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## Path Dependence in the Legal System – Implications for the Development of Wind Power

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### Abstract

Institutional path dependence means that decisions made in the past affect future choices. The core of the formal institutional framework – the legal system – reflects choices already made, while the result of today’s legal application is the basis for future rulings. Since the planning and location of energy installations, such as windmills, typically involves application of legal rules that to various extents are coloured by path dependence, the transformation of the energy system may prove difficult. A more sustainable energy system thus depends e.g. on the design of the institutional framework and whether the law is promoting or counteracting the diffusion of renewable energy technology such as wind power. The aim of this paper has been to analyse the legal implementation of wind power in Sweden on the basis of presumed path dependence. The paper illustrates that the path dependence of the legal regimes affecting wind power development in some instances is significant and that policy implementation therefore may be seriously hampered. The purposes for which expropriation of land is possible in Sweden were for example founded in the early 20<sup>th</sup> century, a time in which very few thought of producing energy by harnessing wind. Although time has changed, the regulation remains and the rules are – if not hampering – at best neutral vis-à-vis wind power development. The resource management provisions under the Environmental Code also show clear signs of institutional path dependence; regardless of repeated criticism from e.g. the Council of Legislation (Swe: Lagrådet) regarding the rules’

applicability the system persists and continues to confuse both legal scholars and practitioners. The municipal planning monopoly and right of veto is another feature of the Swedish institutional framework that produces self-reinforcing sequences that are hard to breach. And without municipal consent, energy policy, and particularly wind power policy, is very difficult to implement. Although the institutional path dependence suggests a complex and complicated situation, the norms, expectations, traditions, customs etc. that constitute the social structure in which the law is embedded can change, and so can the law. The more recent legal application demonstrates that the law can in fact be applied in favour of wind power development even facing strong preservation interests. This may be a sign of a necessary change happening.

### **Towards sustainable energy supply: necessary institutional rethinking?**<sup>156</sup>

Sustainable development is a development where natural resources are not depleted to a level that put their continuing growth at risk.<sup>157</sup>

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<sup>157</sup> Sustainable development is widely understood to rest on three interdependent dimensions: ecological, social and economic sustainability. The three dimensions need to be addressed simultaneously in policy-making to reach the aspired social goal (UNCED 1992). Hence it follows that economic growth cannot be

Energy resources are doubtless one of the most essential components of human life, and the supply of energy is a fundamental prerequisite for the subsistence and development of modern society. Like many other natural resources, some energy resources are however in short supply and in danger of being exhausted. Sustainable energy supply thus calls for use of renewable, rather than non-renewable, energy sources. Still, regardless of the presumption that an *unsustainable* development will possibly get in the way of human subsistence itself; there are many barriers on the road to sustainable development. The *path dependence* that typically characterises institutional (and other) systems suggests that development is constrained by previous choices; as time goes by, the relative costs for altering a system increases and so does the relative gain of sustaining at least part of it. For example, once decentralisation of power has been effected, it becomes more costly to eliminate municipal self-governance; once a law has been adopted and gone into effect, it becomes more costly to adopt a different law; and, once a judicial precedence has been established and relied upon, the costs of reversal grow. And so on and so forth.

### Introduction and aim

This paper deals with the issue of path dependence in law in the context of energy policy implementation. More specifically, the implementation of an energy policy that

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allowed to surpass social or environmental considerations. It also implies that socio-economic concerns must be taken when introducing new environmental objectives. In practice, there are no easy ways to combine the three dimensions (Meadowcroft 2005). In this paper, focus is on the role of law in achieving sustainable development. Consequently, the analysis holds no attempts to determine or discuss matters such as the continuation of the existing fossil fuels or the level of supply required for subsistence.

stipulates an increased use of renewable energy in general and wind power in particular. Sweden, as the rest of the world, faces serious challenges in this respect. The imminent threat of environmental disasters as a result of for example climate change together with a widespread desire to increase the security of supply and hence overall stability, call for extensive and cross-disciplinary action. The path dependence of the institutional system however affects the ability to implement change. *The purpose of this paper is to analyse and discuss the legal implementation of wind power in Sweden on the basis of the theory of path dependence.*

### Setting the energy policy context

Energy accounts for 80 percent of all greenhouse gas emission in the EU which makes it a huge propelling force for environmental degradation in general and climate change in particular (COM/2007/0001). It also makes the energy sector the most important target for e.g. climate change mitigation measures; an increased use of renewable energy is often viewed as a key to a more sustainable future (COM/2006/848 final). In keeping with *An Energy Policy for Europe*, one fifth of total primary energy supply shall stem from renewable energy by 2020. By expanding the share of renewable energy, a number of environmental and energy objectives are expected to be achieved, for example reduced greenhouse gas emissions, decreased pollution, and increased security of supply.

Also in Sweden, the main energy objective is since long a conversion from the exploitation and use of non renewable energy resources (in particular fossil fuels and uranium) to a more diversified energy mix with a large share of renewable energy. The supply of electricity rests heavily on hydro and nuclear power generation, whereas the development of "new

renewables”, such as wind power, has been much more modest. The difference in installed capacity compared to for example Denmark, the United Kingdom and Germany is significant, while others like Norway, shows much the same poor record as Sweden (Pettersson 2008).

