formalisation in a decision-making process, going from a deliberative task of local planning to a judicial one, can alter what type of knowledge is regarded as legitimate. The theoretical model in the paper serves as a tool not only to detect where on an axis between calculating and communicative a decision is made but also to see if what is regarded as valid knowledge shifts between different levels in the planning system. The public participation in the 3G infrastructure development was heavily dependent on the complainants being concerned parties, which generally means being an owner of property next to the mast site, in a system fractioned into mast-by-mast assessment. On the important local level there are examples of when statements have changed the location of a site—however, appealing building permits rarely ever changes the outcome of permits granted, and appeals based on fear of radiation are always rejected. The juridification of a conflict meant a development from a deliberative approach, where any concern is heard, to a calculating and expert-based one, where the general stance on a particular topic (such as whether or not the electromagnetic radiation from mobile masts is hazardous) is applied. This means that *what* knowledge is legitimate depends on *where* in the permit process it is presented.

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Article II

NON-LEGAL ASPECTS OF LEGALLY CONTROLLED DECISION-MAKING

The Failure of Predictability in Governing the 3G Infrastructure
Development in Sweden

Larsson, S. (2008)

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SWEDISH HORIZON, LUND STUDIES IN SOCIOLOGY OF LAW, PP. 177 – 201.

Non-Legal Aspects of Legally Controlled Decision-Making

*The failure of predictability in governing the 3G
infrastructure development in Sweden*

Abstract

Predictability is a key function of law. When the application of law goes from being flexible to becoming unpredictable this key function is lost. This article shows how legal application can deviate from formal agreements and law, how legal predictability experiences a setback when other forces or values affect the decision making that is supposed to be strictly legally controlled. Non-legally acknowledged factors can affect the decision-making tacitly. This means that causes like economy and politics can affect the application of law, although not admittedly, and the legislative process in order to change the application.

The example used for this demonstration is taken from the Swedish development of the third generation of mobile phone infrastructure, 3G, and more specifically the responsible authority's, the Post and Telecommunications Agency, supervision of the four licence winning operators during the infrastructure roll-out.

The paper addresses the difference between the intentions of the law and the application of the law, analyses and aims to explain parts of the legal complexities or inconsistencies from a socio-legal perspective. To do so, data permit process data from a regional case collected within a MiSt study (Larsson 2008) is used, along with legal documents, cases, PTA reports and more.

Introduction

Predictability is a key function of law. Predictability is “one of the basic values in democracy and a state governed by law” (Peczenik 1995, p 89f.). Many legal theorists hold the norm of “jurisdiction and the actions of public authorities in a democratic state should be predictable” (ibid, p 90), as the very essence of legal security. When the application of law goes from being flexible to becoming unpredictable this key function is lost: the preconception of knowing the rules of the game, before and when playing the game. A governmental authority is expected to apply law in a predictable, transparent and non-discriminatory way. This article shows how legal application can deviate from formal agreements and law; how legal predictability can experience a setback when other forces or values affect the decision making that is supposed to be strictly legally controlled. The example used for this demonstration is taken from the Swedish development of the third generation of mobile phone infrastructure, 3G, and more specifically the responsible authority’s, the Post and Telecommunications Agency (hereinafter the PTA), supervision of the four licence winning operators.

The 3G infrastructure in Sweden has been developed between 2000 and 2007 and the PTA is the authority responsible for supervising the sector, as well as the operator developing the infrastructure. Initially, within the course of three years four operators were to build competing systems to cover 99,98 percent of the population. This was determined as a result of the licence allocation process, the so called beauty contest where operators made promises regarding coverage and how fast to reach this coverage.

These coverage requirements were extreme in relation to other EU countries’ licence conditions, and the operators failed to reach the promised coverage in time. In fact, it took twice the time agreed upon. Still the PTA did not order any sanctions, even if the legal provisions clearly state that possibility. Based on a regional sample of permit processes national coverage data and PTA reports, in combination with a legal analysis, this article shows the PTA and the operators’ actions in relation to one another.

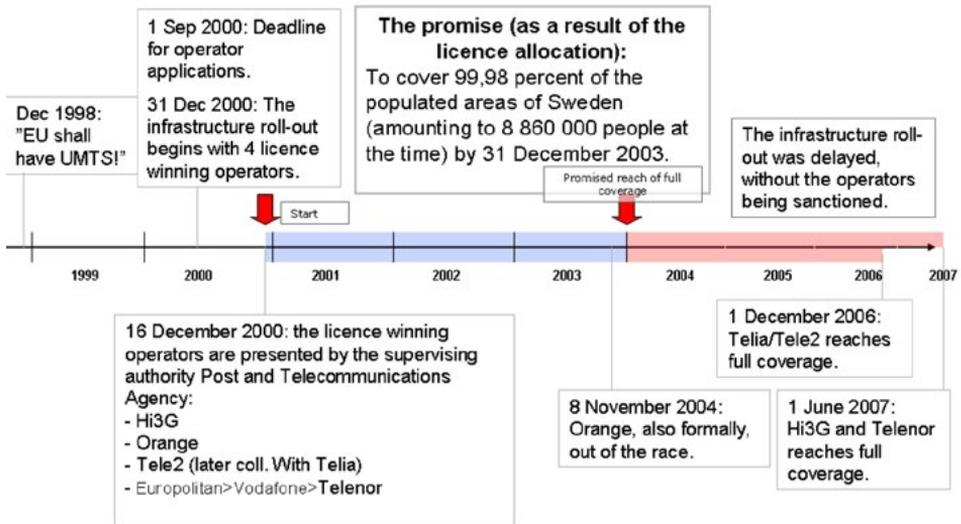


Figure 1 *The 3G development in Sweden*

The article focuses on the relation between the operators and the PTA, a relation regulated by law but also an agreement (upheld by law). It describes how non-legally acknowledged factors are likely to have affected the decision making of the responsible agency for infrastructure development without this being explicit during the development or foreseeable by the time of licence allocation. One could imagine that this difference is an obvious one, but the legal domain can be more complex than first assumed, and the deviations from the law in books has to be empirically investigated in a methodological way far different from the traditional legal method. The legal field to some extent lacks the method to detect flaws of the legal system. This task is therefore often what socio-legal researchers mainly take on, as a main research objective for sociology of law. Much of the data and results are based on a study within the MiSt-programme¹ presented in a licentiate's dissertation published in March 2008 (Larsson 2008).

Background

The PTA, is the "applier" of the legal order describing and setting the stage for the legitimate PTA actions against the operators. The PTA's role is mainly regulated in

1 MiSt is an interdisciplinary research programme on tools for environmental assessment in strategic decision making funded by the Swedish Environmental Protection Agency. The programme is coordinated by the Department of Spatial Planning, Blekinge Institute of Technology. See http://www.bth.se/tks/mist_eng.nsf See also Larsson, Stefan (2006, 2008) .

the Electronic Communications Act, the ECA. As an applier the PTA has to follow the legal order and, if deviating from it in some way, the PTA will most likely still formulate and legitimate this deviation in terms of the legal order.

During 2002, a time when many operators throughout Europe wanted to change the licence conditions they just had agreed to, the European Commission in a communication to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions in June 2002, stressed the importance of a predictable environment in the 3G development sector. Any modifications in the licence conditions should be “proportional, transparent and non-discriminatory” (Section 3.1 of COM(2002) 0301). The Communication from the Commission is an example of a principle in contract law stating: “Pacta sunt servanda”, agreements must be kept.

The Swedish 3G infrastructure development has been analyzed from a planning perspective (Emmelin & Söderblom 2002), from a planning and environmental legal perspective (Emmelin & Lerman 2004), from a sustainability perspective (Larsson 2008, Larsson & Emmelin 2007) and from a spatial planning and sociology of law perspective (Larsson & Åström), and the licence allocation process has been analyzed as such by Hultkrantz and Nilsson (2001) and Andersson et al. (2005).

Research questions of the paper

The article shows the relevant legal framework, including the most important licence conditions binding the operators that received a licence in 2000. This framework is especially interesting in comparison with the actual deviation from the formal licence conditions that occurred in the infrastructure roll out, and how this was handled by the supervising agency, the PTA, especially in relation to the operators that were to develop the infrastructure. The investigation of the legal framework alone, the “law in books”, does not explain this deviation or the result of the application of the framework, the “law in action”. The objectives of the article is therefore

1. to investigate and present the legal framework relevant to the relation between the operators and the PTA when it comes to the deadline of fulfilling the licence conditions.
2. to show the actions of the PTA and the operators in order to explain the delayed reach of coverage, and hence to focus *the application* of the legal framework.

The first question represents the law in books and the second the law in action. The article suggests a socio-legal approach to explaining the deviation between the formal law in books and its application. The first objective mainly requires legal sources of data. The second requires a socio-legal approach were data in form of PTA reports, operator applications as well as the contribution from other research made on specific parts or angles of the Swedish 3G development. It also requires a more elaborated

view on law and the legal system. This socio-legal approach needs further presentation.

Law in books, Law in action

When researching the empirical side of law, the distinction of law in books – law in action, often comes up.² The idea is that there are two sides to law, one dogmatic, often written down, and one empirical, which you only can find outside the dogma, for it is the application of law, the consequence. In other words, it is about the difference between intent and outcome, the difference between what you say, and what you subsequently do. This composition is reflected in the two objectives of the article, presented above. The research design is common in sociology of law research where first the legal design is presented and then the actual deviation from this design is measured or established through empirical data.

Sociology of law offers a set of perspective-giving tools, tools that allow for a different perspective on law and legal institutions. Sociology of law offers a way to question legal matters from a social scientific perspective, with social scientific method and theory. The relation between society, on one hand, and law and legal institutions on the other, is often the area of inquiry in the sociology of law discipline (Mathiesen 2005, see for instance p 18). In the governance and control of the spatial environment the legal frame plays a significant role. How the legal provisions are manifested in the factual sense, showing the empirical side of law, is one of the important fields of study in the sociology of law.

The method of finding *existing law* is legal dogmatic, but when questioning these findings from a socio-legal perspective the perspective of sociology of law is taken, which offers an analytical depth to the spatial planning context. This socio-legal perspective is often described as an external perspective on law (Bernt and Doublet 1998, Hydén 2002a). Whether or not you see it as an external perspective, the norm science approach has generated a number of studies in the sociology of law discipline as a way to focus and explain behaviour controlling entities that are socially reproduced (see Hydén and Svensson 2008 in this anthology) in addition to the legal system. The norm perspective has been used to analyze different topics such as the continuing process of a struggling tunnel construction (Baier 2002), traffic rule compliance (Svensson 2008) and the rise of environmental concern in school curriculums (Wickenberg 1999).

A way to describe sociology of law is the way in which it differs from legal dogmatics and how it complements it (see the introduction to this anthology, Hydén & Wickenberg 2008). Where the legal dogmatic perspective gives a very clear picture of what knowledge and what factors should influence legal decision making (repre-

2 The dichotomy is credited to Roscoe Pound, whose work was a forerunner to the legal realism movement.

sented vertically in the following figure), the sociology of law scholar can examine legal decision making empirically and see if there have been other factors, generally not explicit, that have influenced the legal decision making (represented horizontally in the figure 2 below).

In the case of the PTA supervision over the operators there is a significant usefulness to the sociology of law perspective. The legal order provides the framework for the PTA's actions, but when it comes to the precise decisions, the law has possibly been only one of several factors that have affected these actions. This is returned to below.

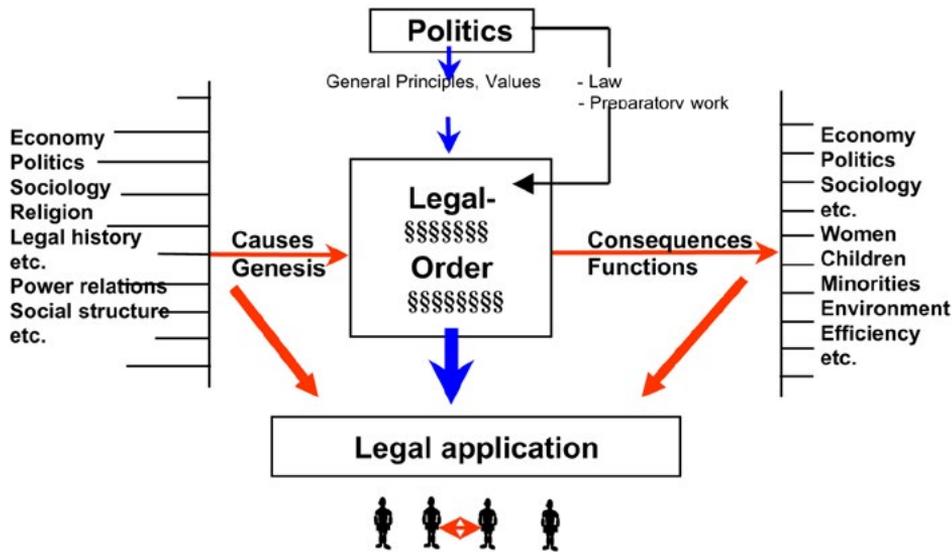


Figure 2 from Hydén (2002b), p 16, see introduction to this anthology (Hydén & Wickenberg 2008)

Generally, legal decision making is formulated such that it operates strictly under the principle of legality, that decisions are not affected by legally irrelevant factors such as politics and economy (to the left in the figure), from the horizontal outlook. It is the task of socio-legal science to show when such factors have intervened in the legal decision making. Another task is to show when the application of law leads to unforeseen, distorting effects in society, (to the right in the figure) such as environmental problems or when the legal application results in consequences that are undesirable from a norm perspective, which from a legal dogmatic perspective may be correct. This perspective helps in understanding the actions of the PTA in its relation to the operators in the 3G case. Before turning to the empirical side of the in the Swedish 3G infrastructure development the article now turns to the legal dogmatic perspective that regulates the relation between the PTA and the operators.

The PTA and the operators: The law in books

Before turning to the licence conditions and the specific law that applies to the relation between the PTA and the operators, let us take a brief look at the PTA's role as a whole, from the law in books perspective. What is the task of the PTA?

The duties follow under a governmental authorization, but the more detailed provisions are described in the Ordinance (2007:951) with instructions for the PTA. In addition to supervising the postal services and other sectors the PTA's duty among many is to

- 1 – Promote the access to secure and efficient electronic communications according to the goals of the Electronic Communications Act.
- 3 – Promote a sustainable competition (section 4 of Ordinance 2007:951 with instructions for the PTA, author's translation)

This means a further referral to the Electronic Communications Act and rather vague tasks such as to promote sustainable competition. The Electronic Communications Act (translation made by the PTA):

Chapter 1, General provisions **Introductory provisions**

Section 1 The provisions of this Act aim at ensuring that private individuals, legal entities and public authorities shall have access to secure and efficient electronic communications and the greatest possible benefit regarding the range of electronic communications services and their price and quality.

This objective shall mainly be achieved through the promotion of competition and the international harmonisation of the sector. However, universal services shall always be available for everybody on equivalent terms throughout Sweden at affordable prices.

When applying the Act, particular regard shall be taken to the importance of electronic communications for the freedom of expression and freedom of information.

The PTA is not likely to be criticized on these grounds, but they show the purpose of the PTA in the electronic communications sector. Of interest is the promotion of competition and that the most important services should be available to everybody under similar conditions. More important here is to show the specific legal framework in the 3G case.

The licence allocation and the conditions following

The reason for discussing the licence allocation process here is because it gives some preconditions for understanding what part of the agreement the operators later breached and why.

On May 12th, 2000, the PTA invited operators to apply for a licence. The number of licenses was decided in April 2000 by the board of the PTA after the Parliament had decided upon the framework of the license process (PTSFS 2000:5). While various other countries had an auction concerning the licenses, the Swedish licenses were offered in a “beauty contest” to those who promised the highest coverage reached within the shortest time-span. The PTA regulations stated that “at the most four licences for a national coverage according to the UMTS/IMT-2000-standard will be available” (PTSFS 2000:5, §6). The intention seemed to be to reach the highest number of licensees, with regard to the services of the 3G that subsequently could be offered to consumers, as a result of a competitive operator market.

Four licences were to be issued, valid until December 31, 2015. The selection was divided into two steps where the contestants were reviewed using certain criteria. The initial evaluation of the contestants was conducted in order to review if they had fulfilled the preconditions for the establishment of a UMTS network. This included financial capacity, technical as well as commercial feasibility, and appropriate expertise and experience (PTA 12 May 2000, p 8-9 and Andersson, Hulthén & Valiente 2005, p 583). Five of the ten contestants failed to prove this (see Larsson 2008, p 23-27).

At the second stage of the beauty contest the operators were awarded points according to the extent and speed at which they offered coverage by the end of 2003, 2006 and 2009. Coverage was defined on the basis of three factors: proportion of population, territorial coverage and distribution throughout Sweden. The population constituting the reference data for the PTA was the statistical data from SCB by December 31, 1999 (PTA May 12, 2000, p 10). This is relevant in relation to the delayed roll out that later became the case, since it was primarily the urban population that grew in the years of the delay, making it slightly easier to reach the coverage demands when postponing the deadline. There had been some criticism of the licence allocation regarding whether or not the last few percentage points could be motivated by a combination of commercial and regional political reasons. The last few steps of percentage points were considered to be extremely expensive (Hultkrantz & Nilsson 2001, p 69, Emmelin & Söderblom 2002, p 47). And as a result of the delay, people moved in under the masts, so to speak, making it possible for the operators to avoid covering the last expensive percentage points in the sparsely populated areas in the north of Sweden.

The importance of good access throughout the country was stated early in Swedish broadband and 3G development (PTA report 27 June 2001, p 9). At the same time the PTA did not want to add a clause requiring too high coverage in the licences, fearing it would discourage operators to take part in the development of the 3G system, which was the case in the earlier application process regarding the GSM licences in the 1800 MHz spectrum (PTA report 27 June 2001, p 9). This is the reason for the application criteria where the applicant had to promise the coverage, and the promise of higher coverage beats the promise of lower.

The results of the so called beauty contest have been a roll out where Sweden differs from the rest of Europe both regarding speed and coverage. This is particularly

interesting regarding the uncertainties of the practical use of the system, the handsets and the applications, at the time of the decision (Emmelin & Söderblom, 2002, p 47-48). The process attracted a large number of applicants, and a large number of new entrants – comparable only to the UK process. Six contestants were not awarded licences.

Ten applicants competed in the beauty contest. Three of the competitors were the leading mobile telephone operators on the Swedish market: Europolitan, Tele2, and Telia. The remaining seven were consortia formed for the 3G beauty contest (Andersson, Hulthén & Valiente, 2005, p 584).³

Applicants/first stage		Second stage		Licence holders
Broadwave Communications AB				
Europolitan AB	–	Europolitan AB	–	Europolitan AB
HI3G Access AB	–	HI3G Access AB	–	HI3G Access AB
Mobility4Sweden AB				
Orange Sweden AB	–	Orange Sweden AB	–	Orange Sweden AB
Reach Out Mobile AB				
Tele2 AB	–	Tele2 AB	–	Tele2 AB
Telenordia Mobil AB	–	Telenordia Mobil AB		
Telia AB				
Tenora Networks AB				

Figure 3 From Larsson 2008, p 25.

The PTA decided that Europolitan (later Vodafone, now Telenor), HI3G (3), Orange and Tele2 should each get a licence. All four undertook to cover at least 8 860 000 people by the end of 2003. These licences apply up to and including December 31st, 2015, and the licence conditions until March 31st, 2006 (PTA decision of 22 March 2001, p 8).

Telia, Telenordia and Reach Out Mobile, which did not get a 3G licence, appealed the PTA decision to the County Administrative Court (Case nr 499-01). The County Administrative Court confirmed the PTA decision on 27 June 2001, without further appeal. The fact that Telia did not get a licence surprised many. Telia became part of the infrastructure development through collaboration with Tele2, which did get a licence. The three operators Hi3G, Telenor (Europolitan at the time) and Orange signed a deal regarding collaboration on the coverage requirements of the licence conditions.

The licence conditions stated that each operator had to have at least 30 percent of their own infrastructure and up to a maximum of 70 percent shared of the coverage (PTA decision of 22 March 2001, p 3.1). An estimation conducted for the PTA stated that the area coverage likely would be around 170 000 km², about 41 percent of the total Swedish surface area (Björkdahl & Bohlin, 2003).