An important condition for the transformation of the energy system is that “there is already a system in place, i.e., the present energy infrastructure with associated actors and institutional framework.” (Johnson 2011). Connected to the use of a certain technology is thus also the legal system that governs the planning, location and operation of energy installations. The development of legal systems that support the implementation of the policies required to transform the energy system is of great importance (ibid.). Besides the necessary change in perspective, it is a matter of creating adequate economic incentives to stimulate investments in renewable energy technologies and to adjust the institutional setting to fit the “new” situation.

### **Method and case study**

This study draws upon Swedish, Danish, Norwegian and English legislation. Methodologically, certain functions of the legal systems are studied, partly to explicate current valid law and partly to analyse the rules in relation to the theory of self-reinforcing path dependence. A specific focus is placed on path dependence in connection with the legal implementation of wind power policy. The study utilises on work conducted within the research project *Pathways to Sustainable Energy Systems*, primarily Pettersson (2008) (see Pettersson, 2011 1b).

### **Theoretical framework: path dependence**

The general idea of path dependency suggests that choices made in the past affects (constrain or expand) the subsequent range of possible or reasonable choices. A decision to take a left instead of a right turn at a crossroads might forever foreclose the possibility to explore what was down the road from the right turn. Not necessarily because the right turn option is no longer there, but because it would be too costly (time, fuel etc.) to go back. The choice to take a left turn will thus to some extent control also where we go from there. Or as Margaret Levi puts it:

“Path dependence is to mean, if it is to mean anything, that once a country or region has started down a track, the costs of reversal are very high. There will be other choice points, but the entrenchments of certain institutional arrangements obstruct an easy reversal of the initial choice. Perhaps the better metaphor is a tree, rather than a path. From the same trunk, there are many different branches and smaller branches. Although it is possible to turn around or to clamber from one to the other – and essential if the chosen branch dies – the branch on which the climber begins is the one she tends to follow.” (Margaret Levi 1997)

According to Hathaway (Hathaway 2001) three strands of path dependence theory can be identified: evolutionary path dependence, increasing returns path dependence, and sequencing path dependence. Each of these three strands has implications for the course and development of the legal system. The new evolutionary theory, characterised by “punctuated equilibria”<sup>158</sup>, offers a model which

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<sup>158</sup> Unlike the classical Darwinian hypothesis where evolution is described as a slow and gradual

according to Hathaway “provides a useful lens on the process of legal evolution in a common law system” (Hathaway 2001, p. 142). Despite substantial contextual differences, the theory “indicates the central importance of the brief but crucial punctuations that open up windows of opportunity for sweeping change.” (Hathaway 2001, p. 142). Translated into a legal context, such opportunities arise for example when new laws are prepared or when legal issues are appealed for the first time to the Supreme Court. A very important implication of the understanding of this pattern is the possibility to provoke such windows of opportunity, for example by appeals or by submitting proposals to parliament (Hathaway 2001, p. 143). ‘Returns to scale’ is, in short, a way of describing how output responds to proportional increases in input. The concept of *increasing returns to scale* is hence used to explain a situation where output increases by a greater proportion than the input (see e.g., Nicholson 1998). According to Hathaway increasing returns to scale arise mainly as a result of: “large fixed costs, which lead to falling unit costs when output increases; learning effects, which lower costs as production becomes more common; co-ordination effects, which confer benefits for taking action similar to others; and self-reinforcing or adaptive expectations, which lead actors to react to current conditions in ways that enhance the likelihood that similar conditions will persist in the future.” (Hathaway 2001).<sup>159</sup> When these features are

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development where natural variations combined with competition for limited resources leads to a natural selection where the fittest species survive, the new evolutionary theory describes a pattern where periods of stagnation are interrupted by periods in which new species are rapidly branching out from existing stocks in a process of speciation (Hathaway 2001, p. 113-115).

<sup>159</sup> Note that it is not necessary for a system to exhibit all four features for it to be increasing returns to scale.

present in a system, the costs for taking an additional step in the same direction will be lower, or the benefits higher, than taking a step in a different direction. This in turn implies a very strong self-reinforcing sequence where the previous pattern tends to repeat itself.

Mahony (Mahony 2000) explains the term self-reinforcing sequence as a type of path dependence where an institutional pattern is produced by increasing returns (utility or benefit) and states that: “With increasing returns, an institutional pattern – once adopted – delivers increasing benefits with its continued adoption, and thus over time it becomes more and more difficult to transform the pattern or select previously available options” (Mahony 2000, p. 508). Accordingly, sequences with self-reinforcing properties imply that over time it becomes difficult or even impossible to change direction.<sup>160</sup>

According to Pierson (Pierson 2000) the usage of the concept of path dependence tends to vary between a wider and a narrower perception. In the wider version, path dependence is taken to mean the causal relevance of previous stages in a temporal sequence (chronological order). Pierson however argues that this wider perspective has little usage since “it entails only the loose and not very helpful assertion that ‘history matters’”. (Pierson 2000 p. 252). He thus argues that the general notion of path dependence, which he defines as the causal way in which previous decisions affect future choices, should be limited to “positive feedback”, or self-reinforcement, since it implies that with time the relative benefits – the increasing returns – of

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<sup>160</sup> Mahony distinguishes between self-reinforcing sequences and reactive sequences, where the latter are defined as “chains of temporally ordered and causally connected events.” (Mahony 2000, p. 509). In a reactive sequence, late events are driven by reactions to earlier events; each step is dependent on prior steps.

maintaining some feature of the system increases. With this narrower definition path dependence is taken to imply that previous moves in a certain direction will produce further development in that same direction, which according to Pierson, “is well captured by the idea of increasing returns.” (Pierson 2000 p. 252).

#### *Institutional path dependence*

Institutions are here defined as rules for human interaction.<sup>161</sup> In this sense, the institutional framework provide a structure for social and economic interaction by outlining the social order to which we are part and restrict our conduct by imposing norms and regulations (North 1993). The primary role of the institutional framework is thus to reduce uncertainties (transaction costs) in the interface among humans since cooperation usually is considered worthwhile if the outcome can be predicted (cf. game theory). However, although the structure for interaction provided by the institutions provides stability, it does not necessarily provide efficiency. While well defined property rights are generally considered to prevent e.g. resource depletion (cf. The Coase theorem), the ownership structure may well serve only a few powerful interests. The persistence of inefficient, or undesirable, institutions can be explained by the occurrence of path dependence (e.g. Pettersson 2008, p. 15).

“If the highest rates of return in a society are to be made from piracy, then organisations will invest in knowledge and skills that will make them better pirates; if organisations

realize the highest payoffs by increasing productivity then they will invest in skills and knowledge to achieve that objective” (North 1994, p. 3)

Institutional path dependence thus implies that when an institution, such as a law, is produced, the choices that forms the decision have a constraining effect into the future (Greener 2005). For example, when a law has been passed or a precedent case decided, it will take considerable efforts to change the path, even if the institution in time becomes less desirable. The same is valid for the distribution of authority and responsibility; since people or groups in power typically have obtained their positions as a result of the institutional arrangements, there will be a certain disinclination to initiate or promote (radical) changes. The formal institutional framework is thus strongly characterised by increasing returns and likely to produce a self-reinforcing sequence.

#### *Reasons for Institutional change*

According to North institutional changes occur for two main reasons: changes in relative prices (or utility) or altered preferences. Regarding changes in legislation for example, this implies that, faced with a proposal for a new law, the Swedish Parliament will pass the new legislation only if a majority of the members perceive the proposal as superior compared with the existing legal situation. And since the proposal reflects the perception and ambition of its initiator, the institutional changes that follow from the new law will be a result of the initiator’s perception that the new situation will imply a higher utility than the previous. Amendments in formal institutions thus typically reflect political or economical objectives aiming to get the highest pay-off in terms of utility, investments, seats or period of office etc. (see North 1990, pp. 129-130 and

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<sup>161</sup> The concept of institutions has to be distinguished from the concept of organisations. To use North’s analogy to sports, institutions constitute the rules of the game whereas the organisations serve as players and it is the players’ duty to play the game to the best of their ability within the framework of the established rules (North 1993. p. 18).

1994, pp. 4-5). The origin of the second cause for change, i.e., altered preferences, is naturally hard to capture; peoples' preferences may change by reason of almost anything, but clearly changes in relative prices play a role also in this context since vast adjustments in relative prices have a tendency to alter peoples' behaviour and in time also their likes and dislikes.

Greener (Greener 2005) speaks of endogenous and exogenous changes in a path dependent system, where endogenous changes come about as a result of fragmentation within established groups creating "separate identities and differentiated ideas" (Greener 2005, p. 67). Endogenous changes can be simplified as "changes from within" and may for example occur if a 'significant group' can no longer sustain its system due to built in incompatibility that result in disintegration and, eventually, changes (ibid.). In the legal system, endogenous changes may arise as a result of observed inconsistencies in the law, for example contradictory provisions that cause difficulties in applying the law. Exogenous changes are consequently changes that derive from external factors, such as fiscal crises. Exogenous changes may also emerge through "challenging ideas that are backed by vocal and powerful vested interests" (ibid.). Although expressed very differently, Greener's terminology corresponds fairly well to North's causes for institutional change. The first oil crisis is an example of a highly unexpected external (exogenous) source of change which suddenly and dramatically altered the relative price on energy causing major political and financial changes all over the world and altering the positioning of the actors on the energy market. A perhaps less dramatic example of an exogenous source of change in the formal institutional framework is the amendments in the forest related legislation in

e.g. Sweden and British Columbia following storm or climate change induced pest outbreaks (see e.g. Keskitalo et al. 2011; Pettersson & Keskitalo 2011).

Prior to, and over time alongside with, the institutional impacts of the oil-crisis concern over the balance between humanity and the environment grew and assumed international proportions. In the 1960s, Rachel Carson's book *Silent Spring* (1962) and Garreth Hardin's article *Tragedy of the Commons*' (1968) became landmarks that, together with a chain of environmental catastrophes, brought together the environmental community,<sup>162</sup> and in 1972 the first environmental conference was held in Stockholm.<sup>163</sup> Together with the modified preferences caused by the environmental awakening in the 1960s, the changed relative prices on energy resulting from the oil-crises helped form the mainstream European energy policy of today; a policy that to a large extent focuses on energy conservation and an increased use of renewable energy resources. In consequence, although the oil-prices that stroke the world with amazement eventually dropped, the damage, in terms of fear of e.g., heavy oil-dependence, was already done and the concerns for the human impact on the environment remained. From a legal perspective, the work initiated in Stockholm, that continued and twenty years later landed in the Rio Earth Summit, has resulted in the creation and amendment of countless international, regional and national laws.

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<sup>162</sup> See UNEP "Integrating Environment and Development 1972-2002".

<sup>163</sup> United Nations Conference on the Human Environment, Stockholm, Sweden.