3 Telia Sonera was founded January 1st, 2003, when Swedish Telia and Finnish Sonera joined.

An important licence condition regards the licence holders verifying, by March 1st 2004, that 8.860.000 people in Sweden are covered by December 31st 2003 (PTA 22 March 2001, section 1.1.2 and 1.3.1). Regarding the starting point of a functional network, the licence holders were to make net capacity available by January 1st, 2002 (PTA 22 March 2001, section 2). Another important aspect was that the licence conditions of the first period lasted until March 31st 2006. After this date they could be reviewed, which they subsequently were.

Parts of the licence conditions, such as the maximum of 70 percent shared infrastructure, follow from set values that were decided before the so called beauty contest, and some conditions emanate from the contest itself, such as the degree of coverage and the speed of the roll out. The licence conditions themselves do not include any sanctions for the operators if they were not to fulfil the requirements. Instead, the sanctions have a more general description in the legal provisions controlling the Post and Telecommunications Agency.

The Electronic Communications Act

The Electronic Communications Act (2003:389), the ECA, came into force on July 25th, 2003 (prop 2002/03:110). The act replaced the Telecommunications Act (1993:597) and the Radio Communications Act (1993:599). The Telecommunications Act was in other words the main legislation controlling the introduction of the 3G development in Sweden. A number of changes had to be made to the law during 1999 and 2000 in order to be able to make demands of coverage in the licence allocation (decided December 8, 1999), to obligate operators to make available net capacity for other service providers, for the sake of competition (decided April 14, 2000) and national roaming (decided June 14, 2000).

The ECA covers all electronic communication networks and electronic communication services, which includes the role of the Post and Telecommunications Agency's relation towards the operators; the legal grounds for the agency actions that affects the operators. Since the ECA replaced the two earlier legislations on July 25th, 2003 it became the most relevant legislation for the relation between and the actions of the PTA and the operators.

The regulation in chapter 7, section 4 of the ECA, giving the operators reasonable time to voluntarily correct errors after notification from the PTA, had no equivalence in the former legislation (prop 2002/03:110, p 398). This possibility, the "reasonable time", was introduced in the Act just six months before the deadline for reaching the coverage requirements.

If the supervisory authority considers that there is reason to suspect that a party conducting operations under this Act does not comply with the Act or the decisions concerning obligations or conditions or the regulations that have been issued under the Act ... the authority shall notify the party conducting the operations about this circumstance and give it an opportunity to state its views. In the notification, the authority shall state that it may issue an order or a prohibition

in accordance with Section 5, unless rectification takes place within a reasonable time. Reasonable time may not be less than one month, except in the case of repeated cases of violation, unless the party that is notified consents to a shorter time limit.

If the operators till after “reasonable time” fails to “rectify” the failure, of for instance to reach a promised coverage, the following section, 5, explains the rights that the PTA has as a supervisory authority to sanction the operator.

If a notification in accordance with Section 4 does not result in a rectification, the supervisory authority may issue such orders and prohibitions as are necessary for a rectification to take place.

If the order is not complied with, the supervisory authority may

1. revoke a licence, alter licence conditions or decide that the party that neglected the obligation should completely or partially cease the operation, unless the violation is of minor importance, or
2. issue such additional orders or prohibitions as are necessary for compliance with the Act or the decisions on obligations or conditions or the regulations that have been made under the Act.

To interpret the words “may issue” we have to look at preparatory work and the preparatory work states that “orders or prohibitions according to this regulation is in force instantly, if nothing else is decided, and can be combined with a fine” (Prop 2002/03:110, chapter 30, and section 22.2, author’s translation), with reference to the specific law for fines (Viteslagen 1985:206), which states:

When a fine is ordered, an amount is to be decided with reference to what is known regarding the addressee’s economic circumstances and to other circumstances, that can be assumed to make the addressee to comply with the order that goes with the fine Section 3 of Viteslagen, (author’s translation).

The fine is meant to sting, in order to make the addressee rectify the mistake instead of choosing to pay the fine. In the case with lacking coverage, which especially concerned the sparsely populated areas of Sweden, the investments required were large, and the fine could therefore have been expected to be substantial.

A comment in the preparatory work regarding chapter 7, section 4 is particularly interesting in the case of the PTA supervision of the operators’ obligations under the licence.

The circumstance that a party has not responded within the time frame the authority has given, does not hinder that the authority proceeds in its supervision. Neither do repeated or new and changed applications to the authority mean that the authority cannot proceed in its supervision, unless it is clear within the time frame that further supervisory action is unnecessary (Prop 2002/03:110, chapter 30, author’s translation)

This will be returned to below, in the case where the PTA seemingly paused in the supervision over the operators whenever the operators appealed a decision or handed in an application for any matter. The preparatory work clearly states that the fact that the operators hand in new or changed petitions does not mean that the PTA should stop the supervision.

So, the law does not force the PTA to take action explicitly, it only states that it may. In most cases this is not a problem, because the PTA is bound to supervise the telecom sector such that it functions at its best (see provisions above) and in most

situations this means that the PTA needs to put pressure on a failing party. But, and this is an important but, when a matter is of such importance that it outgrows the Agency, the supervision and enforcement may not be of top priority to the PTA, even though this is never openly stated. This may be a weakness in the legal construction and can furthermore be said to be a weakness in the actions of the PTA. But without jumping to conclusions, it is time to tell the story of the actual rolling out of infrastructure, the PTA and the operators' interactions within this legal setting.

The PTA and the operators: The law in action

In order to depict the law in action in this case, a somewhat detailed story has to be told of the actions of both the operators and the PTA. But first, let us take a look at an overview of the actions whereby the operators try to postpone the deadline for the reach of coverage, which they only a few years earlier had promised to fulfil in order to receive the licence, and the response from the PTA.

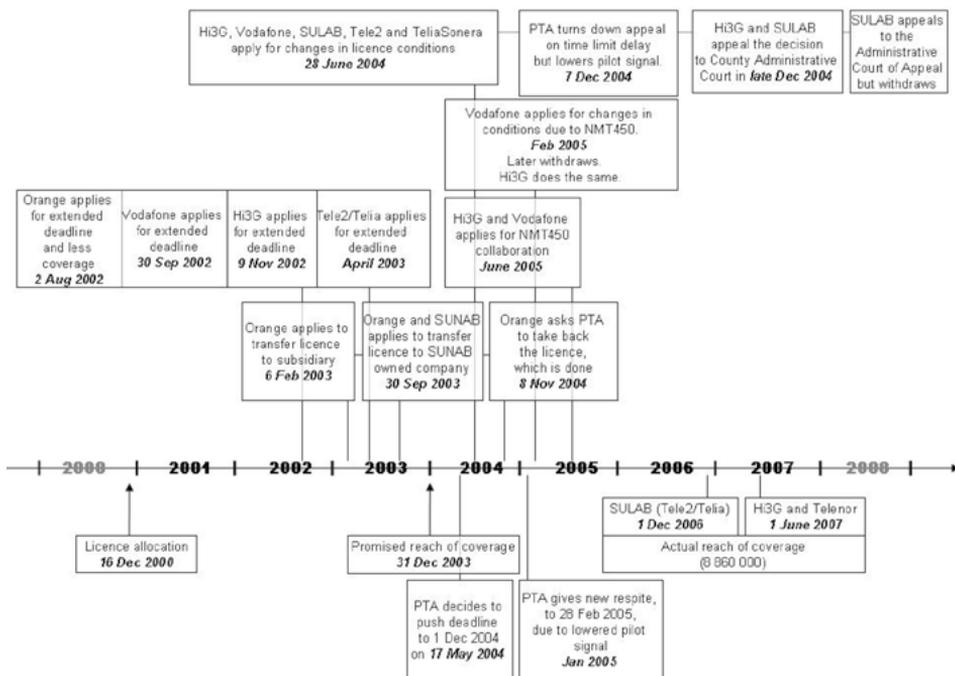


Figure 4 Shows operator and PTA actions in the 3G infrastructure development in Sweden (Larsson 2008:62)

The interaction between the operators and the PTA has been extensive. In order to see the reasons behind, the detailed story has to be told. When the operators already

in 2002 started to apply for an extended time limit, the PTA turned down the requests. Orange was first out in August, to apply for an extended deadline and less coverage, followed by Vodafone (which went under the name of Europolitan by now) in September and Hi3G in November, and Svenska UMTS-Licens AB (Tele2/Telia) in April the following year. The operators' requests were all denied (PTA decisions of 30 September, 25 November 2002 and 14 May 2003). The operators all pointed to the municipal permit handling process being slower than expected as the reason for the delay.

When the operators in April 2004 were confronted with the fact that they had failed to reach the coverage of the licence conditions stating December 31, 2003, the reported coverage had at the most been between 65-75 percent, when it was supposed to be 99,98 percent of the populated areas (PTA 10 March 2004). The operators were given "a reasonable time" to "voluntarily" (as expressed in the PTA decisions of 17 May 2004) rectify the lack of coverage, with a referral to the preparatory works of the Electronic Communications Act (prop 2002/03:110, p 398). The time limit for reaching the full coverage according to the licence conditions was postponed until December 1, 2004, meaning 11 months later than the original time limit. The PTA explained this by agreeing with the operators claim that the prerequisites for the construction had been changed after the initial licence agreement by factors outside the control of the operators. These factors were said to be a slow municipal permit process and that the assessment from a flight hindrance and telecommunications conflict perspective performed by the Armed Forces in different respects had delayed the processes (PTA decisions of 17 May 2004). The PTA concluded:

In some respects the circumstances for the company have been changed in a way that could not have been foreseen at the time of application, and that has been beyond the control of Hi3G (PTA Decision of 17 May 2004, p 3, author's translation).

The same wording has been used in the decisions regarding all four operators. The wording is interesting, especially in reference to the time required for the permit processes. In what way had the conditions changed? And in what way could these "changes" not have been foreseen? Is this a legitimate reason for the coverage delay at all? To be able to answer these questions we have to take a look at the actual roll out empirically, which is done below and in more detail in Larsson (2008).

In the time following the decision, in June 28, 2004, all operators (but Orange), meaning Hi3G, Vodafone, SULAB (Tele2 and TeliaSonera) applied for a change in the licence conditions, which mainly concerned a delay in the coverage conditions to be fulfilled by December 31, 2007, and a lowered pilot signal in the sparsely populated areas. These operators' main arguments regarding the postponed coverage were that the permit processes had been taking considerably longer time than expected due to the public debate regarding the effects on the environment, cultural and nature values and the worry about electromagnetic radiation (PTA decision December 7, 2004, p 4). Parts of the arguments from the recent postponement decision by the PTA were re-used, but now with a bigger jackpot at stake: more than three additional years to reach the full coverage. The PTA found that the reasons to change the

licence conditions regarding the delayed coverage were not strong enough to change the conditions. This was partly based on a Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions from June 2002 – (Towards the Full Roll-Out of Third Generation Mobile Communications) stating the importance of predictability and stability in the regulatory environment.

When balancing the benefits and drawbacks of a rigid application of the conditions determined by the issued 3G licences, the Commission is of the opinion that in principle the **licensing conditions should not be changed** because the sector is best served by a predictable environment. Predictability allows business cases to be established in a reliable manner and to be credibly defended when accessing investment funds (Underlining and bold letters are as in the text, 3.1 of COM(2002) 0301 and p 8 of the PTA 7 Dec decision).

And the communication continues:

Changes to licence conditions should be envisaged only when circumstances have changed unpredictably and in these cases any modification should be proportional, transparent and non-discriminatory.

The pilot signal strength was lowered in sparsely populated areas, meaning a change of the licence conditions to some extent. The reasons that resulted in a delay of 6 months from the date of the PTA notice to the operators until December 1, 2004 (11 months from promised reach of full coverage according to licence conditions), were not considered strong enough to change the licence conditions. The operators were just given a respite. The reported coverage on December 1, 2004 was 84 percent for Hi3G, 86 percent for Telia and Tele 2 and 84 percent for Vodafone (PTA report January 27, 2005). The fact that the argument nevertheless ended in a respite means that the PTA gave the argument some credibility. On what empirical grounds the respite was given, is however unclear.

In late December, 2004, Hi3G and SULAB (Telia and Tele2) appealed the decision (in addition to the lowered pilot signal they had appealed the decision of not postponing the deadline) to the County Administrative Court (Länsrätten) on the basis that more areas of Sweden should be included in the lowered pilot signal requirements, in addition to the postponed time limit. The processes made the PTA accept a lowered pilot signal in some additional areas, which is for the benefit of the operators, and the appeal was withdrawn.

By January 2005 the PTA stated that since the licence conditions had been changed (lowered requirement in the way of measuring coverage in the sparsely populated areas) the operators should have a new respite to rectify the lack of coverage. This time however the respite was set to one month and by February 28, 2005 the operators should have reached the coverage of the licence conditions or the PTA “may issue an order” according to chapter 7, section 5 the Electronic Communications Act and the order may be combined with a fine (PTA report of 22 February 2005).

What is interesting here is that the changes of the obligations connected to the pilot signal in the rural areas of Sweden meant a beneficial way of measuring the coverage for the operators. It was this beneficial change (less base stations required for

the same degree of coverage) that gave the operators another respite, due to the “changes of the licence conditions”. The logic here is not obvious. It is possible that the radio planning connected to these conditions demand some extra planning time, a reallocation of resources, which would support the need for extra time. This could on the other hand be balanced against the fact that the operators saved up to *one fourth* (according to the PTA press release of October 24, 2005) of the infrastructure costs of the remaining 15 to 20 percents of full coverage by the decision to lower the pilot signal (PTA decision by December 7, 2004, when the coverage was somewhere around 80-85 percent of the coverage requirements). This would be more than enough to outweigh any reallocation costs, and hence make the reasons given by the PTA not legitimate. The pilot signal was allowed to be lowered further in the so called buffer zone in October 2005 (PTA report of February 22, 2006, p 20).⁴

So on one hand, when it comes to the coverage percentage, the PTA stresses the importance of predictability and to not change the coverage requirements of the original licence conditions, and on the other hand, when it comes to the perhaps a bit more complicated pilot signal issue, the PTA changes the licence conditions in favour of the operators. Consequently, instead of changing the coverage conditions, the definition of coverage is changed. What happened when the operators in March 1, 2005 reported that the lack of coverage was not rectified? In fact, SULAB had not raised the level of coverage at all between December 1, 2004 and March 1, 2005, see table below. The story told on this issue in the PTA report from February 22, 2006 stops here. Nothing is said about the order that “may be issued” or the sanctions that could follow (see p 12-13).

Report date	Coverage in percent of 8 860 000 persons		
	Hi3G	SULAB (Tele2 and Telia)	Vodafone
December 31, 2003	68	74	66
June/July 2004	76	80	74
December 1, 2004	84	86	84
March 1, 2005	87	86	86

Table 1 From PTA report of February 22, 2006, p 10.

When Hi3G and Vodafone in June 2005 applied for the PTA to allow some of the 3G activity to be performed through an alternative 3G technology, the so called CDMA2000 in the 450 MHz band, the PTA decided to ask all operators if they could ensure the continued infrastructure development with this new technology. At the same time the PTA decided to await these results before issuing an order, com-

⁴ This buffer zone consists of the area that reaches three kilometres from the boundaries of the population centres for places with more than 1000 inhabitants according to the Statistics Sweden, SCB, as of December 31, 2000.

bined with a sanction, for the operators to rectify the lack of coverage. But why did not the PTA act during the three months following the reported lack of coverage in March 1? The PTA concluded, regarding NMT450 and 3G (UMTS), that there was no way to bridge the technologies without lowered quality for the consumers. For instance, there were no handsets on the market covering both technologies. The PTA turned down the request and through the application the operators again gained some time in the continuing strive for an adequate coverage. The decision came on October 24, 2005.

One of the operators, Orange, chose not to fulfil the commitment at a relatively early stage, resulting in, after a series of events, the Orange frequency spectrum being split between the three remaining operators. Orange applied in August 2002 for more time to develop the infrastructure for a lower coverage, without success. A PTA press release from December 19, 2002, reveals that the PTA found out from an Orange press release that Orange intended to withdraw its participation in the 3G infrastructure development in Sweden. The PTA had not been informed. Orange, on February 6, 2003, applied to the PTA to allow a transfer of the licence to a subsidiary company, GGG Licens AB, which the PTA denied on the ground that Orange was likely to be planning to sell this subsidiary company in order to withdraw the Orange contribution to the Swedish 3G infrastructure construction (PTA Decision April 23, 2003). On September 30, 2003, Orange and the Telia Sonera and Tele 2 owned Svenska UMTS Licens II AB applied to the PTA to allow a transfer of the Orange licence to Svenska UMTS Licens II AB. The PTA denied the request primarily based on competitive aspects; that the competition in the market would decrease resulting from the fact that SUNAB would be in control of two of four licences (see the PTA April 28, 2004 document referred for consultation, and PTA decision of May 26, 2004).

In short, Orange, from late 2002 to 2004 tried different ways to make use of the licence, all denied by the PTA realizing that Orange would not invest in a full infrastructure. During the fall of 2004 the PTA, on application from Orange, retrieved Orange's licence (PTA report of February 22, 2005, p 10) by a decision in November 8, 2004. Chapter 7, section 6 of the Electronic Communications Act states:

A licence may be revoked and licence conditions amended immediately, if...
...5. the licence holder requests that the licence should be revoked.

It should be remembered that the PTA has the right to request the operators to present documentation of the roll out with the penalty of a fine if they refuse (section 15, part 1, 4 of the abolished Telecommunications Act 1993:597, chapter 7, section 3, Electronic Communications Act). The PTA did not put much pressure on Orange during the time the company still formally participated in the 3G development, yet obviously showed no intent to fulfil the requirements. This once again shows the scope of action available to the PTA.

Twice the time

When the first licence period ran out by July 1, 2006 the coverage was between 93 and 94 percent of 8 860 000 people. The new licence conditions were favourable to the operators. The pilot signal in the outskirts of the urban areas was lowered, resulting in a higher coverage. With the lowered demands for the pilot signal the area to be covered increased to 98 percent. This is without any new base stations being constructed. On August 9, 2006, the PTA notified the operators when the full coverage should be reached, and the new dates were based on the operators' own estimates of when to be ready.

This means that the operators had managed to reach the end of the first licence period without completing the promised amount of coverage and without receiving expensive fines from the PTA. It also means that on the other side of July 1, 2006, the coverage requirements were lowered and dependent on their own estimates. The PTA had avoided heavy critique, as well as being sued by applicants that did not receive a licence. On December 1, 2006, about three years after the initial deadline for reach of coverage, the first operator (Tele2/TeliaSonera) reported to the Post and Telecommunications Agency, the PTA, that their common network had reached the coverage of 8.860.000 inhabitants of Sweden, followed by the remaining two operators, Hi3G and Telenor, 7 months later (PTA fact sheet of June 1, 2007, PTS-F-2005:5, p 6).

A change of circumstances that could not have been foreseen?

The story above leads to the important question of why the coverage was not reached in accordance with the licence conditions, which is one of the implementation issues of the 3G infrastructure construction in Sweden and, if the reason was not legitimate, why did not the PTA sanction the operators for breaching the licence conditions? The second question is returned to in the analysis below. Regarding the first question, the debated issue, or rather the used explanation, was the municipal handling of mast building permits the unforeseen hindrance of the infrastructure roll out. Or were the permit processes exceptionally slow, as often claimed in the numerous applications for changed licence conditions? What was it in the permit process "that could not have been foreseen at the time for the application"? Orange's application to postpone the deadline expressed (PTA decision September 30, 2002):

"Orange assumed that there would be a wish to get UMTS-coverage fast, why the permit processes would be handled without delay" (author's translation)

Whose wish the company is talking about is left out in the discussion, but it is surely the municipalities' wish Orange is referring to, which calls for the question of whether the operators expected to get exceptional treatment when it comes to the permits? And on what grounds they expected this.

The PTA can sanction operators not fulfilling licence conditions through a considerable fine. The coverage by the end of the period was between 66 and 74 percent of the promised 8 860 000, with only three operators remaining. The first operator to reach full coverage was the Telia/Tele2 collaboration on December 1, 2006, followed by the two remaining operators (Hi3G and Telenor) that reported on June 1, 2007. The municipal permit handling was blamed for the delay, a reason that "could not have been foreseen", which helped the operators avoid sanctions from the PTA. It has been shown that a slow municipal permit process cannot explain the lack of coverage in some areas of Sweden, and therefore is not a fully legitimate reason for the delay (Larsson 2008). It was especially the coverage in the sparsely populated areas of Sweden that was neglected, which the licence allocation process so generously had promised would not be the case (Larsson 2008, p 124-127).