### **The path dependence of the legal regimes involved in the wind power development**

The legal system normally includes rules that indicate how, by whom and for what purpose resources may or may not be employed. The function of the law on this matter is thus typically to control the utilisation and management of the country's resources. Since energy installations, such as wind power stations, require admission to considerable land- and water areas where sometimes large and visible constructions will be located, the development normally activates a number of legal regimes of which some of the most significant are indeed related to the utilisation of wind, land and water areas. In a Swedish context, this includes primarily environmental law, such as land use and planning law and authorisation rules, but also the area of expropriation law and energy law is activated (Pettersson 2008). In the following examination of the possible path dependence of the legal regimes involved in the planning, location and installation of windmills, the specific energy laws are however excluded. The legal rules regarding construction of and access to transmission lines as well as the green certificate system in Sweden are fairly straightforward and have not been subject to any major legal disputes.

#### *The one hundred year old expropriation purposes*

In Sweden, the right to harness wind for energy purposes is, in principle, unregulated. The right of disposition of land based wind resources is generally considered to belong to the proprietor (e.g. Michanek 1990, Pettersson 2008). In essence, the installation of windmills on private land thus requires either consent or expropriation. The legal situation regarding the possibility to expropriate land to harness wind energy in Sweden is however uncertain; although expropriation to meet 'the need for

electric power' is allowed (ch. 2, s. 3, Expropriation Act) the law speaks not of extraction, but rather of use of land. Although Michanek concludes that the provision only targets expropriation for the need for land, and not the extraction of energy in itself, he also notes that in practice it is of course possible to apply for expropriation permit on the grounds that land is needed for the installation. In this case, however, "it has to be presumed that the purpose of expropriating the land is, objectively, to extract the energy resource", which thus presumably would not be permitted since it is not a ground for expropriation (Michanek 1990, pp. 523-524). An expropriation permit shall moreover not be granted if the purpose (i.e. the energy production) can be better met by other means (ch. 2, s. 12, Expropriation Act). This means that even if it was possible to expropriate land to install windmills with the intention to extract the energy resource, this would have to be the best way to meet the purpose (Pettersson 1990).

The expropriation purposes in ch. 2 s. 3 originate from the 1917 Expropriation Act and the purpose was likely to pave the way for energy installations such as coal power plants and not to extract energy resources (Michanek 1990, p. 523). At the advent of the 1972 Expropriation Act the primary energy resources were hydropower, coal and uranium, all of which were regulated separately and thus explicitly excluded from the Expropriation Act (Ibid). The motives behind the expropriation purposes under Swedish law are based on almost 100 year old circumstances; a time when few people thought of, for example, wind power as a supplier of electricity. While it seems imperative to amend the law to explicitly allow for expropriation for the purpose of energy extraction, the institutional path dependence suggests that considerable efforts will be required (Greener 2005).

*The path dependence of the resource management provisions*

The competition over land has many origins. The main issues in connection with the development of wind power are linked to protection, such as landscape preservation, and conflicting use, such as forestry or reindeer herding. In Sweden, the balancing of opposite interests is based on the resource management rules in the Environmental Code. The rules derive from the late 1960s and a desire to allocate the country's natural resources more efficiently. The demand for natural resources had increased and the conflicts over use and allocation of resources intensified. In 1972, *guidelines on national physical planning* (for the management of land and water areas) were accepted by the Parliament, but not laid down in law (C 1972:1, Prop. 1972:111). In connection with the advent of the Planning and Building Act, it became necessary to establish the guidelines in law.<sup>164</sup> Thus, without any major changes, the management provisions were laid down in the 1987 Natural Resources Act and in 1998 the rules were almost intact transferred to the Environmental Code.

Before the adoption of the Natural Resources Act, the Council of Legislation (Swe: Lagrådet) was very critical to the formulation of the rules. It was the Council's view that although statements in order to give the rules a more precise content were made in the motives to the law, "one ought to require that the ones affected by the law are able to form an opinion regarding the content and legal effect of the legislation." The large span between the motives to the law and the actual legal text was

furthermore said to "balance on the limit of what in this regard is consistent with high quality legislation." (Prop. 1985/86:3, p. 225). The Council's critique was revisited (and agreed upon) in the bill to the Environmental Code, but the government argued that since the provisions have been in place a long time and applied by a large number of authorities in many cases, and no substantial change was intended, changes could lead to unnecessary ambiguities (Prop. 1997/98:45, pp. 243-44).

Before moving on to the question of the system's path dependence, some basic knowledge of the provisions is necessary. The *basic* resource management provisions (ch. 3, Environmental Code) are applicable in matters related to new (or changed) use of land and water areas in Sweden. As a general assessment rule, s. 1 gives direction for the assessment of conflicts of interests, stating that "Land and water areas shall be used for the purposes for which the areas are best suited in view of their nature and situation and existing needs. Priorities shall be given to use that promotes good management from the point of view of public interests." In addition to the general rule, different types of land and water areas are regulated. The provisions address specific interests that are connected to certain areas by reason of quality or suitability. Areas that are particularly suitable for wind power shall for example – *to the extent possible* – be safeguarded against activities that may interfere with the wind interest, or, if the area is designated national interest for wind power, it *shall* be safeguarded against such activities (ch. 3, s. 8. See also Pettersson 2008, pp. 35-43). Areas with high natural or cultural values are likewise protected against activities that may significantly damage the values (ch. 3, s. 6. Ibid). In the *special* resource management provisions (ch. 4, Environmental Code) certain (geographically identified) areas of the country

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<sup>164</sup> According to the proposal for the Planning and Building Act, the government could only interfere with the municipal planning if legally established national interests were not taken into account. For the new planning system to be consistent, the guidelines thus had to be converted to legal rules (Prop. 1985/85:3, p. 8).



are protected against exploitation activities due to their natural or cultural values. These areas are entirely of national interest (s. 1).

Due to weak formulations and ambiguous content the discretion of especially the basic provisions is large. As a result, the outcome of the rules is rather unpredictable. The rules are moreover designed to steer away from interfering or damaging activities rather than to promote or protect interests, which makes the regulation relatively ineffective as an instrument for managing the country's natural resources (see Michanek 1993; 1990, Söderholm et al. 2007 and Pettersson 2008).

The Swedish system for 'national planning' thus shows clear evidence of path dependence; the original choice in terms of the 1972 guidelines seems to have been a limiting factor for the subsequent possibility to choose another way to deal with planning on national level. The largest opportunities to change direction and improve the legal situation did not result in any substantial changes in the face of the critique and despite the vague formulation of the rules. The need to reduce the uncertainty regarding the outcome of the legal application and make it clear under which circumstances (if any) for example wind power development is a possible choice is apparent. Clear and explicable balancing rules can also uphold a stronger protection against damaging activities; both preservation and development interests would therefore attain a stronger position with clear balancing criteria in place. Nevertheless, a reversal from the original path seems to have been obstructed by the institutional structures established as a result of the initial decision, in terms of the role of the sector authorities, the already designated areas of national interest, legal practice and the trial system etc.

Another interesting characteristic of particularly the special resource management provisions is that they very much reflect a

traditional (prior to the Environmental Code) 'environmental protection perspective'. Areas are protected for their natural and cultural values against all kind of development. It is therefore particularly conservation interests that are considered worthy of protection. The sustainability objective on the other hand implies that also development can contribute to this goal. A transformation of the energy system to involve less use of non-renewable energy sources, such as coal and oil, means that the very prerequisites for development are preserved.

In sum, although the design of the resource management provisions is somewhat outdated and ill-suited with regard to the scope of sustainable development, the institutional path dependence implies that considerable efforts are required to change the pathway.

#### *Self-reinforcing municipal self-government?*

The basic principle for the Swedish form of government is that all public power proceeds from the people. The democracy in Sweden is accomplished through e.g. local self-government (ch. 1, s. 1, Instrument of Government). Municipal sovereignty is thus a fundamental part of the Swedish governance and the planning system is no exception; a consistent feature of the draft for the 1987 Planning- and Building Act was the principle of decentralised decision making (Prop. 1985/86:1). Accordingly, ch. 1 s. 2 in the Planning and Building Act states that planning of land and water areas is a matter for the municipalities. The planning system is of great importance for the possibility to implement energy policy, especially wind power, not least since the development of energy installations typically requires some sort of municipal consent either in the form of a detail plan or by a right of veto (Pettersson 2008). Again, it seems appropriate to account for some of the issues in connection with the

planning system before discussing its possible path dependence.

There are several problems attached to the planning monopoly in the context of energy policy implementation. First of all, it is imperative for the implementation of national policy that local decision making in the form of physical plans reflects the overarching objectives on which the policy is founded. In Sweden, the lack of vertical integration between national planning objectives on the one hand and legally binding plans on the other has created a system that is best characterised by 'global policies and local obstacles' (see e.g. Söderholm et al. 2007). The weak steering capacity of the system furthermore implies that the strongest link between, for example, the national wind power planning goal and the legally binding detail plans is the recommended areas of national interest for wind power. Even if the responsibility to designate such areas is completed, there are no guarantees that the designations are respected in the subsequent planning.

The vertically integrated Danish planning system shows that it is not impossible to rely on the principle of decentralisation and still have in place sufficient integration functions. The requirement under Danish law to pay due consideration to the upper level planning and to strive to implement adopted plans seems to have had a positive effect on the possibilities to effectively carry out, in this case, wind power planning objectives. The contents of plans can also be influenced by guidelines that provide substantial direction on how to comprise for example the development of wind power in the planning process as is the case in Norway and England (Pettersson 2008).

Another implication of the planning monopoly is the difficulties to contest undue planning or planning inactivity. Theoretically, it is possible for the government to order (via

an injunction) municipalities to adopt, change or repeal a plan, if they for example failed to take national interests into account (ch. 11, s. 15). The problem is that no such injunction has ever been issued in accordance with the planning- and building act, so the rule is practically without importance. Although it is indeed possible to start using the rule now, it is highly unlikely to happen; the Swedish municipal self-government is very resilient and deeply founded in the institutional framework.

The planning monopoly shows clear evidence of self-reinforcing sequences; the increasing returns for those in power have presumably produced an institutional pattern that is very difficult to transform: "the political and economical organizations that have come into existence as a consequence of the institutional matrix typically have a stake in perpetuating the existing framework" (North 1994). Thus, people who have gained their position as a result of the current system will usually want that system to continue.