Analysis and conclusion

A quick conclusion is one that has already been told: The way the legal framework was applied regarding the supervision of the operators in the case of the 3G infrastructure development in Sweden cannot be explained from a legal dogmatic perspective. Something is missing in the explanation of the PTA actions.

One way to approach an explanation on some of the legally controlled decisions in the 3G case is to return to the horizontal perspective of sociology of law in relation to the vertical perspective of legal dogmatics. When having strict and clear conditions attached to the allocated 3G-licences and a governmental authority enforcing these conditions armed with legal tools of making it possible to order substantial fines, one would think that alternatives would be clear. Either the conditions are fulfilled, or they are not fulfilled and sanctions are imposed. Although the picture is not that simple, there are legitimate ways to stall the deadline as well, a certain scope of action. And some PTA actions can be explained in the vertical perspective, for instance giving the operators a chance to correct the lack of coverage within "reasonable time", but not all. Some of the delay of the PTA enforcement seems to lack explanation in the vertical, legal dogmatic, perspective. This is where the horizontal perspective is necessary as an explanatory tool.

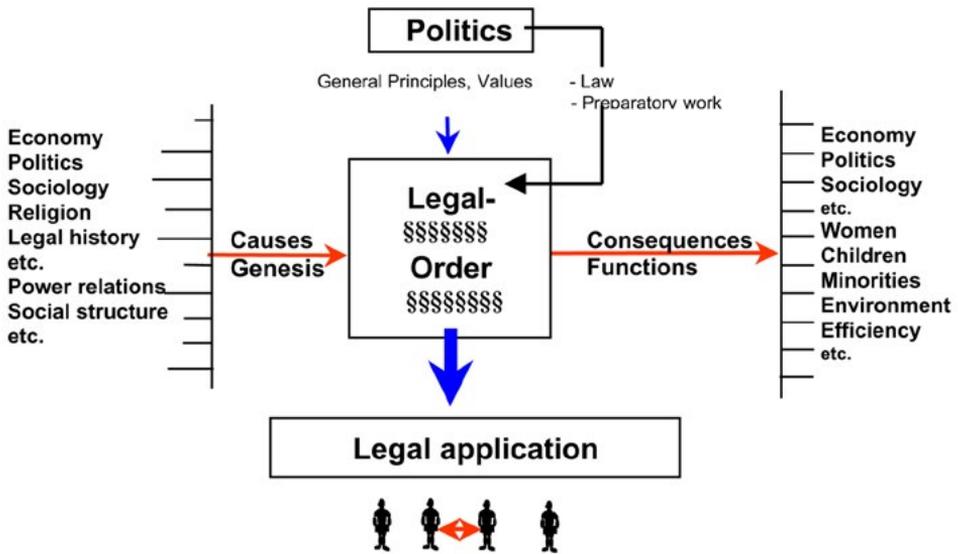


Figure 5 From Hydén 2002b, p 16, see also the introduction to this anthology, Hydén & Wickenberg 2008.

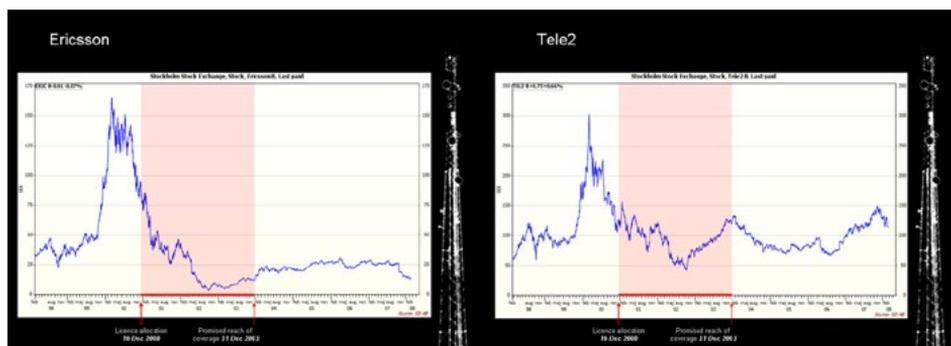
Figure 2, in chapter 3.0 above, has here been complemented with arrows pointing at the legal application, symbolizing the influence from economy, politics etc. The PTA is the “applier” of the legal order describing and setting the stage for the legitimate PTA actions towards the operators. The PTA’s role is mainly regulated in the Electronic Communications Act, the ECA. As an applier the PTA has to follow the legal order, and if deviating from this in some sense, the PTA will most likely still formulate and legitimate this deviation in terms of the legal order.

While we should not safely assume that the agency is lawful in all its actions, at the same time the exact legal provisions are not clear in all cases, still to be defined by practice. The ECA sets the framework for the PTA; meaning that the PTA can have different strategies for how hard the PTA will control the operators, within this framework. Regardless if you view it as strategic freedom within a vague legislation or a breach of law and agreements, the outcome is clearly unpredictable and conflicting the intentions expressed in the planning stages of the development. It is acceptable to assume that both political values as well as causes like an IT-sector in a period of decline will affect the PTA application within the legal framework, or beyond the boundaries of the same.

In either case, it has included non-legal aspects to a decision-making that was defended by legal rhetoric. This means that the actions were affected by values that were not outspoken. This can be described as the societal forces in the horizontal dimension becoming so strong in the individual case that they push aside the legal regulation of the vertical dimension. Here there seems to be a bigger game unlocking the legalistic approach. It is in this sense that the PTA can both accept a delay in reaching of coverage, and at the same time claim that the licence conditions have not

changed and blame the operators for stalling the infrastructure development by referring to the legal order. The operators can, at the same time, point their fingers at the municipalities' unexpectedly slow permit process as the reason for the lack of coverage, which at least partly is not a fact.

Such an analysis of the PTA/operator relation suggests a PTA handling of the operators' responsibilities in consensus with the operators, as two participants in a game teaming up in a way that the rules of the game do not intend them to. The period before the licence allocation, when the draft was prepared and the preconditions were decided upon, the times in the IT sector were extraordinarily good, the sector was booming and the optimism connected to information technology was strong (Larsson 2008). The stocks of key players in the 3G development such as Telia, Ericsson and Tele2 were peaking (pictures below). As a result of this, during the autumn of 1999 critical voices were heard regarding the infrastructure development running a risk of being delayed in Sweden, and was an expression for fear that Sweden would lose its world leading position in the telecom sector (PTA report June 2001, p 5). Behind the critique were Swedish telecom operators and producers of telecom equipment. The responsible Ministry called for the PTA to speed up the licence allocation process.⁵ Finland had already allocated the licences, a fact that most likely stressed the Swedish critics, especially Ericsson (PTA report June 2001, p 5). It was the necessary changes of the Telecommunications Act that partly delayed the Swedish allocation, which were made in order to secure competition in the telecom market.

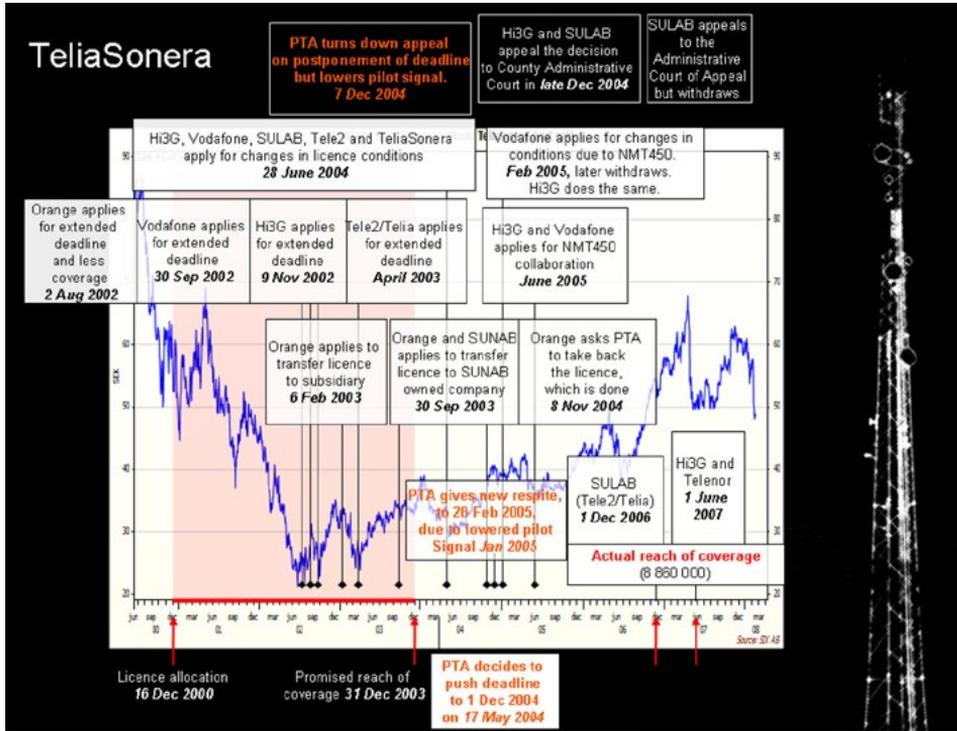


Upper left: The Ericsson stock charts for the times before, during and after the intended 3G infrastructure roll-out. Note the good times of the planning stages of the Swedish 3G development prior to the intended infrastructure roll-out (in pink/red), when Ericsson pushed for a faster licence allocation process. *Source: Six AB*

Upper right: The Tele2 stock charts for the times before, during and after the intended 3G infrastructure roll-out. The pattern is recognized. Tele2 made promises during optimistic times and the attempts to postpone the deadline started sometime in the middle of the “intended” roll-out. *Source: Six AB*

5 ”Mångfald, valfrihet och lägre priser på mobiltelefonmarknaden”, Press release issued by the Ministry of Enterprise, Energy and Communications (Näringsdepartementet) Dec 15, 1999.

Below: The TeliaSonera stock charts for the times before, during and after the intended 3G infrastructure roll-out compared to the operator actions and the PTA response see figure 4. Source: *The PTA, Six AB and Larsson 2008*.



When the infrastructure roll out, as a result of the promises made to receive licences, were to speed up in 2002, the IT bubble burst and the market went into decline, certainly affecting the investment interest of the operators facing problems. They faced harsher times and decided to try hard to postpone the deadlines for the reach of coverage according to the licence conditions. How the PTA reasoned is hard to tell but the important point here is that the PTA, by its lack of sanctions, participated in the game for the benefit of the operators.

Is it not a good thing that the PTA can be flexible enough to let the operators' roll out depends on reasonable investment strategies and fluctuations in the market? From a licence allocation as well as a legal security perspective it is problematic, to say the least. This is because a "yes" to this question means that the licence allocation would be nothing but a charade, and the promises made by the contestants would not be followed by a duty to fulfil these promises later. Such a system is neither transparent nor predictable and just. If what is stated in the licence conditions is not what will later be fulfilled, the conditions are not transparent. The transparency of the 3G licence allocation in Europe was prior to the allocation especially emphasized in the EU directive of 97/13/EC. Also, predictability is "one of the basic values in democracy and a state governed by law" (Peczenik 1995, p 89f.). Many legal theorists hold

the norm of “jurisdiction and the actions of public authorities in a democratic state should be predictable” (ibid, p 90) as the very essence of legal security. The licence conditions of the 3G development can also be judged in light of the most basic principle of civil law, described by the Latin phrase *pacta sunt servanda*, – agreements must be kept.

When the European Commission in a Communication to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions in June 2002 commented on the matter of the 3G roll out in Europe, it stressed the importance of a predictable environment in the sector and any modifications in the licence conditions should be “proportional, transparent and non-discriminatory” (Section 3.1 of COM(2002) 0301).

From an analytical point of view, there were three basic alternatives open to the PTA when handling the operator breach of fulfilling the licence conditions. One was the “the hard way” – imposing heavy sanctions on the operators in order to make them comply with the licence conditions. Another was “the honest way” – that the PTA would have confessed that the results of the so called beauty contest were not reasonable in light of the changed market conditions of 2001 and 2002, hence allowing changes in the conditions and risking to be sued by other applicants as well as being criticized for not sustaining a predictable environment, transparent and non-discriminatory handling. The PTA chose a third alternative, a middle path, the balancing act of not formally changing the licence conditions (which *formally* sustains the above said) and not sanctioning the operators for their breaches, but from several aspects *informally* leads to an application that is quite the opposite of what the Commission communicated. In fact, the PTA’s handling of the operators is not *predictable* – the licence conditions have not been upheld. Not formally (when it comes to the pilot signal), but more importantly not actually, in the application. This means that the handling has not been *transparent*, in the sense that the formal documents did not describe the actual outcome, and *discriminatory* towards the other applicants as regards the lack of demanded realism in the promises made in order to get the licence.

The PTA’s role in the governing of the Swedish telecom sector can be returned to here. For instance, it can be questioned that the PTA fulfilled the goal of “promotion of competition” in this case, if the governing was discriminatory. A comment in the preparatory work regarding chapter 7, section 4 is particularly interesting in the case of the PTA supervision of the operators’ obligations under the licence.

The circumstance that a party has not responded within the time frame the authority has given, does not hinder that the authority proceeds in its supervision. Neither do repeated or new and changed applications to the authority mean that the authority cannot proceed in its supervision, unless it within the time frame is clear that further supervisory action is unnecessary (Prop 2002/03:110, chapter 30, author’s translation)

The PTA clearly had let the supervision responsibilities rest whenever an operator applied for a change in the conditions or appealed a decision. The preparatory work clearly states that the PTA would not have had to do so. So, again, why the soft treat-

ment, when the design of the development had emphasised the importance of speed and coverage, the reach of a “regional balance” and the importance of ensuring that Sweden remains a “leading IT nation” (Larsson 2008)?

The bigger picture applies and in the long run the results may have been the best in the given circumstances in an IT sector in decline. A bankrupt operator would not have been beneficial to anyone. But the lack of predictability in the actions of an important governmental agency is still a problem. In this case it meant that the applicants in the licence allocation process that could foresee the PTA’s lack of sanctions most clearly benefited the most. Note the interesting comment from Europolitan (later Vodafone, now Telenor), one of the 3G licence winners, which, when reviewing the draft before the licence allocation process in 2000, asked for clear and apparent sanctions for the operator that does not reach the promised coverage in time, in order to prevent too high bids (PTA 13 March 2000). This shows that the operator knew that the design of the licence allocation could stimulate too high bids, and perhaps feared that other applicants would bid higher. Bearing in mind that Europolitan actually made the highest possible bid regarding coverage and time limit, just months later. This may have been a tactical manoeuvre or perhaps became a strategy the moment the company realized that no heavy sanctions would be clearly stated in the conditions, even though the company had asked for it. This operator later fulfilled the coverage conditions by June 1, 2007 instead of the promised December 31, 2003 (PTS fact sheet of June 1, 2007, PTS-F-2005:5, p 6).

The differences between how the 3G infrastructure development was designed and how it was rolled out can probably be explained by the radical transformation of the IT and telecom market in late 1999 and into the early years of the new millennium. Still the approach of the article has not been economics or market fluctuations but from a socio-legal and spatial planning point of view. The focus has not been the players of the market as much as it has been the public handling of different key aspects, included the actions of the government, the PTA and the operators.

The unsanctioned operators’ lack of coverage according to what had been agreed upon illustrate a lack of transparency in the governmental steering of a billion dollar project, which shows the incrementalist approach where a short-term (daring rather than deliberating) perspective reigns where developments are made step-by-step. The question is to what extent not only the operators but also the PTA were, informally, comfortable to find ways out of the pressured time limits and formal statements of the year 2000. Formally, in any case, the PTA has to refer to legitimate delays. When focusing on the appeals and new operator applications, this can be seen as a method of not putting too much pressure on the operators and to make up for the mistakes made in the licence allocation process that became apparent a little too late, at the cost of predictability in the legal application.

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Article III

OBJECTIVELY BEST OR MOST ACCEPTABLE?

Expert and Lay Knowledge in Swedish Wind Power Permit Processes

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ENERGY POLICY.

OBJECTIVELY BEST OR MOST ACCEPTABLE?

Expert and lay knowledge in Swedish wind power permit processes

BY STEFAN LARSSON AND LARS EMMELIN

Abstract

This article analyses legal aspects of the Swedish wind power development, theoretically based on how different types of knowledge are represented in legal contexts, mainly in court. A sample of appealed wind power permits is analysed, a handful of relevant informants are interviewed – including two judges in the Land and Environment Court and the appeal court – and the legal setting is analysed. Of key interest here is the interplay between expert and lay statements in the court cases, which here are related to the concepts of calculating and communicative rationalities that are developed in planning literature. The results indicate that the juridification – that takes place as a permit issue is appealed in the judiciary system – supports the calculating rationality more than the communicative, and that the plaintiffs often attempt to adapt in how they shape their argumentation. A common reason for appeal, according to the sample of cases and of particular interest for this interplay between expert and lay, is the issue of noise – or fear of what the noise level and type of disturbance will be like – along with aesthetical and visual concerns, as well as environmental concerns, including birds and bats.

KEYWORDS: WIND POWER, SPATIAL PLANNING, KNOWLEDGE TYPES, EXPERT/LAY, JURIDIFICATION.

1. INTRODUCTION

- ANALYSING SWEDISH WIND POWER POLICIES

This article deals with the question of how different types of knowledge are represented in the legally regulated control and planning of the spatial environment, with particular focus on the planning and permit-giving of Swedish wind power development. This can be described in terms of the difference between expert and lay knowledge, but also in terms of two different approaches towards decision-making that can be called a calculating rationality, on the one hand, and a communicative, on the other (Sager, 1994). The expert and lay types of knowledge have recently been addressed in terms of how “new relations between expertise and citizens can be negotiated and designed” in risk regulation (Lidskog, 2008). The challenges relating to how to balance experts and lay knowledge have also been addressed in wind power research (Aitken, 2009). There are case studies dealing with attitudes and the complex set of issues around renewable energy and wind power (Peel & Lloyd, 2007).

Peel and Lloyd (2007) highlight the “emerging experiential learning of state, market and civil interests in this new infrastructure age” (2007, p. 344) and mainly refer to the Scottish and the UK situation.

Much of the motivation to study and analyse how expert and lay knowledge is played out in the development of wind power can be found in the fact that there is a quite significant resistance at the local level, which needs to be better understood, including the role of the public in policy-implementation in a spatial context. A number of studies have targeted local opposition to wind turbines and wind farms (Ek, 2005; Petrova 2013; Devine-Wright, 2005), for example, regarding noise and shadows (Agterbosch et al., 2007; Devine-Wright, 2005; Strachan and Lal, 2004; Wolsink, 2000) or environmental and animal concern (Agterbosch et al., 2007; Strachan and Lal, 2004; Toke et al., 2008). These are issues that are of interest also when it comes to how knowledge is presented, reproduced and negotiated in relation to a legal permit assessment.

First of all, the Swedish planning system has its base in the planning conducted by local authorities, which poses an interesting challenge from a national policy perspective. In fact, one could argue that the Swedish legal framework is unique in relation to the siting of wind turbines and the granting of permits. While national authorities set guidelines for the sectorial spatial planning that exists at national level through relevant legislation, it is in fact the Swedish municipalities that are the most powerful authority when it comes to the implementation of landscape planning, a fact often referred to as the “municipal planning monopoly” (cf. Petterssen et al., 2010, p. 3118). In Sweden, granting of wind power permits is governed by the legislation for spatial planning through the Planning and Building Act but also by the Environmental Code. These two legislations need to be balanced, which is not necessarily always easy, an aspect perhaps further underlined by the fact that there are two separate administrative bodies – the municipality versus the county council – that are the main operators under these two legislations, and that they also operate at two administratively and spatially different levels (local versus the regional). The difference is also seen in that the county council board is appointed by the Government to coordinate administration with national political goals for the county, whereas a locally elected assembly governs the municipality. This creates a complexity that in itself can be detrimental to participation and access to justice (Larsson, 2013b) and it signifies a type of challenge in the Swedish system that deals with handling the governance of different levels and – arguably – different types of rationalities which, compounded with other factors, can be described as separate paradigms of governance (Emmelin & Kleven, 1999; Emmelin & Lerman, 2006; Larsson, 2014). The Swedish legal framework for spatial planning is not vertically integrated with the planning and localisation aspects that are the responsibility of the municipalities (Khan, 2003). In addition, the Swedish permit process for wind power was criticised for being inefficient and slow and containing superfluous “double permit processes” in the two sets of legislation and administration. A major revision in 2009 was meant to let environmental permit procedures also replace local planning as the instrument of spatial planning of wind power development. To what extent this changes

the conditions for public participation is a question of interest, and how concerned citizens interact with courts in terms of what knowledge and what narratives that are accepted regarding the construction of wind turbines as the permit process becomes an appeal case is central to this study. In another Swedish large-scale infrastructure implementation, the 3G mobile telephony which demanded a large number of local building permits, it has been shown that the way concerned parties were involved changed when the cases reached the appeal courts (Larsson, 2014). The institutionalised demands on which knowledge was deemed relevant changed as the process became “juridified.” In the cases of the specific topic of electromagnetic radiation from telecommunication base stations, its alleged hazardousness and the fear that constituted a common reason for appeal in the Swedish 3G development, Larsson shows how the deliberative and communicative aspects faded as the appeals reach the higher courts, the “‘black box’ of law closes in on the decision making and expert knowledge takes over as the more heavily weighted knowledge” (Larsson, 2014, p. 178). Similar results are found by Aitken (2009) in a study on wind power development in Scotland. Aitken concludes that the planning application process had two separate stages, which structured the roles of lay and expert knowledge differently.