#### *Permits and institutional path dependence*

Energy installations typically require some sort of authorisation (i.e., permit, licence, concession etc.). The basis for all types of authorisation is a need to control activities beforehand, for example to prevent damage, like long-term pollution, or avoid inflexible solutions as a result of poor planning. A standard trial for permit roughly includes material consideration of the development's overall social, economical and environmental effects. Typical factors attended to in the trial for energy installations in general and windmill installations in particular are the size and location of the installation, its environmental impacts (which depends on e.g., the location) and the risks involved in the construction and operation of

the facility.<sup>165</sup> From the viewpoint of the operator, one of the strongest reasons in favour of applying for (and getting) a permit in accordance with the Environmental Code is the legal certainty that comes with it; the possession of a valid permit implies in principle a right to operate continuously on condition that the terms of the agreement are not violated (ch. 24, s. 1, EC).<sup>166</sup>

Although it is legally possible to set stricter environmental requirements for operators with a valid permit,<sup>167</sup> activities may well be below the radar of the supervising authority and hence operate for a very long time without updating either the permit or the conditions thereof. Apart from the obvious institutional path dependence that follows from the fact that it is an established legal construction that also has been in place for quite some time, it also implies weak incentives for changes or improvements. From the point of view of wind power development the construction of the permit system mainly implies two things. First of all the straightforward consequence that once a permit has been obtained, the activity can in principle continue if the conditions are complied with. Second of all, the more complicated and indirect implication that follows from the fact that other competing

energy facilities (e.g. hydropower and nuclear power plants) hold valid permits issued many decades ago. In the future, it is a risk that these permits may stand in the way of wind power development.

### **Sustainable development: a new path?**

This paper illustrates how the path dependence of the institutional system risks putting obstacles in the way of a development involving transformation of the energy system towards a more sustainable future. Although sustainable development is at the heart of the Swedish environmental law, its status and application is still debatable. According to Nicholas de Sadeleer the “hard centre” of the sustainability concept is the objective to retain the preconditions for development for both present and future generations (de Sadeleer 2002, p. 373). The intrinsic conflict of interest: sustain or develop implies that “caught between an economic logic seeking to maximize production --- and an ecological logic, sustainable development is situated at the junction of interests that are *a priori* at loggerheads.” (de Sadeleer 2002, p. 373). Still, without ecological sustainability there can be no development, so while ecological sustainability is indeed a prerequisite for development, the opposite is not true (Westerlund 1997, pp. 25-27).

Should the concept of sustainable development therefore be viewed as a legal principle against which the legal system should respond? The core function of legal principles is to express the underlying purpose of legal rules. To be defined as a legal principle, the rule must thus be carried by the legal system, for example via positive legal rules, and it must also be recognised by the legal community (e.g. MacCormick and Weinberger). The ownership institute in the Swedish legal system constitutes such a legal principle; in principle ownership

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<sup>165</sup> Not all authorisation requirements have explicit environmental origins. A concession can for example aim primarily to guarantee an efficient energy production. Even so, environmental concerns are usually attended to in the, in most cases, required environmental impact assessment.

<sup>166</sup> Note that the possession of a permit does not exclude the right to claim for damages.

<sup>167</sup> If it turns out that the activity causes significant unforeseen adverse effects, or if it is necessary to comply with EU-law etc., it is possible to withdraw a valid permit (see further ch. 24, s. 3, EC). A permit can moreover be subject to review if the activity, for example contributes to non-compliance with an environmental quality standard, or if inconveniences that could not be anticipated when the permit was granted have occurred (see further ch. 24, s. 5).

implies a complete right of disposal. The owner of, for example a piece of land is free to do as he pleases with his property; he may use it, sell it or even destroy it, unless the law says otherwise.<sup>168</sup> The main function of the positive legal rules in relation to the ownership institute is thus to control conflict situations and deviations from the basic principle, for instance for the benefit of legal certainty or environmental protection. In the same way concession- or permit requirements are deviations from the main principle that the form for agreements is free (Strömholm 1996, pp. 179-183).

The inherent ambiguity of the definition of sustainable development argues against considering it a legal principle; there are too many contradictory aspects of the current definition for it to be substantiated by the legal system as a whole. It can, *and shall*, however be considered by the judiciary when the provisions of the Environmental Code is applied. This implies that although it is perfectly possible to arrive at a solution without invoking the sustainability objective (which will not be contested on the basis of not involving, or inconsistency with, the objective of sustainable development), and the legal system therefore cannot completely prevent unsustainable development, the introduction of sustainable development at the heart of the Environmental Code implies a new path, that may well be walked on.

### **The development of wind power in Sweden: a sign of changed preferences?**

The wind power takeoff in Sweden has certainly been uneven. In the face of a long-term objective to increase the share of wind

power together with a rather strong support system, the development until the beginning of the 2000s was very slow. In 2002 the total installed capacity of wind power was 304 MW and in 2006 it amounted to 572 MW. Towards the end of the decade the development picked up speed and the installed capacity doubled between the years 2008 (1 021 MW) and 2010 (2 163 MW) (<http://www.gwec.net>); a fairly small amount compared to other European countries, but a strong sign of a changing path in Sweden. A large part of the explanation for the sudden takeoff is due to strong efforts in terms of support systems, establishment of a national wind power network and wind power coordinators, together with attempts to facilitate the regulatory framework (<http://sweden.gov.se>).