Local objectors were able to influence the early planning application stage, where the decision-making power lay with the local authority. This resulted in an appeals process which was beyond the influence of lay people, and within which lay knowledge played only a marginal role (Aitken, 2009, p. 61).

This is not likely the outcome of a consciously controlled and policy-based development, but rather a consequence of how the process is structured. It can be related to what Lidskog (2008, p. 78) describes as a “clash between science’s universal and ‘de-contextualised’ character and lay people’s local understandings.” To what extent this characteristic can be seen in the wind power appeal cases forms part of this study.

The conflict in rationalities between the often centralistic view of the expert-based perspective and the often more local lay approach can also be seen in the legal revisions made in 2009 in terms of a conflict between a central policy based on calculating rationality and local, political power over the landscape. This is succinctly expressed by the preparatory work for the legal changes that entered into force on 1 August 2009 suggesting changes to increase the efficiency of wind power development by removing much of the local planning of wind power.

In addition, there is a risk that extensive use of the detailed development plan instrument will mean that wind power development in Sweden will depend on different municipal values of what is regarded as appropriate in the particular municipality, and that wind power will not be developed in the areas which, from an objective perspective, are seen as the most suitable from an overarching perspective (SOU 2008:86, p. 229, authors’ translation).¹

1 ”Det kan dessutom finnas en risk för att en omfattande användning av detaljplaneinstitutet medför att vindkraftsutbyggnaden i Sverige blir beroende av olika kommunala värderingar om vad som är lämpligt i just den egna kommunen och att vindkraftsutbyggnaden inte sker på de platser som objektivt sett är mest gynnsamma ur ett helhetsperspektiv.”

The noticeable positioning towards the calculating paradigm is expressed in that it is the “municipal values” that threaten to impede the expansion of wind power at the “objectively” most favourable locations. This is found at a legislative level, and should here be regarded as a background to the purpose of this study that focuses the court proceedings following from the legal setting.

1.1 Purpose and research questions

The main purpose of this study is to better understand how different types of knowledge or rationalities are negotiated and taken into account in face of the legal regulation controlling the Swedish wind power development. A particular focus here is placed on the judiciary processes relating to permits and their appeal. In line with this purpose, the following research questions are asked:

1. What reasons for appeal are common and how are they handled in the appeal process?
2. How does the permit process structure relations between “lay” and “expert” roles?
3. How do participants respond to those structures in attempting to influence outcomes of the permit process?
4. How does the handling of lay and expert knowledge in appealed cases determine public participation?

The expert/lay divide is here mainly studied through court cases of wind turbine permissions that have been appealed and how different arguments relating to subjective values as well as expert-statements are played out in court. The material used for the study comes from three main sources: 1.) A sample of appeal court cases from southern Sweden, i.e. the Land and Environmental Court (LEC) and the Land and Environmental Court of Appeal (LECA), 2.) Interviews with a handful of key persons such as two expert judges, regional administrators and a regional wind power coordinator appointed by the Government; 3.) Legal documents such as preparatory work for the 2009 revision of the legislation and permit process.

1.2 Background

On the one hand there is in Sweden a national policy to increase the speed of wind power development, where legal change is one measure taken, and on the other the spatial planning system which is based on a local planning monopoly. The development of wind power in Sweden is an interesting case of conflict between *national* goals for technological development and *local* spatial planning and governance of land use (Larsson et al., 2014). As already mentioned, this conflict between central and local power is further emphasised by what can be seen as a paradigmatic conflict relating to what type of knowledge should control decision-making; on the one side there is a calculating rationality, where expert-based knowledge is held as the defining paradigm, and on the other there is a communicative or deliberative approach

that deals with balancing legitimate but not necessarily compatible interests.

Swedish wind power development has fallen behind the development of countries such as Denmark, Germany and Spain during the last decade or two, although Sweden produced about the same amount of energy from wind power in the early 1990s as the aforementioned countries (Söderholm et al. 2007, p. 369-270, *Vindkraftshandboken* 2008, p. 12). In recent years, the political goals and actions to speed up the development of wind power has grown, which has also resulted in an increase in installed capacity. The Swedish national policy is to produce 30 TWh of wind power by 2020. Criticism has been levelled in recent years against the spatial planning system for being an obstacle to many different types of infrastructure development, including the critique that handling of wind power plant permits is too slow and ineffective, partly as a result of “double permit process”, under both the planning and the environmental legislation (see Dir. 2007:184, SOU 2008:86, *Energimyndigheten*, 2007, p. 18). A government commission examined the possibilities of making the permit processes more efficient to allow for rapid development of the use of wind as an energy source. The application process was changed in 2009 from requiring both planning and permission under the two regulatory bodies to primarily depending on the environmental trial under the regional administration regulated under the Environmental Code.

2. KNOWLEDGE-TYPES AND THE EXPERT/LAY DIVIDE

In the theoretical planning literature, the difference between “calculating” and “communicative” rationality is often brought up (Sager, 1994; cf Tewdwr-Jones & Allmendinger, 2002), for example, in a narrative of a historical, post-war development in planning (Amdam & Veggeland, 1998). As a reaction to the more centralised and expert-based planning profession, the “communicative” response grew, and developed terminology and theory of “communicative planning” (Forester, 1989), “argumentative planning” (Forester, 1993), and “collaborative planning” (Healey, 1997; 1998). If we use these two strands as a dichotomy, the goal here becomes to be able to use them as an analytical tool in the case studied. For example, the calculating is often seen as expert-based, as opposed to a more communicative and/or lay approach to knowledge (Emmelin, 1997; Emmelin & Kleven, 1999) That is, these two perspectives on rationality or these different types of knowledge are both legitimate and necessary for land use planning, but the challenge is how to balance and negotiate between them. The appropriate type of knowledge in the right place, so to speak. This is sometimes described in terms of an expert/lay divide (Lidskog, 2008). In spatial planning, for example, regarding environmental concerns, the issue is often raised of an expert based bias which means that lay input often has to be phrased on the expert’s terms. Aitken (2009) brings up Epstein’s work on “lay” AIDS treatment activists that managed to present themselves as “credible” by adapting their approach and ways of communicating in order to be accepted by scientists. On a similar account, Collins and Evans (2002) suggest that this is a method that could also be used

by others that seek to be credible in “scientised” areas. Such arguments, according to Aitken (2009), imply that it is lay people who need to change or adapt if they wish to be taken seriously by experts:

Thus the notion that lay knowledge might provide valuable contributions, and hence that experts should proactively endeavour to access this knowledge-base, is ignored. The onus is on lay people to be flexible and learn new styles of communication, despite the fact that it is expert knowledge which currently has a privileged status and position within decision-making processes (Aitken, 2009, p. 49).

Aitken et al. (2008, p. 793) elaborate on the “unquestionable nature of policy within public inquiries” in which they see a rationalistic thought structure that underpins how participatory processes can be set up, “restricting the range of possible arguments that participants can make.” Consequently, individuals or types of evidence that challenge or deviate from this set of assumptions can be easily disregarded. This can be related to an “agenda-setting power” (Aitken et al., 2008). At face value, this relates to what sociologists of law sometimes address in terms of “juridification”, that is, some sort of formalisation of the social sphere (Teubner, 1987). Within the frame of this study, how the legal order shapes the negotiations between rationalities in wind power issues is of clear relevance, which could be addressed in terms of a “juridification of social phenomena” (Teubner, 1992) or even “the legal distortion of social realities” (Teubner, 1992, p. 1455).

The dialectic perspective between expert and lay is, however, very much a present challenge in the legally regulated control and planning of the spatial environment, a fact sometimes described in its more dysfunctional characteristic. As put by Darier et al. (1999):

[T]he nature of the relationship between ‘expert’ knowledges and ‘lay’ publics is at least as much about the ‘public(s) understanding of scientific knowledges’ as about the general (mis)understanding of the ‘publics’ – and their ‘lay knowledges’ – by those who have specialized scientific knowledges (Darier et al., 1999, p. 105).

Interestingly enough, empirical studies of lay judgments of judicial decision-making show that the public opinion on court judgements is “outcome-dominated”; that is, participants gave favourable evaluations of the judges and their decisions when they agreed with the judges’ outcomes (Simon & Scurich, 2013). Similarly, lay people’s reactions to experts attending in court follow a similar pattern. The experts are “deemed competent and their commentaries are deemed reliable when the participants agree with the outcomes propounded by the experts, but the opposite is true when the participants’ preferred outcomes are incongruent with the outcomes endorsed by the experts” (Simon & Scurich, 2013, p. 797).

3. RESISTANCE AND PARTICIPATION IN WIND POWER DEVELOPMENT

An important aspect to consider in terms of local decision-making in relation to wind power permit handling is the legal framework that surrounds the decision to either grant a permit or decline a permit. Arguably, both consistency in approach and a somewhat integrated spatial or building law are crucial to an effective process. Stemmer argues that in relation to the wide spectrum of wind power regulation within the US, states ought to streamline the wind power farm siting process. He suggests this could be done through channelling all such decisions through a designated state agency, for example, a public service commission (Stemmer, 2011, p. 86).

Much literature has been written on local opposition to wind turbines and wind farms (Ek, 2005; Petrova 2013; Devine-Wright, 2005), from a number of perspectives, such as: 1.) Noise, shadows and flickering (Agterbosch et al., 2007; Devine-Wright, 2005; Strachan and Lal, 2004; Wolsink, 2000); 2.) Decreased property values (Larsson et al., 2014; Toke, 2005); 3.) Detrimental effect on tourism (Vuorio, 2003; Strachan and Lal, 2004); 4.) Environmental concerns, including animal concerns (Agterbosch et al., 2007; Strachan and Lal, 2004; Toke et al., 2008); and 5.) Visual and aesthetical concerns (Agterbosch et al., 2007; Carlman, 1986; 1988; Devine-Wright, 2005; Johansson and Laike, 2007; Toke et al., 2008; Wolsink, 2000).

Some literature blames either the aesthetics of wind turbines in local areas or the concept referred to as NIMBY-ism. NIMBY-ism or “not in my back yard” syndrome is described by Bell et al. (2005, p. 460) as a proposed “gap between an attitude motivated by concern for the ‘common good’ and behaviour motivated by ‘self-interest’”. While there generally seems to be support for the idea of renewable energy through wind power at the national level of most countries, this does not always filter down to the same level of support at the local level which often allocates the sites for wind farms (Jobert et al., 2007). The local opposition to wind farms no doubt has an effect on the decision process of permit granting by local authorities. Much of the literature has focused on addressing the issue of local opposition, while one strand focuses on overcoming the opposition and creating acceptance. As a general concept, local support seems to be premised on community involvement throughout the permit handling process and/or community ownership. As Breukers and Wolsink suggest, positive relationships occur when wind power implementation begins locally and support is mobilised bottom up, and involving local wind energy projects and local ownership (2007). This is something that Spain has managed to achieve through its insistent local wind power policies and is also the premise of Denmark’s early and continued success in the implementation of wind power. There is also research to suggest that early and sustained community involvement in the decision and planning process generates local support, making the application and permit granting process more effective (Khan, 2003; Krohn and Damborg, 1999).

Wolsink (2005) argues that the perception among both planners and developers is that the challenge primarily lies in spreading information and knowledge in order to encourage people to be more sympathetic to wind power development. Wolsink

argues for a deliberative and “fair” decision-making when it comes to issue of the landscape, rather than blaming the public for being unwilling to cooperate. This ties in with what Cowell (2007) describes as the governmental and developer solution to the “planning problem”, namely an even further withdrawal of participatory elements for the public in the process.

The sanctions and actions of governing authorities and policy-makers will not only define the character of their position on wind power development, but also how they define the role of the public in the development:

The choice of strategy for policy makers (and advocates of wind energy) will depend upon how we view the qualifications that lead people to oppose particular developments. If we consider that their objections are misguided and should not be accommodated, assuming we do not wish to exclude them completely, our strategy must be to change their minds. If we consider that their objections should be accommodated, our strategy should be to change the developments (Bell et al., 2005, p. 468).

If we consider the fact that the public is merely consulted in the process of wind power development in Sweden, one approach to explaining the resistance can be found in what Bell et al. (2005) describe as a “democracy deficit.” If so, a policy-related option would be to “change the underlying character of the planning process from confrontation to collaboration” (Bell et al., 2005, p. 467, with reference to Healey, 1996; 1997). Such a collaborative approach is, according to Bell et al. (2005) grounded in the claim that “deliberative” rather than “technical” rationality should be the basis for environmental decision making (cf. Owens et al., 2004):

Collaborative planning shifts the emphasis from competitive interest bargaining to consensus building; it recognises and includes all stakeholders; and seeks to identify diverse interests and the mechanisms of power that may work to subordinate some of them. The aim is public participation rather than public consultation; it does not aim to ‘educate’, but to create opportunities for discussion. A collaborative process might overcome the democratic deficit by encouraging (some of) the ‘silent majority’ to participate in decision-making. If the siting process involves the local community from the very beginning – even before a specific site is chosen – there may be more incentive for local people to participate (Bell et al., 2005, pp. 467-468).

The Swedish model mostly means a consultation approach, where the public in various degrees are an active part. To what extent the municipalities and developers are “hearing but not listening” – to use the terminology of Conrad et al. (2012) – is hard to tell.

4. METHOD AND MATERIAL

The material used is drawn from three main sources that are combined in the analysis:

1. A sample of court cases from southern Sweden where turbine permits have been appealed, both in the Land and Environment Court (LEC) and Land and Environment Court of Appeals (LECA – the “supreme” environmental court);
2. Interviews with a handful of key persons such as two expert judges in LEC and LECA, regional handling officers assessing power plant applications, and the wind power coordinator appointed by the government in order to facilitate the development in southern Sweden;
3. Legal documents such as preparatory work regarding the revision of how wind power is assessed and how the permits for the turbines are considered, in which an important legal revision was made in 2009.

For the analysis a sample of appeal permit cases was collected from the Land and Environmental Court (LEC) of Växjö [Mark- och Miljödomstolen] as well as the Land and Environment Court of Appeal (LECA) [Mark- och Miljööverdomstolen]. These two courts were created 2 May 2011 in the current arrangement. There are five LECs in Sweden that divide the country into five jurisdictional areas and one LECA, which accepts a case after approval in the “supreme court” sense, after granting permit review. The sample of judgements from both the LEC and LECA are selected from decisions passed since 2 May 2011 due to the complexity that would follow from comparing different court systems, which would risk obscuring the clarity in the analysis we have pursued. Therefore, cases analysed from LEC have been selected from between 2 May 2011 and November 2013.² There are 20 cases in the sample from LEC and nine cases in LECA of which only three received permit review and were tried by the appeals court, of which two are of relevance for this study. Given that the LEC is one of five of its type in Swedish jurisdiction and the LECA the only of its kind, in combination with the fact that the legal setting is the same for the entire country, the results from this type of qualitative analysis of the handlings in court can very likely be analytically generalised to speak for the case of Sweden (cf. Yin, 2014, on generalisation). This, of course, also depends on the theoretical foundation (Yin, 2014, p. 40), which will also be applied to the analysis of the four interviews conducted for this study in order to complement and elucidate the results we have received from the analysis of the other sources: 1.) Expert judge in LEC; 2.) Expert judge in LECA; 3.) Administrator at the county council; 4.) The regional “wind power coordinator” which has the role of supporting and facilitating wind-power development in southern Sweden and is one of four regional coordinators appointed by the government.

Apart from the appeal cases, the legal material that has been used for the study has primarily regarded the directives and reports concerned with the legal

² LEC in Växjö, that is, and the sample regards cases appealed from the area/region of Skåne.

revisions made during 2009. This constitutes the proposal that was drafted by the Environmental Process Commission (Miljöprocessutredningen) in late 2008 (SOU 2008:86) and the subsequent governmental bill that followed in the spring of 2009 (Prop. 2008/09:146), as well as the main directive for the wind power commission (Dir. 2007:94) and the supplementing directive of most interest to the wind power processes (Dir. 2007:184). The actual legislations are a natural part of this too, such as the Planning and Building Act (that was revised in May 2011, from 1987:10 to 2010:900) and the Environmental Code (1998:808), but also of the regulation for economic support for wind power planning (2007:160).³

5. RESULTS AND ANALYSIS

Common topics (as inquired in RQ1) found in the argument against wind power permits in appeal cases are, according to the sample of appeal cases as well as the expert judges:

1. Noise/disturbance/intermittent shadowing from the moving rotors;
2. Visual aspects/landscape aesthetics;
3. Potential impacts on fauna (in particular birds and bats);
4. Risks of decreasing property values;
5. Fear and feeling of uncertainty regarding a number of factors, including decreasing property values.

The single most common concern according to the sample of appeal cases is noise from wind turbines, or fear of what the noise level and type of disturbance will be like. It seems that a central concern regards how to clearly express the more vague feelings, worries and fears that many plaintiffs share regarding wind power. The interviews and court case analysis conducted for this study point to the fact that it is hard to pinpoint the actual driving-forces behind appeal and resistance. As pointed out by Bell et al (2005):

There may be good grounds for thinking that self-interested reasons for opposing a development will be 'hidden' behind principled arguments but we should not automatically assume that opponents of local developments do not genuinely hold a general principle of qualified support for wind energy. If we want to determine whether or not people are qualified supporters, we will (at least) need to look beyond their public arguments to the reasons they offer in private for opposing a development (Bell et al., 2005, p. 464).

Nevertheless, from the perspective of how rationalities are negotiated in court, we can conclude that noise is a topic often present in court cases dealing with permit processes, and a topic of clear interest in terms of how it expresses a battle between

³ Förordningen (2007:160) om stöd till planeringsinsatser för vindkraft.

expert and lay knowledge as well as its relation to how the appeal courts treat it. First of all, a noise level of 40 dB(A) at the outer wall of a residential building, which is a recommended value or “soft norm” (Emmelin & Lerman, 2008), has become central to conflicts and appeals. This is confirmed by appeal cases as well as the interviews with both the expert judges and the environmental permit official at the county council. The issue of noise as well as the aesthetic concerns in appealed permit processes can serve as an explanatory example of how the permit process structures relations between “lay” and “expert roles” and how participants respond to those structures, as inquired in RQ2 and RQ3. The interviewed official claimed that the issue of noise has become more common in appeal cases. The reason for this may be the increased development in forest areas where local residents experience that they live in an especially quiet environment which would be significantly impacted. The environmental permit official described how some residents distrust the calculation methods used for concluding the levels of noise from a windmill when it reaches the proximity of their residence, and stated that actual measurements were questioned to a lesser degree. He also saw problems in how some anti-wind power lobby groups accepted ongoing cases for local people in court:

Some associations will accept handling local residents’ issues, but argue the wrong details. They have made their own calculations, but do not take the precautions defined in our decisions into consideration. These cases are dismissed directly by the Land and Environment court. When some associations step in, there is a risk of missing the actual issues of importance for local residents.

Additionally, the issue of noise is particularly interesting here, because the court cases reveal a constant battle around “threshold values”, what they mean, to what extent they are treated as guidelines or binding norms, who has made the assessment of the expected noise levels for the particular turbine to be erected and even how the models for measurement are constructed, as in a case in Tomelilla (M3665-10, LEC 26 November, 2011) or a case from Linderödsåsen in Kristianstad, where the plaintiffs living in the area used a research report from Aalborg University to support their claims on the unreliability of noise measurements (M 1492-11, LEC 30 January 2012). These figures, which originate from guidelines for external industrial noise drawn by the Swedish Environmental Protection Agency in the 1970s, have become stricter in court praxis for wind turbines over the years. Interestingly enough, the expert judge in the Land and Environment court of appeal (LECA) claims there is exaggerated focus on threshold levels at the local level, and that there are several conjunctive issues to take into more holistic consideration at the appeal court level.

Almost all of the appeals initiated by plaintiffs include aesthetic concerns as a reason to deny wind power permits. At the same time, the judge in the LEC, which is the first level of appeal after the county council decisions, states that the court only considers these place specific concerns to a limited extent. The same is stated with regards to other, more vaguely formulated fears. This can be seen as an indication that the plaintiffs need to adjust the formulation of their complaints to better

fit the arguments and reasoning in court. Consequently, the “landscape analysis” that sometimes is conducted by some municipalities can be a method to “scientize” aesthetic concerns and to narratively adjust them to court proceedings. Statements are made in a seemingly objective form concerning “what the landscape can tolerate” and this is often related to statements concerning perceived scale and openness of the landscape. How to formulate arguments, then, is through a normative but passive parlance in which conditions are not expressed as statements but as facts that are “taken-for-granted.” One case in LEC with 27 plaintiffs from an area between Helsingborg and Ängelholm in southern Sweden concerned an appeal of an environmental permit for 8 wind turbines with a hub height between 80-105 m. (Case M 1180-11, 1 March, 2012). Here, the company argued that the two wind farms to be combined have a “cohesive and harmonious design” and thus will not “cause impermissible interference on the landscape” (p. 20). The scenery and the landscape are “assessed as visually durable” (p. 23).⁴

Another example can be taken from how the planning board in the local authority issued a statement in a LEC case regarding a wind turbine permit for a location in Trelleborg (M 1861-11, 18 November 2011, p. 3):

The visual importance of traditional structures, which are often part of the horizon, is sensitive to several large vertical structures on the landscape and as such involves a disturbance in the substantially horizontal landscape and takes the focus away from the level horizon. Particularly vertical elements, unrelated to agriculture, can affect large areas.

This can be described as a sort of translation of aesthetic issues from being based in the individual spectator’s values (“in the eyes of the beholder”) to becoming a matter of expert assessment of a value considered to be intrinsic in the landscape.

The property value argument is common in appeal cases and relates to a concern that many people have of wind power establishment in the vicinity leading to a decrease in value of adjacent properties. This is seen in the appeal cases. Interestingly enough, this is expressed by the expert judge (of the LEC) as a topic that “everyone addresses”, but that the court “never considers.”

The role of birds, particularly nesting sites for raptors, and bats is strongly positioned as an argument against turbine permits. The LEC expert judge indicates this in his statement that “eagle owls, bats and eagles are very much taken into account.” This is seen, for example, in the debate on to what extent a wind turbine establishment in Hallabjär, Kristiandstad, would be inappropriate due to the presence of a “very rare bat” – *Barbastella barbastellus* (Case M 2687-12, LEC 18 December 2012). Another example of a strategically formulated argument can be exemplified by the Linderödsåsen case mentioned above:

4 ”en sammanhållen och harmonisk utformning. Att de inte har samma höjd eller utformning kommer därför inte medföra otillåtna störningar på landskapsbilden.”

”Landskapsbilden i området bedöms däri som visuellt tålig.”

The golden eagle is probably not nesting in the area yet, but the nearest known breeding site is only a few kilometres away and a new establishment of territory is to be expected if the area remains undisturbed (M 1492-11, LEC 30 January 2012).

Alternatively, as argued by plaintiffs in a case from Helsingborg: “[t]he golden eagle and the eagle owl are about to establish in the area” (Case M 1180-11, LEC 1 March 2012). This also indicates that plaintiffs sometimes adopt or even construct arguments that they may think will benefit their appeal. As put by the environmental permit-official at the county administration:

[It happens] in some cases, but there are few examples of this. You suddenly find an eyrie. This only happens, however, in exceptional cases. What is more typical is noise, shadows, and effects on the landscape.

The Helsingborg/Ängelholm case mentioned above deals with the issues of noise and birds, among other issues (M 1180-11, 1 March, 2012). One of the plaintiff’s statements highlights how expertise on birds is negotiated and challenged:

The information presented by the company regarding the impact of wind turbines on bird life deserves to be questioned. When the company’s hired expert Leif Nilsson expresses his opinion on the proposed activity’s impact on twelve species of raptors, he chooses to reject the material available regarding raptors, while citing studies of a species of diving ducks (Case M 1180-11, p. 11).⁵

Many of the plaintiffs issued statements on the situation for birds and bats in the area, and many made references to a statement by some ornithological association. For example, one resident claimed that “[t]here are plenty of bats in the area, no inventory of these has been carried out, and through contacts with scientists [it has become clear that] the knowledge of rare species in the area has not been mapped” (M1180, p. 6).

The division between ”lay” and the more trusted ”expert” knowledge quite obviously plays a significant role in how the public may participate in the wind development at the appeal stage (as inquired in RQ4). A closer reading of the more complicated cases provides further insights into the interplay between expert and lay statements – as with the case regarding a group station of 18 wind turbines on what is called the Linderödsåsen in the municipality of Kristianstad (LEC case M 1492-11, 30 January 2012). The environmental permit was approved by the county council, and seven individuals living in the area appealed the permit. In this case, we can see the interaction between the use of expert knowledge, i.e. references to the specific noise measurements and general noise studies and the authoritative arguments contained in the guidelines from governmental authorities (such as the Na-

5 ”Det underlag som redovisats från bolaget beträffande vindkraftverkens påverkan på fågellivet förtjänar att ifrågasättas. När den av Bolaget anlidade experten Leif Nilsson uttalar sig om den tänkta verksamhetens inverkan på tolv arter av rovfåglar väljer han att underkänna det material som finns tillgängligt beträffande rovfåglar samtidigt som han återoppar studier av en art dykänder”

tional Board of Health and Welfare, Socialstyrelsen), as well as anxiety and aesthetic considerations. There is a dialectic relationship between the threshold levels and the residents' concern for how the noise will be experienced. The residents fear that the quiet environment they see as characteristic of the area will be destroyed. The plaintiffs wish to speak in defence of an area, the area they feel is their territory, while the defendant (the company) argues that their rights to participation relate only to the immediate environment of the properties (pp. 8-9) – i.e., “the plaintiffs’ substantive right of action, as concerned parties” (p. 8).

6. CONCLUSIONS

One way to understand the particular results of how different types of knowledge are received, negotiated and formulated within the legal setting of court disputes over wind turbine permit-giving is to relate them to the two paradigms of governance mentioned above. If there is on the one hand an “environmental paradigm” in which the calculating rationality or logic is emphasised parallel to a concentration or centralisation of the decision-making, there may be, at least analytically, a “plan paradigm” on the other. The latter would then emphasise a communicative rationality, which not uncommonly is regarded as a more locally based feature. In the specific case of wind power, noise is mainly treated, at least at the lower instances and first level of appeal, as a matter of calculating rationality based in the extent the measured level is in compliance with the 40dB(A) “threshold.” Therefore, much argument is directed towards issues such as the methods of measurement and calculation and the importance of remaining below the 40dB(A) level. The wildlife concern is treated in a similar fashion, particularly with regards to eagles and bats, where the court argumentation relies on expert statements from ornithological associations or external authorities in the field. Individuals’ fear or worries (for property value depreciation, health, “destruction” of the landscape etc.) are often expressed in the appeal documentation, but appear to constitute a type of value that courts cannot seriously consider. This indicates that the communicative aspects of the permit appeal is at least to a large extent controlled by a more calculating and expert-based logic that is found in the “environmental paradigm.” Furthermore, the appeal in court can be described in terms of a *juridification* that entails a formalisation. As such it also functions as a sorting tool that defines and categorises the information, arguments and statements made by the concerned parties in the process (on the significance of categorisation for law and norms, see Larsson, 2013a). At best, this serves as a means to sort amongst formally legitimate concerns in order to arrive at a justified decision. At worst, the juridification merely becomes a “distortion” of social realities (as outlined by Teubner, 1992) that shape an authoritative decision-making process perceived as illegitimate. This juridification shifts the balance of power and increases the demand for arguments that fit with the pre-existing legal order.

It seems that improving the permit handling process in relation to wind energy is a multi-faceted agenda. While there are bureaucratic processes that can be

improved to streamline and make the decision making process more effective, the interest of the local public also has to be addressed. This responsibility not only befalls the national government when setting renewable energy targets but must also start from the bottom through wind energy producers engaging with local communities to illustrate the likely appearance of proposed developments and to include the local public in the planning and siting of wind power plants (Lange and Hehl-Lange, 2005; Klintman & Waldo, 2008; Peel and Lloyd, 2007; Wolk, 2008).

As mentioned above, there is a strand of critique in the literature on expert and lay knowledges in decision-making that states that the lay side often has to adjust to the expert modes of communication to be heard at all (Aitken, 2009; Collins & Evans, 2002). On a similar note, the endeavour to be considered a credible party and express legitimate statements in the appeal process could most likely be strengthened by support from an already existing organisation, such as an ornithological association. Similarly, the anti-wind power lobby associations seek to reach similar credibility on overall wind power questions, but seem to be regarded as less legitimate in court than their ornithological counterparts. A component of this lack of legitimacy may possibly stem from the fact that they have been developed specifically as lobbying organisations against wind power, whereas the ornithological associations at the national or regional level are seen as organisations that exist irrespective of the wind power issue.

The results indicate that the juridification that takes place when a permit issue is appealed in the judiciary system supports the calculating rationality more than the communicative, and that the plaintiffs often attempt to adapt through the formulation of their arguments. It leads to an increase in the strength of scientific or at least “scientized”, meaning “science-like”, language use and references to expertise.

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Article IV

MULTI LEVEL ENVIRONMENTAL GOVERNANCE

The Case of Wind Power Development in Sweden

Larsson, S., Emmelin, L., & Vindelstam, S. (2014)

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MULTI LEVEL ENVIRONMENTAL GOVERNANCE

- the case of wind power development in Sweden

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Abstract

At national policy level in Sweden, the importance of development of wind power is emphasized. However, the actual implementation is highly dependent on local permit giving for windmills. The legislation governing the permit giving has been revised in an attempt to make the local processes faster and to shift the permit process towards a more regional environmental process as opposed to a more plan-based municipal process. By tradition in Sweden, the local, municipal level has had a strong mandate in land use planning which is often referred to as the “the municipal planning monopoly”, which means that there is a tension whenever a legal proposal seeks to diminish this “plan monopoly”. The legal investigation suggesting changes in the law on permit-giving stressed the need for strengthening the regional assessment, which lead to a compromise called the ‘municipal veto-right’, where the regional environmental permit needs a formal approval from the municipality for the permit process to continue. This study investigates both the legal development of the so-called veto-right as well as what it empirically has lead to, and how it is perceived by the industry as well as concerned parties. For this reason a sample of 30 regional permit cases has been collected, and a limited of interviews has been conducted with judges in appeal courts and regional handling officers assessing turbine applications. Results indicate that the industry sees the “veto” as leading to problematic uncertainty in the process at regional level, and therefore prefer to keep the applications at a level that entitles them to use the municipal permit system – which is determined by height and number of turbines. This is a consequence directly opposite to what the legal commission aimed for when revising the legal system.

KEYWORDS: WIND POWER, LAW, SPATIAL PLANNING, TIERING, MULTI LEVEL GOVERNANCE, MUNICIPAL VETO.

1. INTRODUCTION

This study represents an interdisciplinary enterprise to study a case of relevance for environmental policy, management and planning when it comes to issues of *tiering*, and power between different levels in environmental governance. It is here argued that it is of necessary for environmentally relevant planning for renewable energy technologies to understand more of the challenges inherent in the multi levelled governance of spatial planning, in this case exemplified by Swedish wind power development. For example, the dialogue between stakeholders is to a large extent determined by the legal setting in which they operate. Within a framework of rational decision making a common conception of strategic decision making is one of a hierarchical system with an increasing level of detail as one moves down to implementation and daily operation (Alexander 2000; Marks & Hooghe, 2004; Sager, 1994).

Wind power development in Sweden is interesting not least because it can serve as illustration of two sets of problems in environmental governance and spatial planning (Larsson, 2009; 2011b). Implementing national goals for renewable energy faces both the problems of multi level governance and the special conditions imposed by the existence of two parallel systems of planning and permit granting, including demands for participation and efficiency (cf Newig & Fritsch, 2009). In Sweden, the obstacle to an increased reliance on wind energy is often said to be slow and complicated wind power planning and permit procedures with local opposition playing an important role (Bergek and Jacobsson, 2003; Michanek and Söderholm, 2006; Åstrand and Neij, 2006). Thus, when the main Swedish legislation concerning wind power development was revised in 2009 it was done with the goal of making the processes more “efficient” from the point of view of national goals and developers (SOU 2008: 86; Prop. 2008/09:146). This has resulted in two different combinations of environmental permit granting and spatial planning of wind power deployment.

More specifically, wind power development in Sweden to a large extent relies on two different sets of legislation – the Planning and Building Act, PBA, and the Environmental Code, EC. It has been argued that they codify two types of “paradigms” or cultures concerning what constitutes the basis for legitimate decisions (Emmelin & Kleven, 1999; Emmelin & Lerman, 2006; Vuorio, 2003). These have been argued to be of importance to understand the outcome of decision-making under these two sets of regulations, for example concerning issues of public participation in the development of the infrastructure for the third generation of mobile telephony in Sweden (Larsson, 2014; cf 2008). To facilitate the development of wind power, the Swedish Government in 2007 appointed a committee with the mandate to investigate how the permitting process for wind energy could become more efficient (dir. 2007:184). The legal investigation had to choose between either the “municipal spatial planning side”, including detailed development plans and building permits, or the “regional environmental side”, entailing environmental permits. They chose the latter, motivating this stepping away from municipal decision-making power by referring to the municipal comprehensive planning as the appropriate means for the municipalities to influence the environmental permit process and thereby to control

wind-power development within their local jurisdictions (SOU 2008:86, p. 222). The proposal was heavily criticised from the perspective that it undermined the municipal so called planning monopoly. This led to two compromises: One related to larger wind mills (height over 150 metres; or group stations with mills higher than 120 metres; in both cases height is calculated from base to the tip of the blades at the highest point) where the local authorities were given what has been termed a "veto" (this is not the legal term, but it has been interpreted as such, and is often called so in the public debate) in that they can approve or in effect deny the giving of the environmental permit without giving any reasons, which in practice amounts to a power of veto. The other was that single windmills smaller than 150 m high (but above 20 m) and groups of fewer than 7 mills still requires building permit from the municipal authorities and 'notification' in accordance with the Environmental Code. The logic of these two concessions to local authority is difficult to understand given that the object was to streamline permit granting to facilitate a faster development of wind power. Our interpretation is that there was a belief that technical and economic factors, which had hitherto caused a successive increase in size and generating capacity, would mean an automatic change to the new system thus making environmental permit granting at the regional level the dominant route.

1.1 Research purpose and questions

The purpose of the article is to understand more about the tension between different administrative levels in the Swedish system of environmental governance with regards to wind power. The specific traits of this system to a large extent define the outcome of important challenges relating to environmental concerns, spatial planning and public participation, and the system is a complex set of intermingled entities such as different administrative levels, law, private and public interests, the top-down policy initiatives as well as industrial players in the wind power business. Therefore, the specific research questions are as follows:

1. How can the Swedish wind power development be understood in terms of the different levels of governance, from national, to regional to local?
2. What does the so-called municipal veto mean for the Swedish wind power development? In particular, how is the veto right perceived and conceptualized by involved parties such as concerned citizens and wind-power companies?

The so-called municipal veto is at the core of the challenges between local planning, regional environmental assessments and national policy – all of which interact to determine Swedish wind power development. At the same time this example can tell about issues of general interest when it comes to national policy-making that presupposes to local implementation, as well as of the role of law in spatial planning. The case of wind power deployment in Sweden illustrates more general questions of importance for governance especially concerning the relationship between regulation of the implementation of national goals and the regulation of local planning.

2. TIERING AND MULTI LEVEL GOVERNANCE

Within a doctrine of rationalist planning the notion of a hierarchical system of decision making with an increasing level of detail as one moves down to implementation and daily operation is an important assumption. This hierarchical and top-down model of multi level governance has long been criticised from both theoretical and practical points in the planning literature (Alexander 2000; for an overview see e.g. Allmendinger 2009), political science (a classic is Etzioni 1967), and SEA theory (Cherp et al. 2007). However it is a mainstay of both EU and national Swedish regulation of Environmental Assessment, which is one of the important tools of environmental integration into spatial planning. It is often termed *tiering* in the Strategic Environmental Assessment, SEA, literature (Lee & Walsh 1992). The assumption of a tiered system of planning and decision-making is the historical basis for the development of SEA and central to the relationship between the EU-directives on EIA and SEA respectively. Indeed, tiering has been described as a key element of SEA and even one of the major drivers for the development of SEA (Arts et al., 2005).

Arts et al. (2005) defines the concept of tiering as the distinguishing between different levels of planning – policy, plans, programs – that are prepared consecutively and influence each other (cf EC, 1999, pp. 16-22). Tiering is then "about how the different levels of planning relate to each other" (Arts et al. 2005, p. 2). The tiered system is assumed to be internally consistent, top-down and in the case of environmental issues based on a scientific, calculating rationality (Sager 1994, Emmelin & Kleven, 1999). The higher levels are assumed to set clear limits to the degree of freedom of lower limits using for example binding and quantitative norms in the form of environmental standards and thresholds (Emmelin & Lerman, 2008). In the development of EA this process was seen as the "foreclosure of options" of lower levels necessitating both a binding strategic planning and the application of SEA (Wathern, 1988). It can thus be argued that while the notion of vertical consistency has weak theoretical foundations and highly varied practical application in existing planning systems it is nevertheless an important component of multi level governance utilising national goals and objectives and methods of management by objectives. While tiering is essentially an aspect of vertical relationships within government the concept of multi-level governance, MLG, is also of importance to our discussion. This stresses not only the vertical dimension of government but also the interdependence between governmental and non-governmental actors, which is the essence of "governance" (cf Appelstrand, 2007; Hajer, 2011). Governance with central directives, goals, or standards and threshold is by its very nature top-down while in theory allowing lower level choice of means of achieving objectives. However the role of central directives, standards and norms as well as more general national and supranational goals may be to attempt to impose a measure of vertical and top down consistency rather than assuming it as an inherent characteristic of the system (Emmelin & Lerman, 2008).

3. THE SWEDISH SYSTEM OF ENVIRONMENTAL GOVERNANCE

The Swedish system of environmental governance and spatial planning can for the purpose of our discussion be described as an asymmetrical, three tiered system with two main sets of legislation and “streams” of administration and decision-making. On the one hand there is the Environmental Code defining processes and substantive goals of environmental governance. On the other hand, planning practice is codified by the Planning and Building Act. The Swedish system of government has three levels: national, regional and local. The regional system with a County Administrative Board is for historical reasons an arm of central government whereas the local level is based on decision making in an elected body, the Municipal Government, served by branches of local administration and professionals. Within the two “streams” their relative importance and power is distinctly different. With Sweden’s entry into the EU a further level of governance was introduced. In the case of wind power planning this added level has several influences such as through EA directives, goals for renewable energy, etc. (Emmelin & Lerman 2006)

One aspect of the Swedish spatial planning system is of particular importance from the perspective of tiering and MLG. The municipality has, as already noted above, a monopoly on plan making and there are no higher tier spatial plans made at either national or regional level, which singles Sweden out in a European territorial governance perspective. At the regional level there is no politically elected body responsible for plan making¹. The regional arm of the state, the County Administrative Board, does not make plans but oversees municipal plan making, especially with regards to legality, national interests and sector interests. (cf COMMIN)²

In this paper it is the multi level governance aspect and the relationships between the levels in the two “legal/administrative streams” that is in focus rather than the paradigmatic struggle between them. While the focus here is on the vertical aspect of MLG it is important to note also the horizontal interaction between the environmental permit system and planning (Dühr et al, 2010). It is in this respect important to note that not only are the relationships between levels in the system different in the two streams but they are also based on different models of governance rooted in different paradigms and professional cultures (Emmelin & Kleven 1999; Emmelin 2000). The paradigmatic struggles of different professional cultures, norms and legal administrative “streams” fits well into the concept of MLG which challenges “the hierarchy fallacy” (Emmelin in press) i.e. simplistic notions of tiering and emphasizes that authority is gradually dispersing across sectors and levels (Dühr et al, p. 98). While the concept has been criticised as being “more a metaphor than theory” (Rosamond, 2000, p. 11) and “lacking in a set of testable hypotheses” (Jor-

1 There is a long-standing debate on the regional organisation and representation in Sweden. As a test case two regions, Skåne and V Götaland, were created from former counties and have elected “parliaments”. The discussion here of organisation refers to the rest of Sweden where more or less loose regional organisations based on the municipalities exist and the County Administrative Board is the regional administration. The reform of the regional structure has entered a state of limbo after a proposal by a commission on regional organisation.