The development can be traced also by following the legal application. Signs of path dependence are evident in the initial phase of wind power development in Sweden as well as in the transition period between Environmental Protection Act and the Environmental Code. In early court cases regarding wind power development before the Environmental Court of Appeal (i.e., before 2005), the environmental benefits of renewable energy were not in the foreground. In fact, concepts like sustainable development and sustainable energy supply were hardly mentioned (Pettersson 2008). Focus was often put on the intervention in the landscape caused by the installations, and the protected values were generally held very high (cf. Judgment of the Environmental Court of Appeal in case M 7625-00, M 623-02, M 8328-99). In several of the cases where permit for the development were indeed granted, the decision appears to be based on the lack of sufficiently strong opposite interests, rather than benefits attached to the wind interest (cf. Judgement of the Environmental Court of Appeal in case M 9540-99, M 1391-01, M 2602-07) (Pettersson

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<sup>168</sup> The Swedish or ownership right is referred to as *negatively determined*, (Bergström, S. (1956) "Om begreppet ägande rätt inom fastighetsrätten" *Svensk Juristtidning* 1956 s. 145-162).

2008, Michanek & Söderholm 2006). These earlier assessments thus seem to have been made in a spirit according to which environmental protection is primarily achieved through conservation rather than via implementation of environmentally friendly technology (Pettersson 2008).

It was not until 2004, six years into the existence of the Environmental Code and its objective to promote a sustainable development, that a ruling of the Environmental Court of Appeal explicitly referred to the sustainability objective as a basis for judicial decisions. In two cases from 2004 and 2005 the court introduced the judicial decision by asserting that ch. 1, s. 1 para. 2 in the Code implies “a specification of how to interpret the concept of sustainable development and includes a direction about how the substantial provisions in e.g. chapter 2 shall be applied.”<sup>169</sup> (Case M 9408-03 and M 10499-02) (Author’s translation). The development of land based wind power was first referred to by the court as a general interest, part of sustainable development, in 2005.<sup>170</sup> In this case, the court stated that the

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<sup>169</sup> Chapter 2 in the Environmental Code contains the so called general consideration rules, i.e. basic environmental requirements that specify what is required to protect the environment at large. With regard to, for example wind power, the rules imply e.g. that special consideration has to be paid to the choice of location and that precautions must be taken. Author’s note.

<sup>170</sup> It should be noted here that the Environmental Court of Appeal had made this argument before in the context of offshore wind power development. In case 833-99 the court argued that the support granted to wind power (i.e. the investment subsidies and the environmental bonus) should be regarded as an adopted environmental value and hence a benefit from a public point of view in the cost-benefit assessment in accordance with the general conditions for hydraulic operations (ch. 11, s. 6, EC). The government shared the court’s opinion and asserted that the increased share of renewable energy resulting from the development is in line with the objective of the Environmental Code (Decision and statement from the Environmental Court of Appeal to the government

trial in accordance with the resource management provisions should include balancing between the public interest to expand the share of wind power in support of sustainable development and the public interest to protect valuable natural and cultural environments. At the end, the court found: “that the public interest to increase the share of wind power to promote sustainable development speaks in favour of approving the installation.” (Author’s translation). The opposite interests were thus not considered of such importance as to prevent installation on the selected site and permit was granted (Case M 2966-04). Following this case, a number of cases involving the development of wind power have been decided by the Environmental Court of Appeal and in the cases where the issue involved assessment of conflicting interests the majority has lately fallen out to the advantage of wind power.

In 2008, increased use of renewable energy as part of achieving the objective of the Environmental Code as well as other environmental quality objectives was put forward in a case concerning the establishment of wind power in an area containing high natural values (primeval forest). The area was designated national interest for reindeer herding as well as for wind power production. The court did not see any conflict between the reindeer herding interest and the wind power interest and no balancing was thus needed in this respect. It was furthermore concluded that the development could not take place without damaging the natural values of the areas; area losses as well as fragmentation of the primeval forests would be inevitable. The court nevertheless decided to authorise development in three out of four suggested areas on condition the precautionary measures

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2000-01-17 in case M 833-99 and decision of the government 2000-03-09).

promised by the actor would be sufficient to prevent long term damage (Case M 2210/08).

Three cases were decided by the Environmental Court of Appeal in 2009. In the first case, the conflicting interest was an untouched area of natural beauty. The area had however not been formally protected in any way and no special hazards for animal or plant species were reported. Although the investigation of alternative sites could be questioned on the grounds that it was limited to one municipality, the court decided to accept it in consideration of the wind power planning goal. The court stated that: "With society's goal for wind power in the country as a whole, a large number of sites will need to be claimed for developments." (Case M 7051-07).

The second, and much more controversial, case concerned the installation of 30 windmills on the low mountain Sjiska within Kaitum mountain primeval forest which is a nature reserve and part of the Natura 2000 network. The area was also subject to a writ of protection of the landscape. After request from the City Council the Environmental Court submitted the case to the government for examination of permissibility. In 2007, the government decided to authorise the development and in 2008 permit was granted by the Environmental Court.<sup>171</sup> The judgement was appealed to the

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<sup>171</sup> The Swedish Environmental Protection Association (Svenska Naturskyddsföreningen) contested the decision and claimed for the Supreme Administrative Court to declare the government's decision invalid. The Association stated that the government's decision violates a number of provisions in the EC, here among the location requirement, the resource management provisions, the rules on environmental impact assessments and the protection of Natura 2000 areas. After review of the decision, the Supreme Administrative Court concluded that the government's decision did not violate any legal rule in the manner proposed by the applicant; the government has not misinterpreted any facts or otherwise exceeded the limits of discretion in this case, nor have there been any errors in the handling of the case (Case nr 1989-08).