2 COMMONMindscapes, is a EU-financed project concerned with the spatial development in the Baltic.

dan, 2001, p. 201) nevertheless it has proved useful in understanding environmental policy (Dühr et al, 2010; Naujėkaitė, 2011) and is relevant as a characteristic of the structure that we describe.

3.1 Regulating the relationship of the levels

In June 2007 The Environmental Process Commission was appointed with the mission to facilitate, coordinate and otherwise make efficient the administration and judicial review of property cases and matters under the Environmental Code and the Planning and Building Act, PBA (Dir. 2007:94). In addition, according to the supplementing directive (Dir. 2007:184), given on December 20, 2007, the committee should also consider the need for amendments related to renewable energy, water activities, and national interests under Chapter 3 PBA, environmental impact assessments, and coordination and consultation in the review procedure. The Commission was to propose necessary amendments to the Environmental Code, the Planning and Building Act and other relevant statutes. According to the directive, the overall purpose of the mission was to “[m]ake more efficient the environmental assessment, i.e. to make the trial more quick and easy, without bypassing rule of law, health and environmental protection requirements. In this context, a starting point is that the processing time should be kept as short as possible without hindering the ability to meet the environmental objectives or override the public’s right to transparency and participation” (dir. 2007:184 Supplement Directive for environmental process investigation, p. 3).

Furthermore, the directive says that the “[p]roposals must involve the coordinated management of trial processes and enable a more transparent and temporally shorter and more efficient processing, while the trial is to remain diligent and in accordance with the rule of law” (2007, p. 7). A clear emphasis was in the directive made on efficiency, both in terms of reducing any parallel processing but also by coordinating handling between agencies. Before August 2009 the permit processes for wind power demanded permits from both of the main bodies of law, the PBA and the EC, which lead to a need to chose which one was to be given preference. The proposal (SOU 2008:86) and the subsequent governmental bill (2008/09:146) chose the regional and environmental path, emphasizing that the comprehensive plan³ would be the municipalities’ most important instrument for taking part in the wind power development.

This meant that the local municipalities would to some extent, loose their power over the planning of this particular development, which their representatives were quick to point out. Many commentators to the proposal, including the Swedish Association of Local Authorities and Regions, which is the national association representing all the municipalities, did not share the commission’s assessment that it is enough that the examination of large wind power installations be made under the Environmental Code. They claimed that the proposal involved an unacceptable restriction of the municipal plan monopoly (2008/09:146, p. 39).

3 The comprehensive plan is a mandatory plan covering the entire area of the municipality; it is however not legally binding.

It is worth noting that in the report from the Environmental Process Commission drafting the preparatory bill there was no proposal to compensate for the restrictions on the right of municipalities to decide on land use. The committee claimed that municipal control over the siting of wind farms would largely be unchanged since the municipal position would continue to be taken into account through the comprehensive plan, and by the municipality's position as a strong referral organization.

The subsequent governmental bill expressed a different assessment of the impact on local self-government. It was claimed that the removal of requirements for building permits and detailed development plans would be compensated with a municipal veto power “[t]o some extent satisfy respondents’ submissions on this part and ensuring a high level of municipal influence over the use of land and water” (Prop. 2008/09: 146, p. 40). This was the only reason given for introducing what amounts to a municipal power of veto. Despite the introduction of the veto, it meant a restriction on local autonomy with regards to planning. The restriction was in the bill however claimed to be necessary with regards to meeting the goals set in the use of renewable energy, making it very urgent that the trials in the wind power processes becomes more efficient and simple (Prop. 2008/09: 146, p. 49).

4. METHOD AND MATERIALS

The method for this study is a combination of: 1.) traditional analysis of the legal documents formulating the Swedish system for environmental governance with regards to wind power, and a mostly qualitative analysis and discursive exemplification, along the lines of the literature sociological approach of Burke (Asplund 1979), 2.) Analysis of sample of wind power processes, including consultation documents and 3.) Interviews with a handful of key persons such as two expert judges in respectively the Land and Environment Court (LEC) and the Land and Environment Court of Appeals (LECA – the “supreme” environmental court), regional handling officers assessing turbine applications, and the wind power coordinator appointed by the government in order to facilitate the development in Southern Sweden.

The sample consists of 30 wind power processes in the county of Skåne, which is one out of 21 counties in Sweden, and the county that during 2011 had the second most installed effect of wind power and number of wind power turbines of all the Swedish counties (Statens Energimyndighet, 2011, p. 12). The permit process material consists of applications from developers, letters from the public, consultation documents, appeal documents etc., including information on height, number of turbines, dates, locations etc. In this study, the type of data that has been of the most interest regards the written documentation from the consultation processes in the permit handling, which here is analysed qualitatively in order to detect concerned individuals’ attitudes towards the municipality and the veto process, and more. Legal sources such as preparatory bills and public legal investigations have been used in order to depict and analyse the legal development of relevance within the scope of

the study. In addition, secondary sources and other relevant studies have been taken into account when applicable.

The legal material has already been mentioned and consists of the explicit legal regulations such as the Planning and Building Act (that was revised in May 2011, from 1987:10 to 2010:900) and the Environmental Code (1998:808), but also of the regulation for economic support for wind power planning (2007:160)⁴, the main directive for the wind power commission (Dir. 2007:94) and the supplementing directive of most interest to the wind power processes (Dir. 2007:184). Further, the most important sources for studying the intentions behind the legal revisions implemented in August 2009 which can stand for the manifest intentions of the law, consists of the proposal that was drafted by the Environmental Process Commission (Miljöprocessutredningen) in late 2008 (SOU 2008:86) and the subsequent governmental bill that followed in the spring of 2009 (Prop. 2008/09:146).

5. RESULTS

The legal revisions have been already accounted for in the narrative of this article and may be summed up with two brief concepts: *increased efficiency*, understood mainly in terms of *speed*. The preparatory work has emphasized the importance of shortening time from application to decision. This focus on time aspects in planning and decision-making is of interest from a wider planning perspective, which we return to in the analysis below. Further, the “municipal veto” that emerged in the governmental bill but was not included in the preceding proposal from the wind power commission is of great interest in terms of power structures and who controls the spatial development.

5.1 Veto, efficiency and timing

There have been anecdotal cases in the press regarding cases where the municipalities’ answers have arrived late in the permit process, presumably adding to the aspects of uncertainty in the planning. It is simply hard for the applicants to make decisions over investments if the negative decisions arrive at a very late stage in the process.

The County administration of Skåne, which is the sample region in our study, sent a letter to the Swedish Ministry of Environment regarding the municipal veto in 2010. According to this letter the municipalities tend to produce their own background material for their decisions regarding the permits applied for. Furthermore, the municipalities sometimes add conditions as a complement to the delivered opinion, which is not an action prescribed in the law. The County Administration asks for a clarification of the rules regarding what the municipalities may or may not do, and demands that the time frames for the municipal decisions should be more clearly specified. In 2012 the Swedish Energy Agency [Energimyndigheten] issued

4 Förordningen (2007:160) om stöd till planeringsinsatser för vindkraft.

a report including the “veto issue” (Statens Energimyndighet, 2012). The report comments upon the so-called municipal veto as problematic in relation to wind power development, arguably because it “has meant that the permit process in many cases has been extended, because it has taken a long time before the local authority has answered. In some cases, the municipal answer has taken over one year” (Statens Energimyndighet, 2012, p. 23). The long delay – as argued in the Energy Agency report – from the municipal side in these cases is caused by the municipalities being in a process of complementing the comprehensive plan with a specific supplement on wind power. The municipalities have in these cases wanted to finish the comprehensive plan process before answering the county administrations regarding wind power projects (2012, p. 23). This is in the report taken as an indication that the answers will not be as delayed in the future. According to our regional sample of permit processes in Skåne, the majority of questions are however asked by the County administration within one or two months from when the permit application arrives (10 cases – in only 2 cases has the municipality not answered within approx. 3 months, and one with the information about veto missing). This indicates that the municipal involvement occurs fairly early in the process.

5.2 The veto as perceived by concerned citizens

In the consultations that are organised at regional level as a part of the permit handling process there is in our sample a lot of material on citizens’ views on the municipalities’ role. Often, it is democratic concerns that are spoken about in the consultations, as an issue directed towards the municipalities rather than at the companies that seek to establish wind power.⁵ It seems that the municipality and its representatives often are targeted in the comments even if the process formally is tied to the regional level and the local planning is not the most central aspect controlling the actual wind power establishment.

Another issue often addressed is a fear that the wind power establishment will lead to a depreciation of property values,⁶ which is a rather common concern reported in the literature (Agterbosch et al., 2007). Much has been written on local opposition to wind turbines and wind farms (Devine-Wright, 2005; Petrova 2013; Wolsink 2005), including for Swedish circumstances (Ek, 2005).

5.3 The veto as perceived by wind-power companies

The “veto” rule that was introduced as a compromise to satisfy the advocates for municipal influence in wind power issues, and the restrictions that is nevertheless meant for local self-government was issued because it was claimed to be “very important position to the handling of wind power cases simpler and more efficient” (Prop. 2008/09: 146, p. 49). Several stakeholders have however voiced concerns over the veto compromise. It has, according to a pro-wind power NGO lead to “a

5 As in Eslöv-Hörby/Söderto-Mossarp (extensive protest list), Hässleholm Ignaberga-Attarp, Kristianstad Maltesholm, Sjöbo-Härderup-Alestad, Sjöbo-Klamby.

6 As in Eslöv Örtofta, Sjöbo-Klamby, Ystad- Eriksfält/Örum.

completely unpredictable permit process” (Svensk Vindenergi, 2010, p. 2), and the Swedish Energy Agency [Energimyndigheten] in a report from 2012 stated that the municipal answers sometimes are unclear or even missing, leading to a delay in the permit handling processes (Statens Energimyndighet, 2012, p. 23). The Svensk Vindenergi report states, “at least 380 planned turbines ...have already been stopped by the veto” (Svensk Vindenergi, 2010, p. 2). The problem, as they see it, lies in that:

A municipality that has a negative attitude towards wind power, is hesitant or uninterested, may simply fail to address the case and thus in practice prohibit the installation. The municipality does not even have to justify its position in any way (2010, p. 2)

Of particular interest for this study is the fact that 16 of 21 of the wind power developers think that, all in all, it has become more difficult to get permission for wind power turbines after the legal revisions in August 2009. Only 2 out of 21 think it has become easier (ibid p. 11-12).

The informants confirm that many wind power companies prefer the municipal permit option. The expert judge in the Land and Environment Court of Appeals stated that the ”regulation leads to a large number of wind turbines that are 149 m high, i.e. below the limit set for the regional environmental trial”. That is, the operators prefer the municipal trial before the regional environmental trial that includes the veto regulation. The regional handling official, representing the receiver of environmental permit applications at regional level, also confirms this.

The pro-wind energy NGO also demands that the municipal veto ought to be removed, which they wish to diminish to something they express as that the municipal opinion should ”carry weight” and it should clarify the municipal position on the wind-power project. The NGO wishes for the return of the municipal building permit, if the veto cannot be remodelled. This is a clear critique of the path chosen by the Environmental Process Commission and the amendment to the process (Svensk Vindenergi, 2010, pp. 2-3).

6. ANALYSIS - LEVELS OF GOVERNANCE AND OUTCOMES OF LAW

The following section addresses the two specific research questions outlined in the introduction of the article before a briefer section making suggestions on alternative approaches.

6.1 Levels of governance in the Swedish wind power development

The tiering of the Swedish system creates an interesting imbalance. This is because what we call the ”two streams of administration” operating according to different logics. Moving the focus of the processes of wind power permit handling from the governance of the local planning system to the environmental government system has most likely caused changes in principle of how wind power is seen in a wider context.

The planning system operates with a hierarchy of local plans from the comprehensive, indicative plans covering the entire territory of the municipality, to binding detailed development plans and building permits. The object of this tiered system is to produce a spatial pattern of land use that is seen as desirable from several perspectives. In a building permit process the municipal planning system is thus not only considering the rights of those formal stakeholders defined by economic interest and property directly involved but also how the individual wind power plant or farm fits into a system and vision of development of the area and the municipality. In the comprehensive planning, especially the wind power supplementary plans, the municipality can thus weigh technical suitability for wind power generation against projections of future growth, conservation and visual landscape impacts and fuzzy concepts such as sustainable development as interpreted by the municipality. The tiering at higher levels is however, as pointed out, weak. The national wind power development interest and goals are manifest in the designated areas of *national interest*, which the Swedish Energy Agency has defined on wind power potential alone. No regional spatial planning exists in Sweden. As noted by Haughton et al (2010) local planning authorities in other countries find it very easy to ignore the wider context in which they operate. The regional administration's role in spatial planning is in Sweden only to oversee if and how the municipality takes this sectorial, national interest into account in the comprehensive plan.

The lowest level of the environmental permit system is the regional arm of government. However the extent to which regional aspects of environment or renewable energy is considered seems negligible in our cases. The environmental management side basically tests the permissibility of any given application against formal criteria such as noise and disturbance from moving shadows and amenity loss. It is basically concerned with weighing the rights and interests of the applicant against the rights and interests of the affected property owners in the vicinity.

The Swedish system of environmental governance, also in the case of wind power, is complex and relates to a number of levels, but also to the industrial initiatives as well as citizen attitudes and conceptions. The legal revision made in 2009 was substantial, and has been criticised for being too legally dogmatic, that is, basing proposals not on systematic knowledge of for example why people appeal wind power permits, but on a combination of anecdotal evidence, of the type we have quoted above, and legal cases and assumptions made on detailed intra-legal reflections (Larsson, 2009; 2011b; Larsson and Emmelin, 2009). As a consequence, the legal framework was changed without any reliable assurance that the revisions would actually fulfil their purpose. The proposal suggested a handling process utilising a regionally based environmental judgment rather than the municipal planning approach, which has to be seen in the light of Sweden's strong local planning tradition. This explains much of the critique that the proposal received and the political compromise, which means that the municipalities lost much of the planning responsibilities a right remained to approve or disapprove large-scale wind power localisations within the municipality, even though the actual process was placed at another level and in another "decision stream".

6.2 The so-called municipal veto

This article deals with issues of hierarchy in the decision-making over wind power planning and permit handling in Sweden. One of the most important issues of interest in this context is the relationship between the regional level and the local, municipal level. There are several reasons for this, but the fact that most permit handling is done at the regional level while the municipality has to agree or disagree to the decision, without giving any reasons, often referred to as the “municipal veto”, forms a setting of interest here. It expresses some sort of compromise between the powers at different levels in the environmental permit system and the planning system, leading to empirical outcomes decisive for wind power development in Sweden. An inherent problem with present policy objectives is that they are not based on any assessment at the local level of what can reasonably be achieved within the framework of the planning system. It is clear from the legislative history of the revision that the starting point of the reform was not to consider first the realism of an objective in relation to the preferences in the system – which poses problems of tiering. The stated purpose of these changes was to streamline wind power development by eliminating parallel trials, not ostensibly to reduce the municipal influence in questions regarding the use of municipal land.

The object of switching the permit process away from municipal spatial planning was to create a process that was more efficient by abolishing double permit processes in the hope of speeding up the granting of permits (Prop. 2008/09:146). The introduction of the “municipal veto” would from this perspective seem counterproductive. If the trend towards larger wind mills does not continue, then the split at a height of 150 m would also be counterproductive since the parallel permit processes will continue to be common.

From the perspective of effectiveness the situation is complex. Whether the parallel process is seen as producing more or less legitimate decisions will depend on stakeholder perspectives. However with respect to weighing of interests, the environmental permit system and the spatial planning system differ in basic logic as noted above. If there is a difference in the actual outcomes depends both on the quality of comprehensive planning and the degree to which the environmental permit system takes municipal plans into consideration.

6.3 Suggestions for legal and administrative reform

In our analysis a functional multi-level governance (MLG) system for wind power would assume a tiered planning system with a regional planning level rather than the present regional state agency overseeing the municipal level. Furthermore it would assume a higher average quality of spatial planning and a horizontal integration of planning and the environmental permit system than we can see at present. An alternative to the present uneasy double command system would be to hand back the permit giving to the planning system and ensure an efficient and effective appeals system. This would however seem to run contrary to the present narrow focus on efficiency measured simply as time from application to decision. Or as

noted for the Canadian permit system⁷: the trend is towards a system that can “get quickly to yes”. This is an expression of sector interests and private developers priorities combined with an unrealistic view of the quality of their planning as shown for example for infrastructure (Flyvbjerg et al. 2003) or the naive belief that good intentions preclude unwanted or unexpected side effects making environmental assessment unnecessary (Emmelin in press). It hardly provides for an effective assessment and permit system from a wider environmental perspective. As noted by Sager (2001) one important role of a permit system is to put a brake on speed-blinded sector authorities and entrepreneurs.

7. CONCLUSIONS

The legal preparatory works for the legal changes in the Swedish wind power permit process speak clearly about the manifest functions that the revisions are intended for. The changes wrought in the planning and permit processes for wind power are specific to the Swedish context but illustrate more general issues in multi level governance. They must however also be seen within a framework of pressures to make planning and permit processes more efficient which is a component of the planning debate on the political agenda in most European countries (Zonneveld & Evers, 2014).

The results indicate that different parties perceive the municipal veto differently. Interestingly enough, the concerned citizens tend to want municipalities to take a bigger role in the process, even when the process is mainly located at the regional level. The Wind-power companies tend to regard the veto as an instrument increasing uncertainty and makes it harder to foresee the outcome of the permit processes. Wind power, as with many national policies that have clear local environmental and spatial implications when implemented, is in essence a different issue at the different levels. People may agree upon the need for renewable energy as a general, abstract goal, but not necessarily agree that the actual wind turbines should affect their local landscape. In addition, the results indicate that the industry sees the “veto” as leading to problematic uncertainty in the process at regional level, and therefore prefer to keep the applications at a level that entitles them to use the municipal handling system – which is determined by height and number of turbines – which is a consequence opposite to what the legal commission aimed for when revising the legal system.

The so-called municipal veto seems to us to be an unfortunate compromise between two systems. Tentatively we would favour a planning system as a first order system with the environmental permit system as the first recourse for appeal. We base this on the normative standpoint that a planned development rather than an ad hoc permit and actor based system would be preferable but being very aware of the actual shortcomings of the spatial planning system including the lack of a regional spatial arena.

7 Bram Noble, Seminar at Swedish EIA-centre 2009, SLU, Uppsala.

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Article V

ON LEGAL COMPLEXITY

Between Law in Books and Planning in Practice

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Chapter 17

On Legal Complexity: Between Law in Books and Planning in Practice

Stefan Larsson

Introduction – law and planning

This chapter addresses the difference between the intentions of the law and its application, using mobile telephony infrastructure development in Sweden as a case study. Three possible pitfalls for policy management in general are concluded and analysed. The first pitfall deals with legal complexity, which may be a result of piecemeal changes to the governing legal bodies over a longer time and is here argued to be of relevance for issues of public participation and access to justice. Another problematic pitfall concerns when law is internally contradictory, without any clear hierarchy, which is exemplified below. The third possible pitfall, which is often a point of focus in sociology of law, concerns when extra-legal factors interfere in the legal decision-making, without this being pronounced or acknowledged. This means that economy and politics can affect the application of law, to the extent that legal security and predictability are jeopardized. These three possible pitfalls in policy represent issues of general character in the legal government of land use and spatial planning, and are here analysed from a socio-legal perspective.

The first step towards a socio-legal perspective on law follows with the quite laconic statement, ‘Law is not action’. This means that not even the most succinct and clear law by necessity equals a good application, in line with the motives and purpose of the law. An environmental impact assessment (EIA), for instance, as a tool for influencing decision-making processes, is often legally regulated. The use of this tool is put down in the ‘law in books’, but it is the application of the legal provisions (that is, the ‘law in action’) that bears the true implications of environmental and other concerns that were the aim of the assessment.¹ Hence, when there is a problem with EIA, the problem is not always the EIA itself but the decision-making process which it is part of. Although one could consider the same normative duality in types of norms other than legal, which of course has been done in a number of socio-legal studies (for example, Ellickson, 1991; Svensson, 2008; or, in a digital environment, Larsson and Svensson, 2010; Larsson et al.,

1 The terminology is often credited to the American legal realist Roscoe Pound (cf Pound, 1910).

2012 and 2013; Svensson et al., 2014), this study's main focus lies in the internal intricacies of law, particularly in their relation to its practice.

The purpose of the chapter is to display possible pitfalls in policy management, particularly related to spatial planning, and with special attention to legal challenges that are found in its practice – that is, in the relation between law's intentions and its outcome. The example of the Swedish 3G infrastructure development and planning is used as a case study in order to pursue this purpose by investigating the policy management in this particular case. The Swedish 3G infrastructure development entailed a national infrastructure development following from a European policy and a strongly optimistic agenda at a national level which, at the same time, depended on spatial planning and handling of 3G mast-building permits by the local municipalities (Larsson, 2008a; Larsson and Emmelin, 2007). In short, and what is of relevance for a socio-legal analysis of the events, is that the four licence winning operators (out of 10 contestants) were set to develop the infrastructure from 2001 to 2003 to cover 99.98 per cent of the populated areas (PTA report of 10 March 2004). However, when the deadline was reached, the reported coverage was, at most, between 65 and 75 per cent. The responsible governing authority, the Post and Telecommunications Agency (PTA), had the mandate, through legal and other means, to impose sanctions on the operators (for example, through fines). Nevertheless, despite the fact that the coverage was not reached until 2007, no fines were imposed on the operators for failing to comply with the promises they had made in order to receive the licences. In addition, two main legislative bodies governed this infrastructure development. These events display some of the difficulties that may appear when different regulations have different backgrounds and purposes, even though they have partly overlapping addressees. Under the given purpose, the following research questions can be posed:

1. To what extent is complexity an issue in the case of relevant legislation for 3G development in Sweden?
2. To what extent does the policy that regulates the development suffer from internal contradictions?
3. To what extent can extra-legal interference explain some of the outcomes of the PTA/operators' relationship?

Before I further address the particular case of developing infrastructure for third generation mobile telephony in Sweden, the socio-legal approach needs to be outlined in a little more detail.

Theory: Socio-legal perspectives on law

Let us settle for a simplistic definition of law, stating that it is a formalized normative structure often vindicated in an authoritarian order. It can be set up to assure that proper tools are used in order to ensure that certain values, such as

environmental concerns, are taken into account in a large project or undertaking of some kind, such as a national development of mobile telephony infrastructure. Law is, then, the predetermined order of ensuring the enforcement of values that otherwise might not be taken into account. Legal structures naturally vary throughout the world, but the key expectations that follow from most legal structures are predictability, non-discrimination and a non-ad hoc nature, meaning that they should apply in the same way to every new case arising from the same circumstances. Predictability, as described by the legal scholar Peczenik, is ‘one of the basic values in democracy and a state governed by law’, and many legal theorists hold that the norm of ‘jurisdiction and the actions of public authorities in a democratic state should be predictable’ (Peczenik, 1995: 89–90; see also Larsson, 2008c, 2011a and 2011c). The Norwegian sociologist of law, Vilhelm Aubert, speaks of law as something that serves to safeguard expectations, as one of five main tasks of law (1989: 62) and, as Niklas Luhmann has argued, its most important one (1972: 31 onwards; see also Larsson, 2011b).

Trubek calls for an agenda of critical social inquiry on law. By this, he calls for an analysis of the tension between ‘ideals and reality’ in the legal order (Trubek, 1977: 566) which, to some extent, is a similar call to the one made by Roscoe Pound much earlier regarding the difference between law in books and law in action (Pound, 1910) and one that inquires into the relations between law and society. Such a socio-legal approach reminds us here to bear in mind the difference between law and its application. A law can seem predictable and non-discriminatory in ‘the books’, but an empirical investigation can reveal that it is not in its application. The predictability, or lack thereof, can be related to the law’s interface towards the public and, for example, citizen participation (Arnstein, 1969) and ‘access to justice’ (Baier, 2010; Larsson, 2013). Pound was influenced by the European socio-legal scholar, Eugene Ehrlich, who focused on the social side of law by expanding far beyond the dogmatic legal boundaries, not least in the concept of ‘living law’ (Ehrlich, 1913/1936). In Pound’s concept of law, the idea is that there are two sides to law: one dogmatic, often written down; and one empirical, which you can only find outside the dogma – for it is the application of law, the consequence. This can be seen in relation to a theoretical viewpoint of sociology of law, where law can be found on one side and its application or consequence on the other, sometimes described in terms of an ‘ought’ side and an ‘is’ side (Svensson, 2008; Svensson and Larsson, 2009 and 2012; see also the introduction to this volume, as well as Svensson’s contribution), even though the identity of sociology of law has been debated (Banakar, 2001; Dahlberg-Larsen, 2000; Mathiesen, 1998; Hydén, 1999). This relation, and the interaction of the two, goes beyond a strict, legal, dogmatic study of existing law. With this follows a critical view that takes its origin in social science, which needs to be additionally outlined, in order to make a further analysis of the Swedish case study of 3G development reliable and possible.

In other fields of socio-legal research, the American sociologist Robert Merton’s functionalist theories (1938 and 1968) have been used in order to

analyse consequences of legal implementation. Of particular interest here would be when law is concluded to not function well in its social context – for example, when the legal norms are ill-fitted to the social norms and the societal context that they try to regulate. For example, Larsson and Svensson (2010) have, in the field of online copyright enforcement, displayed consequences that are of direct dysfunctional character for the law. Instead of compliance, the addressees for the specific legislation use complicated technology in order to avoid enforcement. Larsson and Svensson see the explanation in a gap that is too wide between the legal and the social norms in society (see also Larsson et al., 2013). Thereby, Larsson and Svensson connect to a scholarly tradition emanating from Merton's 'theory on functions and dysfunctions of law', with significant focus on the unintended consequences of legal implementation (see, for example, Aubert, 1954; Mathiesen, 2005; Sunstein, 1994). In the governance and control over the spatial environment, the legal framework plays a significant role. How the legal provisions are manifested in the factual sense, showing the empirical side of law, is one of the important fields of study in sociology of law, not least in the field of environmental and sustainable development (Baier, 2002; Hydén, 1997 and 2004; Wickenberg et al., 2004; Larsson, 2008a).

A clear challenge for law is that its complexity may become overwhelming. In order to address this field and to break it down into understandable pieces, Peter Schuck divides legal complexity into four subcategories of density, technicality, differentiation, and indeterminacy of uncertainty (Schuck, 1992: 3). In Schuck's view, law's complexity is an 'ancient concern' that has continued to 'obsess lawyers, policymakers, social critics, editorial writers, and men and women in the street, who almost invariably condemn legal complexity in the most caustic terms' (1992: 2–3). Legal complexity is of key importance in terms of how participation works in a legal context (Baier, 2009). As mentioned, the purpose of this chapter is to focus not only on formal and instrumental challenges and pitfalls concerning environmental policy, but also on the informal consequences that have to be looked for in empirical investigations. Citizen participation partly refers to what has been described as 'access to justice', a movement that (according to Baier) has traditionally had a focus more on the formal side than the informal:

Hitherto, participation from a socio-legal viewpoint has indeed mostly been treated with a focus on instrumental action. Whether or not a citizen has the formal possibilities to act, or has the actual possibilities to act, is still a matter of analysing citizen participation from an instrumental point of view. (Baier, 2009: 21)

The socio-legal perspective of this chapter complements the instrumental view in the sense that formal participation does not necessarily mean inclusion in practice. Where the legal dogmatic perspective gives a very clear picture of which knowledge and which factors should influence legal decision-making, the socio-legal perspective often means an examination of legal decision-making

empirically in order to see if there may have been other factors, generally not voiced, that have influenced the legal decision-making (Hydén and Wickenberg, 2008; see also Larsson, 2011a). If one wants to apply this perspective to the subject of environmental impact assessment (EIA), Sager (2001) compares five large-scale Nordic projects and the role of the EIA in them. He finds that the EIA was ‘neglected in the decision making process’ (a tunnel project, studied by Päivö and Wallentinus, 2001), that ‘[i]t is unclear whether the performance of the EIA procedure influenced decision-making’ (a rail-link studied by Kjellerup, 2001), and that ‘regarding decisions concerning the design and implementation of the project, there is little evidence that the EIA had a significant role’ (the Gardermoen project, studied by Stenstadvold, 2001). This tells us that, even though a legally regulated instrument was at hand, there were unspoken reasons for not applying it in the actual process. As a result, this chapter focuses on legally controlled decision-making in a large-scale infrastructure development, such as the one for third generation mobile telephony in Sweden. Although no EIA had to be made, the case is of interest as an example of the power struggles embedded in large-scale projects – power struggles that move below the surface of law and what is formally expressed, but still affecting the decisions taken within the project.

Background on Swedish 3G development

The development of the third generation of mobile telephony in Europe has been criticised for being subject to overbidding and for neglecting the health risks. A critical review of the development of 3G mobile telecommunications in Europe concludes that the number of firms that have introduced 3G services is much smaller than the number of firms that actually received a licence, and also that overbidding was common (Gruber, 2007). A number of telecommunication companies collapsed due, in part, to the debts that they had accumulated while acquiring the licences (Whalley and Curwen, 2006: 622). Whalley and Curwen (2006) show how rare it was for entrants to the mobile infrastructure development, new to 3G, to actually remain active in the European mobile telecommunications market. The possible health effects have been debated and protested (Drake, 2006 and 2010; Larsson, 2009 and 2013; Stilgoe, 2007), and a Danish study concludes that the majority of the population has little concern for mobile phone radiation, while a small minority is very concerned (Kristiansen et al., 2009).

The Swedish infrastructure roll out for 3G formally started in December 2000, with the PTA, the responsible governing agency, deciding on which applicants should receive licences. It essentially continued until 2007. At the time for the decision on the licence terms for the development of the 3G infrastructure, the goal of the Swedish government was to maintain Sweden’s position as one of the leading nations in IT and telecommunications (SOU 1999:85, p. 29 onwards). However, the years following the initial decision were filled with protests from people fearing radiation and from land owners that wanted to be left alone (Larsson,

2008a). Many felt they had been disregarded by the central decision to roll out an infrastructure when it was uncertain whether it would be beneficial (Emmelin and Söderblom, 2002: 35–7; Emmelin and Lerman, 2004: 85–7; Larsson, 2008: 142–3).

The agreement: The licence allocation and conditions

The reason for considering the licence allocation process here is that it offers some preconditions for understanding what part of the agreement the operators later breached and why. On 12 May 2000, the PTA invited operators to apply for a licence. The number of licences was decided in April 2000 by the board of the PTA, after Parliament had decided upon the framework of the licence process (PTSFS 2000:5). While various other countries had an auction concerning the licences, the Swedish licences were offered in a ‘beauty contest’ to those who promised the highest coverage reached within the shortest time-span. The PTA regulations stated ‘at the most, four licences for a national coverage according to the UMTS/IMT-2000-standard will be available’ (PTSFS 2000:5, §6). The intention seemed to be to reach the highest number of licensees, with regard to the 3G services that could then be offered from a consumer perspective, and not least with reference to achieving competition between the operators (Larsson, 2008b). Four licences were issued, valid until 31 December 2015. The selection process was divided into two steps, in which the contestants were reviewed using certain criteria. The initial evaluation of the contestants was formulated to review whether or not they had fulfilled the preconditions for the establishment of a UMTS network. This included financial capacity, technical as well as commercial feasibility, and appropriate expertise and experience (PTA, 12 May 2000: 8–9; Andersson, Hulthén & Valiente, 2005: 583). Five of the ten contestants failed to prove this.

At the second stage of the beauty contest, the operators were awarded points according to the extent and speed at which they offered coverage by the end of 2003, 2006 and 2009. Coverage was defined on the basis of three factors: proportion of population; territorial coverage; and distribution throughout Sweden. The importance of good access throughout the country regarding broadband and UMTS was stated at an early point (PTA report, 27 June 2001: 9). At the same time, the PTA did not want to put in a clause requiring too high a coverage in the licences, fearing it would discourage operators from taking part in the development of the 3G system, which was the case in the earlier application process regarding the GSM licences in the 1800 MHz spectrum (PTA report, 27 June 2001: 9). This was the reason for application criteria that required the applicant to promise such coverage, and the promise of higher coverage trumped the promise of lower.

The PTA decided that Europolitan (later Vodafone, now Telenor), Hi3G (now 3), Orange and Tele2 should each get a licence. All four undertook to cover at least 8,860,000 people by the end of 2003. These licences apply up to and including 31 December 2015 and the licence conditions applied to 31 March 2006 (PTA

decision, 22 March 2001: 8). Telia became a part of the infrastructure development via collaboration with Tele2 (which obtained a licence). The three operators – Hi3G, Telenor (Europolitan at the time) and Orange – signed a deal regarding collaboration on the coverage requirements of the licence conditions. The licence conditions stated that each operator had to have 30 per cent of its own infrastructure and a maximum of 70 per cent shared coverage (PTA decision, 22 March 2001: 3.1). An estimation conducted for the PTA stated that a reasonable area coverage would be around 170,000 km², about 41 per cent of the total Swedish surface area (Björkdahl and Bohlin, 2003). Parts of the licence conditions, such as the maximum of 70 per cent shared infrastructure, followed from set values that were decided prior to the ‘beauty contest’, and some conditions emanated from the contest itself, such as the degree of coverage and the speed of the roll-out.

The most important licence condition declares that the licence holders, at the latest by 1 March 2004, should have verified that 8,860,000 persons in Sweden were covered by 31 December 2003 (PTA decision, 22 March 2001: 1.1.2 and 1.3.1). Regarding the starting point of a functional network, the licence holders were to make net capacity available by 1 January 2002 (PTA decision, 22 March 2001: 2). Another important aspect is that the licence conditions were in force until 31 March 2006. After this date, they could be reviewed, which also later was the case.

Findings

The findings have been categorised according to the three research questions. This means that it is the empirical work that has shaped this categorisation in iteration with theory. The approach is therefore neither solely deductive nor inductive but, rather, abductive (Baier and Svensson, 2004; Svensson 2008). The following sections look at some examples, and, although the Planning and Building Act (1987:10) (‘the PBA’) has been revised since the 3G infrastructure development (2010:900), much remains the same, and the division in terms of culture and history between the PBA and the Environmental Act (1998:808) is still valid, so the relevance of the following examples is by no means diminished.

A first possible pitfall for law: Complexity

Environmental management and planning in the Swedish 3G case is upheld by a legal system that is complex (Emmelin and Lerman, 2004). The assessment is done at different administrative levels, under several legislations tied to differently structured court hierarchies and facing different governmental and municipal authorities. The Swedish 3G infrastructure development depended on a mast-by-mast assessment tied to the building permit system at the local municipal level (Larsson, 2008a). Although this legislation is not that complex in itself, a single 3G mast site can, in addition to the trial under the municipal authority regarding

a building permit under the PBA, require the trial under two regional authorities, with one being the County Administration performing an assessment under chapter 12, section 6 of the Environmental Code, and the other being the national Land Surveying Agency (LSA) performing an assessment of the site for utility easement under the Utility Easement Act. The LSA decision can be appealed to the Land Court by either the land owner or the operator; the municipal decision can be appealed to the County Administration by any concerned party for whom the decision has been negative; and the chapter 12, section 6 consultation decision can be appealed to the Environmental Court by the operators, if the site is prohibited, or by land owners if they can be found to be concerned parties.

Three different legal institutes, handled at two administrative levels, by three authorities – all with its own court hierarchy for appeal – create a complex assessment system. With the processes being run in parallel, it is hard for the entrepreneur, as well as any concerned party, to gain an overview of, and essentially comprehend, the legal system. In addition to this, it could also be considered bad resource usage of the authorities handling the case, as well as resulting overall in uncertainty in the outcome of a process, thus affecting all involved actors. The complexity of the assessment system is shown in the implementation of the 3G roll out. The solution offered by policymakers and politicians, to reduce complexity, is often the ‘one-stop shop’, representing an authority that would collect and coordinate all processes.

A second possible pitfall for law: Internal contradictions

Within any complex legal structure, there is a risk that internal contradictions will appear. The complexity of the spatial planning structures, and the problem of overlapping legislation based on slightly different purposes, can be illustrated by the issue of electromagnetic radiation in the Swedish 3G development and how it was handled under the Planning and Building Act (PBA), on the one side, and the Environmental Code, on the other. The PBA application of electromagnetic radiation and the fear of radiation can be illustrated by the County Administrative decision in the Aspö case of Karlskrona, in which the County Administration concluded that ‘significant impact’ in legal practice is regarded to mean that there must be concrete circumstances that suggest the existence of a risk of disturbance.² The court continued, ‘the circumstance that the mobile telephony mast causes discomfort or concern for disturbances cannot be considered to be of such significant impact that is intended in chapter 3, section 2 of the PBA’ (CA decision of 4 May 2006, p. 2, author’s translation).

The status of the Environmental Code, when it comes to the activity of running a base station (mobile telephony mast), has been the subject of much dispute. Many building permit appeals under the PBA have been appealed with reference to the precautionary principle expressed in the Environmental Code, a demand that

² ‘...betydande olägenheter...’.

is always denied in a permit process (Larsson, 2007a, 2008b, 2009 and 2013). The municipalities can most likely apply the Environmental Code in accordance with its environmental supervision responsibility for activities in the municipalities, although not specifically in the building permit process. The case regarding this supervision was the one of the Environmental Court of Appeal, where the mast activities were up for trial in the municipality of Landskrona. The municipal environmental committee required the operators to provide a map of the location of the base stations, in line with its supervision responsibility. In order to gain the right to such a map, however, it needed to be stated that the base station activity fell under the scope of the law by being an ‘environmentally hazardous activity’. The Environmental Court of Appeal also found it to be such an activity, based on the fact that it is sufficient that there is a risk of the radiation being hazardous (for instance, if a person is in close proximity to the base station antenna). Furthermore, the court stated that the fear itself, expressed as psychological or mental anxiety, was included in the Environmental Code definition of ‘damage or detriment to human health’ (chapter 9, sections 1 and 3 of the Environmental Code; Environmental Court of Appeal, Case no. M 7485-04, 12 October 2005).³

If we compare the result of the decision of the Environmental Court of Appeal (leaving aside the mental anxiety aspect), and focus on the fact that it is sufficient that the activity risks being hazardous, and so the condition in chapter 9, section 1 of the Environmental Code is fulfilled, the internal contradiction between the two legislative bodies is further emphasized. When comparing the section in the Environmental Code – defining the activities that shall be found as environmentally hazardous – and the preparatory work of the PBA – commenting on the activities that are targeted by chapter 3, section 2 of the PBA (the one with ‘significant impact’, today found in chapter 2, section 9 of the PBA (2010:900)) – one sees that the formulations are similar.⁴ The requirement may be lower in the Environmental Code – the impact does not have to be ‘significant’ – but it is still a fact that, legally, the radiation activity is found to be detrimental or hazardous under one piece of legislation (the Environmental Code) but never detrimental or hazardous under the other (the PBA). Or, to put it differently, how the radiation issue has been handled, or not handled, gives the counter-intuitive result that an environmentally hazardous activity is not found to have a significant impact on

3 ‘...kan medföra olägenhet...’.

4 The formulations are not exact, but similar. The ‘inconveniences’ (author’s translation) that can mean a ‘significant impact’ in the PBA are the same as the activities in chapter 9, section 1 of the Environmental Code that the Environmental Court of Appeal found the 3G mast activities to be included in. Although the latter definition also explicitly includes non-ionizing radiation, the stating of ‘similar impacts’ and ‘similar disturbances’ indicates that the activities should not be interpreted exclusively; it is the activities of this type that are hazardous.

the environment. This is a result of complex and uncoordinated legislation that is central to the Swedish spatial planning.⁵

A third possible pitfall for law: The extra-legal interference

This third example addresses the bigger picture of large-scale projects, where the problem can be that the size of the project creates a game that is ‘bigger than law’, letting non-legally identified values (such as national development politics and economy) affect the decision-making in – from a legal point of view – an unpredictable manner. The story of the actions between the governing authority, the PTA, and the developers of the infrastructure, the operators, is examined here in more detail in order to show the intricate game that was played to avoid the sanctions that the PTA should have imposed on the operators, if they had followed the legal provisions strictly and predictably (see also Larsson, 2008c).

The law: The Electronic Communications Act

The Electronic Communications Act covers all electronic communication networks and electronic communication services, which includes the role of the PTA’s relation towards the operators, and the legal grounds for the agency actions that affect the operators.⁶ The PTA may, for example, issue ‘such orders and prohibitions as are necessary for a rectification to take place’ when it comes to operators not fulfilling the conditions bound to the 3G licence.⁷ Section 4 of the Act gives the operators a respite to correct what they have not fulfilled, on notification from the PTA. The minimum period for rectification is one month and, while the maximum time is not prescribed, the time is tied to the wording ‘within a reasonable time’ of section 4.⁸ Such orders may, ‘when there is a need for it’, be combined with a fine (Government Bill 2002/03:110, s. 299). For such an order, specific legislation regarding fines is applicable (Viteslagen 1985:206).

5 ‘9 kap. 1 § MB: Med miljöfarlig verksamhet avses...3. användning av mark, byggnader eller anläggningar på ett sätt som kan medföra olägenhet för omgivningen genom buller, skakningar, ljus, joniserande eller icke-joniserande strålning eller annat liknande.’ PBL prop 1985/86:1, s 484, angående 3 kap. 2 §: ‘Olägenheterna kan bestå av luftföroreningar, buller, skakningar, ljus eller andra liknande störningar som inte är helt tillfälliga.’

6 The Electronic Communications Act (2003:389) came into force on 25 July 2003 (prop 2002/03:110). The act replaced the Telecommunications Act (1993:597) and the Radio Communications Act (1993:599). The Telecommunications Act was, in other words, the main legislation controlling the introduction of the 3G development in Sweden.

7 According to chapter 7 section 5 of the Electronic Communications Act.

8 ‘Inom skäligen tid’, PTA translation.

The parties: The PTA and the operators

The licence conditions in themselves did not include any sanctions for the operators if they failed to fulfil the requirements. Instead, the sanctions have a more general description in the legal provisions of the Electronic Communications Act controlling the PTA, mentioned above. When the operators started to apply for an extended time limit, the PTA turned down the requests. Orange was first to apply for an extended deadline and less coverage in August 2002, followed by Vodafone (which was the name of Europolitan, by now) in September 2002, Hi3G in November 2002, and Svenska UMTS-Licens AB (Tele2/Telia) in April 2003. The operators' requests were all denied (PTA decisions of 30 September 2002, 25 November 2002 and 14 May 2003). As a reason for the delay, the operators all pointed out that the municipal permit handling process had been slower than expected, which has been shown to be, to a large extent, a false argument (Larsson, 2008a: 125–7).

When the operators, in April 2004, were addressed with the fact that they had failed to reach the coverage condition by the deadline of 31 December 2003, the reported coverage had been at the most between 65 and 75 per cent, when it was supposed to be 99.98 per cent of the populated areas (PTA report, 10 March 2004). The operators were given 'a reasonable time' to 'voluntarily' (as expressed in the PTA decision of 17 May 2004) rectify the lack of coverage, with a referral to the preparatory works of the Electronic Communications Act (Government Bill 2002/03:110, p. 398). The time limit for reaching the full coverage, according to the licence conditions, was extended to 1 December 2004 (that is, 11 months later than the original time limit). The PTA justified this extension of the time limit by acknowledging the operators' position that the operators' prerequisites for the construction had been changed, after the initial licence agreement, by factors outside the control of the operators. These factors were said to be a slow municipal permit process, and the fact that the assessment (from a flight hindrance and telecommunications conflict perspective) performed by the Armed Forces had, in different respects, delayed the processes (PTA decision of 17 May 2004). The PTA concluded:

In some respects, the conditions for the company have been changed in a way that could not have been foreseen at the time for the application, and that have been outside the control of Hi3G. (PTA decision of 17 May 2004, p. 3)⁹

The same wording has been used in the decision to all four operators. The wording is interesting, especially in reference to the time acquired for the permit processes. In what way had the conditions changed? And in what way could these 'changes' not have been foreseen? Is this a legitimate reason for the coverage delay at all?

⁹ 'I vissa avseenden har emellertid förutsättningarna för bolaget ändrats på sätt som inte kunnat förutses vid ansökningstillfället och som legat utanför Hi3G:s kontroll'.

To be able to answer these questions, we have to take a look at the actual roll-out, from an empirical side, which is done below.

In the time following the decision, in 28 June 2004, all operators except Orange – that is, Hi3G, Vodafone and SULAB (Tele2 and TeliaSonera) – applied for a change in the licence conditions, which mainly concerned a delay in the coverage conditions to be fulfilled by 31 December 2007 and a reduced pilot signal in the sparsely populated areas. The operators' main arguments regarding the delayed coverage were that the permit processes had taken considerably longer than expected (due to the public debate on the effects on the environment, cultural and nature values) and the concern about electromagnetic radiation (PTA decision, 7 December 2004, p. 4). Parts of the arguments from the recent postponement decision of the PTA were re-used, but with a bigger jackpot at stake (that is, more than three extra years to reach the full coverage). The PTA found that the reasons to change the licence conditions regarding the delayed coverage were not strong enough to change them.

This was partly based on a Communication from the European Commission (2002) stating the importance of predictability and stability in the regulatory environment:

When balancing the benefits and drawbacks of a rigid application of the conditions determined by the issued 3G licences, the Commission is of the opinion that, in principle, the **licensing conditions should not be changed**, because the sector is best served by a predictable environment. Predictability allows business cases to be established in a reliable manner and to be credibly defended when accessing investment funds. (Underlining and bold letters are as in the text at European Commission (2002: 3.1) and PTA decision of 7 December 2004, p. 8)

And the Communication continues by stating that 'changes to licence conditions should be envisaged only when circumstances have changed unpredictably and, in these cases, any modification should be proportional, transparent and non-discriminatory' (European Commission (2002: 3.1) and PTA decision of 7 December 2004, p. 8). The reasons that led to a delay of six months from the PTA notice to the operators until 1 December 2004 (and 11 months from the promised reach of full coverage, according to the licence conditions) were not considered strong enough to change the licence conditions. The operators were just given a respite. The reported coverage by 1 December 2004 was, for Hi3G, 84 per cent, for Telia and Tele2, 86 per cent, and for Vodafone, 84 per cent (PTA report, 27 January 2005). The fact that the operators were given a respite nevertheless means that the PTA gave their arguments some credibility. On what empirical grounds is, however, unclear.

Hi3G and SULAB did, in late December 2004, appeal the decision (in addition to the reduced pilot signal, they had applied the decision of not extending the deadline) to the County Administrative Court (Länsrätten) on the basis that more areas of Sweden should be included in the reduced pilot signal requirements,

beyond the extended time limit. The processes forced the PTA to accept a reduced pilot signal in some further areas, which was to the benefit of the operators, and the appeal was withdrawn. By January 2005, the PTA stated that, since the licence conditions had been changed (reduced requirement in the way of measuring coverage in the sparsely populated areas), the operators should have a new respite to rectify the lack of coverage. This time, the respite period was set at a month; and, by 28 February 2005, the operators should have reached the coverage of the licence conditions, or the PTA ‘may issue an order’, according to chapter 7, section 5 of the Electronic Communications Act, that could be combined with a fine (PTA report, 22 February 2005).

What is interesting here is that the changes of the obligations connected to the pilot signal in the rural areas of Sweden constituted a beneficial way to measure the coverage for the operators. It was this beneficial change (namely, fewer base stations required for the same degree of coverage) that gave the operators another respite, due to the ‘changes of the licence conditions’. The logic here is not obvious. It is possible that the radio planning connected to these conditions demanded some extra planning time, a relocation of resources which, on the other hand, could be balanced against the fact that the operators saved up to 25 per cent (according to the PTA press release of 24 October 2005) of the infrastructure cost of the remaining parts, after the PTA decision of 7 December 2004 (when the coverage was somewhere around 80–85 per cent of the coverage requirements). The pilot signal was allowed to be decreased even more in the so-called buffer zone in October 2005 (PTA report of 22 February 2006, p. 20).¹⁰

So, on the one hand, when it comes to the coverage percentage, the PTA stresses the importance of predictability and no change of the coverage requirements from the original licence conditions; and, on the other hand, when it comes to, perhaps, the slightly less easily understood pilot signal issue, the PTA changes the licence conditions in favour of the operators. Instead of changing the coverage conditions, the definition of coverage is changed. What happened when the operators by 1 March 2005 reported that the lack of coverage was not rectified? In fact, SULAB had not raised the level of coverage at all between 1 December 2004 and 1 March 2005. The story told on this issue in the PTA report of 22 February 2006 stops here. Nothing is said about the order that ‘may be issued’ or the sanctions that could follow (see PTA report of 22 February 2006, pp. 12–13).¹¹

10 This buffer zone consists of the area that reaches three kilometres from the boundaries of the population centres for places with more than 1,000 inhabitants, according to the Statistics Sweden, SCB, of the 31 December 2000.

11 When Hi3G and Vodafone, in June 2005, applied for the PTA to allow some of the 3G activity to be performed through an alternative 3G technology, the so called CDMA2000 in the 450 MHz band, the PTA decided to ask all operators if they could ensure the continued infrastructure development with this new technology. At the same time, the PTA decided to await these results before issuing an order combined with a sanction for the operators to rectify the lack of coverage. But why did the PTA not act during the

When the first licence condition period was due by 1 July 2006, the coverage was between 93 and 94 per cent of 8,860,000 persons. The new licence conditions were favourable for the operators. The pilot signal in the outskirts of the urban areas was lowered, rendering a higher coverage. With the lowered demands for the pilot signal, the area (considered to be) covered increased to 98 per cent. This was without any new base stations being constructed. On 9 August 2006, the PTA notified the operators when the full coverage should be reached, and the new dates were based on the operators' own estimates of when they would be ready. This means that the operators had managed to reach the end of the first licence period without completing the promised amount of coverage and without having expensive fines imposed on them by the PTA. After 1 July 2006, the coverage requirements were lowered and dependent on the operators' own estimates. The PTA had avoided heavy critique as well as being sued by other applicants that did not receive a licence. On 1 December 2006, about three years after the initial deadline for reach of coverage, the first operator (Tele2/TeliaSonera) reported to the PTA that they had reached the coverage of 8,860,000 inhabitants of Sweden, followed by the remaining two operators, Hi3G and Telenor, seven months later (PTS fact sheet of 1 June 2007: 6).

Analysis – between fixation and flexibility

The strategies behind legal construction can differ. It is not necessarily only an advantage that legal concepts remain unchanged throughout the different sections of law in a national legislation – a fact which can be illustrated by the *Bürgerliches Gesetzbuch* (BGB), the classic twentieth-century German civil code. When it was created, it was a reflection of the society of Bismarck's empire. The preparatory time was extensive, beginning in 1874 and finishing in 1896, with the code in force in 1900 (Tamm, 1996: 321). The BGB became famous for its systemic construction of general rules. The foundation was based on certain terms that were used consistently throughout the whole BGB. The concepts used by draftsmen – 'Verfügung', 'Vollmacht', 'Einwilligung', 'Unverzüglich' and many others – are always used in exactly the same sense. The language is complex but exact, and has been described as 'the calculating machine par excellence' (Schwarz, 1950). The BGB is not addressed to the citizen at all, but rather to the professional lawyer (Zweigert & Kötz, 1987: 149 onwards). The BGB was considered such a high standard that, for instance, the Japanese civil law was based on the German model

three months following from the reported lack of coverage by 1 March? PTA concluded, regarding NMT450 and 3G (UMTS), that there was no way to bridge the technologies without lowered quality for the consumers. For instance, there were no handsets on the market covering both technologies. The PTA turned down the request, and through this, the operators had again gained some time in the continuing reach for an adequate coverage. The decision came on 24 October 2005.

(Zweigert & Kötz, 1987: 160, 324). On the other hand – getting back to the point – the BGB has been criticized for being a too rigorous and inflexible legislation, unable to adapt to the complexities of a changing society. This critique has its base in the legal phrases of the law that had to mean the same thing in the different fields comprised by the law. The rigid and precise terms of the BGB did not easily meet with social change (Zweigert & Kötz, 1987: 158).

This example shows two things. First, it shows the rather obvious fact that legislation can be of variable quality, to better or worse handle conflicts of the regulated field. Secondly, and more importantly, it shows the dilemma of a grand unified legislative body incorporating a vast field that, on the one side, can be both predictable and lead to a more legally secure application and, on the other side, can stifle legal development, rendering it unable to adapt to the complexities of social change, which has been addressed in terms of ‘path dependency’ (Larsson, 2011a and 2011c). This means that one downside of fragmented legislation is that it runs the risk of being too unpredictable, even impossible to overview for ordinary individuals not educated in the legal method. The same legal phrases may come to mean different things in different legislative areas, leading to confusion for people facing the law. How the legal solution to the problem is designed has implications for the outcome of law and the legal decision-making process. In the context of the layman facing the legislation, the law can become unreachable and less understandable. This is problematic, not least from a socio-legal perspective.

RQ1: Complexity in law

Complexity in regulations may work as a threshold for public participation in its practice. Legal complexity is, as noted above by law professor Peter Schuck, of great interest to several sectors in society, and by many seen as a very problematic issue (Schuck, 1992: 2–3). Peter Schuck divides legal complexity into four subcategories: density; technicality; differentiation; and indeterminacy of uncertainty (Schuck, 1992: 3). Systems that are too fragmented and complex are difficult to overview and understand; they exclude people by their own intricacy. Swedish spatial planning is upheld by a legal system that is complex, to which the 3G case bears witness. The assessment is done at different administrative levels under several pieces of legislation tied to differently structured court hierarchies and facing different governmental and municipal authorities.

RQ2: Internal contradiction

Schuck’s subcategory of ‘differentiation’ is closely connected to – in its worst consequences – the example of internal contradictions. These can, for example, insert unpredictability in the legal ruling. From a participative point of view, both the complexity as well as internal contradictions, shown above, of the regulations controlling the environmental management and planning are problematic, both for the public and the operators, as well as for the authorities involved. The

assessments are parallel and not linked to each other formally, although the matters, from a reasonable perspective, could just as well be. Not only does the authority to contact differ, but so do both the court hierarchy and who is a concerned party.

The examples mentioned above, regarding how electromagnetic radiation should be handled, may be an example of technical rules requiring ‘special sophistication or expertise on the part of those who wish to understand and apply them’ (Schuck, 1992: 3). The different modes of appeal in the different types of judicial categories described regarding 3G antennas represent Schuck’s subcategory of being institutionally differentiated. It can be said to contain a number of decision structures that draw upon ‘different sources of legitimacy, possess different kinds of organizational intelligence, and deploy different decision processes for creating, elaborating and applying the rules’ (Schuck, 1992: 3). This most certainly affects the public’s participation, from a practical point of view. Even though participation is instrumentally regulated (Baier, 2009), it may, in practice, be difficult for concerned parties to actually perform these rights.

RQ3: Extra-legal interference

The third example may address the bigger picture of large-scale projects, where the problem can be that the size of the project creates a game that is ‘bigger than law’, letting non-legally identified values, such as national development politics and economy, affect the decision-making in a – from a legal point of view – unpredictable manner. This is a common critique in socio-legal research, alongside a realist approach, dating back to Roscoe Pound, that any legal analysis must include the ‘law in action’ perspective. Schuck’s fourth subcategory – indeterminacy – of legal complexity relates to the third research question concerning extra-legal interference. Indeterminate rules are usually ‘open-textured’, flexible, multi-factored and fluid (Schuck, 1992: 4). The indeterminacy of the policies governing the responsible authority in this case has allowed for extra-legal interference to occur without repercussions. When turning to the third example (that is, the PTA and the operators’ relationship), this shows the generally relevant ‘bigger picture’ of external values trickling into the decision-making that is presented as legally controlled and being in the vertical perspective (see also Larsson, 2008c).

When having strict and clear conditions attached to the allocated 3G licences, and a governmental authority to enforce these conditions armed with legal tools for making it possible to order substantial fines, one would think that the alternatives would be clear: either the conditions are fulfilled, or they are not fulfilled and sanctions are imposed. Although the picture is not all that simple, there are legally legitimate ways to stall the deadline as well – a certain space for actions. And some PTA actions can be explained in a more legally dogmatic perspective (for instance, giving the operators a chance to correct the lack of coverage within a ‘reasonable time’), but not all of their actions. Some of the delay of the PTA enforcement seems to be without explanation in the stricter legal dogmatic perspective, and any explanation must reasonably, to a greater or lesser extent, be related to the

massive changes in the market, from an IT boom in the late 1990s to the bursting of the 'IT bubble'. A strict PTA enforcement of the licence conditions would likely have risked collapsing the operators due to debts, which was the case for several operators around this time (Whalley and Curwen, 2006: 622).

The PTA is, here, the 'applier' of the legal order that describes and sets the stage for the legitimate PTA actions towards the operators. The PTA role is mainly regulated by the Electronic Communications Act (the 'ECA'). As an applier, the PTA has to follow the legal order and, if it deviates from this in some sense, it will most likely still formulate and legitimize this deviance in the manners of the legal order. The ECA sets the framework for the PTA, meaning that the PTA can have different strategies for how strictly it will control the operators, all within this framework. This is where it is reasonable to assume that both political values (advanced IT nation, development) as well as causes (such as an IT sector in a period of decline) will affect the PTA application within the legal framework. The PTA has, in other words, some strategic freedom within the legal framework, the application will be ad hoc (there is only one 3G development in Sweden) and will include non-legal aspects to a decision-making process that will be defended by legal rhetoric. This means that the actions are affected by values that are never voiced. It is in this sense that the PTA can accept both a delay in reaching coverage, while at the same time claiming that the licence conditions have not changed and blame the operators for stalling the infrastructure development by referring to the legal order. Such an analysis of the PTA/operator relationship suggests a PTA handling of the operators' responsibilities, in consensus with the operators, as two participants in a game teaming up in a way that the rules of the game do not intend them to do. The problem is that this flexibility leads to a system that is neither transparent nor predictable. If what is stated in the licence conditions is not what will later be fulfilled, the conditions are not transparent in the terms of the aforementioned Peczenik, who states that predictability is 'one of the basic values in democracy and a state governed by law' (Peczenik, 1995: 89 onwards). The licence conditions of the 3G development can also be judged in the light of the most basic principle of civil law, described by the Latin phrase '*pacta sunt servanda*' – 'agreements must be respected'.

There were three basic alternatives for the PTA to handle the operators' breach in fulfilling the licence conditions. One was the 'the hard way', meaning issuing heavy sanctions on the operators in order to make them comply with the licence conditions. Another was 'the honest way', meaning that the PTA would have confessed that the results of the so-called 'beauty contest' were not reasonable in light of the changed market conditions of 2001 and 2002, and hence allowing changes in the conditions, running the risk of being sued by other applicants as well as being criticized for not sustaining a predictable environment and transparent and non-discriminatory handling. But the PTA chose a third alternative, a middle path, the balancing act of not formally changing the licence conditions which (formally) sustain the above stated, and not imposing sanctions on the operators for their breaches which, from several aspects, informally leads to an application

that is unpredictable, non-transparent and discriminatory (Larsson, 2008a). The reason that the PTA has not been more heavily criticised probably lies in the fact that the 3G development became such a costly endeavour. The disappointment, that applicants who did not receive a licence at first experienced, may somewhere along the line have been turned into relief.

Conclusions

Norms are often said to reduce complexity; but, in some cases that are displayed in this chapter, the complexity may increase, as the legal normative system presents dual or multiple legal norms that are not consistent with each other. Of course, to state the fact of norm-pluralism is common ground in sociology of law. This does, however, by no means diminish the importance of addressing legal challenges, for example, in terms of a difference between the formal statutes and the outcome of their practice. From a public participation point of view, it can be problematic for individuals to interact with a legal system that is too complex, not only in relation to spatial planning and environmental concerns. The case of mobile telephony infrastructure development in Sweden has been analysed in terms of legal complexity, internal contradictions and extra-legal interference, which all are policy-related pitfalls adding to legal uncertainty and unpredictability. An analysis of possible pitfalls in planning relevant policy holds important lessons for lawmakers, citizens and scholars, and is of relevance from a norm perspective in sociology of law. The extra-legal interference may be of the most obvious relevance when it comes to adding understanding to the relationship between legal norms as they are ‘in the books’ compared to their practice and outcome ‘in action’. The process of enforcing law may distort the initially formulated imperative into an outcome that can be not only different but also dysfunctional in relation to the purpose of the law or policy. In the case of 3G development in Sweden, and the relationship between the operators and the governing authority, this chapter shows that the outcome can only be understood when taking into account other, for example, economic or politically influencing factors than just those of policy and the designated actions. As has been suggested in this chapter, a more systematic view of the constraints of legal steering may bring useful knowledge to a policymaking process.

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