Environmental Court of Appeal on various grounds. The Judicial Board (Swe: Kammarkollegiet) did not share the view of the Court that the government's permissibility trial formed the basis for the trial for permit and dispensation; the Swedish Environmental Protection Association (Svenska Naturskyddsföreningen) claimed that "the permit is in violation of so many legal rules that the Environmental Court of Appeal must review the case under extraordinary forms." (Author's translation); and the Swedish Environmental Protection Agency deemed that the basis for the decision needed to be supplemented (in terms of exact locations of foundations and routing paths) to minimise damage to the interests worthy of protection. The Environmental Court of Appeal makes the assessment that the development may cause significant damage to the environment and that permit according to the rules for Natura 2000 areas and the nature reserve regulations therefore is required. Regarding the authority of the government's decision the court argues that it is clear that area protection as well as conditions for permit has been considered. The assessment is therefore taken to include permissibility in accordance with all relevant provisions in the EC. The role of the court is then to permit the development and examine issues not covered by the government's decision. Accordingly, considering the defined conditions, the court did not find that the development was prevented by the rules regarding Natura 2000 areas. Regarding the nature reserve regulations, the court decided to permit the construction of buildings and the felling of trees necessary for the development (case M 5226-08).

The third case concerned the appeal of a permit granted by the Environmental Court for an offshore windmill installation. The Judicial Board primarily sought cancellation of the permit because of the serious risks the location

would imply for the endangered cod; the site in question constitute a unique spawning area for the species. The Environmental Court of Appeal began by noting the conditions for the selection of sites in accordance with the EC (i.e., the location rule, the resource management provisions and their connection to the sustainability objective). Thereafter the court stated that wind power is a renewable energy source that supports the objective of the EC, is imperative in the achievement of the climate commitments, and necessary to reach the wind power planning goal. However, in keeping with the environmental quality objectives adopted by the parliament, the goal of reduced climate impact shall however be achieved “in such a way and at such a rate that preserves biological diversity.” The court therefore considered that the also development of renewable energy must be adjusted to protect ecosystems. The siting of the installation in this case was thus strongly questioned and the court did not consider the company’s investigation of alternative sites acceptable since it was limited to one municipality: “it can not be excluded that there might be other sites along the coastline that are suitable for wind power and that does not constitute spawning area for the cod.” (Author’s translation). The Court therefore finds that the company has not sufficiently shown that the purpose of the activity can be achieved with a minimum of damage and inconvenience at the selected site and rejects permit (case M 294-08).

In a very controversial case from 2010, the Environmental Court as well as the Environmental Court of Appeal granted permit for a windmill installation in an area that is habitat for the golden eagle. The area in question was designated national interest for energy production as well as reindeer herding but, in consideration of the national wind power planning goal and other climate related

commitments, both the Environmental Court and the Environmental Court of Appeal judged that the wind power interest best promotes a sustainable development (cf. ch. 3, s. 10, EC). Regarding the area’s high geological values, the Environmental Court believes that traces from similar processes are available nearby and that the damages caused by the installation therefore will not reduce the geological interest for the area as a whole. Concerning the golden eagle, the court finds that there is a risk that the development will damage the existing population and believe that “it is reasonable to assume that the population will be reduced by an expansion.” (Author’s translation). The negative impacts are however, in the court’s opinion, acceptable in consideration of the area’s viable population of golden eagles. The Environmental Court of Appeal notes that a main issue in the case is whether the planned development is harmful to area’s high natural values: untouched landscape and high geological values. Concerning the landscape, the court does not believe that the area will be affected by the windmills to an extent that prevents permit. As for the geological values, it is concluded that no formal protection has been established for this reason. Since the development will only claim a small part of the area, the Environmental Court of Appeal finds the two interests compatible and thereby establishes the Judgement of the Environmental Court (case M 10316-09).

## **Conclusions**

The theory of path dependence provides a theoretical basis as to why the mills of development grind slowly. Like other systems, the legal system evolves gradually over time and the development is based on existing legal frameworks and precedent. By applying the theory of path dependence our understanding of why changes may be difficult to implement

increases. This study shows that all three strands of path dependence presented by Hathaway can be traced in the development of wind power in Sweden. The concept of increasing returns is a way of describing how existing frameworks continues to exist as a result of e.g. falling costs and learning and coordination effects. In a legal context, radical departures from the existing path are indeed fairly uncommon. Although the phenomenon is not only a result of “accidental” increasing returns; changes in the legal system must be done in a certain order and conform to certain principles, the concept of increasing returns still explains the institutional path dependence of the legal system; the lower costs/higher benefits of taking additional steps in the same direction applies. The relative benefits (regardless of origin or motive) of staying on the same path produce self-reinforcing sequences where the pattern is repeated. For a long time the development of wind power in Sweden was more or less stationary; in spite of rather substantial economic incentives the legal framework in general and the municipal self-government in particular, seemed to prevent the development from taking off. However, as this study illustrates, more recent court cases indicates that things have changed rather dramatically. The perception of wind power, previously viewed as an industrial activity, and one that for the most part suffered defeat in the battle for what purpose that best protected the environment, has now evolved into a situation where not even the presence of golden eagles is enough to prevent its development. Is it possible that the great efforts to direct the development and advance the position of wind power have been strong enough to provoke a window of opportunity and enforce a change of the path? Or is it an endogenous change where sustainable development has gradually come to play a bigger role in legal application? Or is it

the imminent threat of climate change that together with an increasing need for security of supply has produced tools that are powerful enough to synchronise the endeavours towards a more sustainable future? Regardless of which it seems clear that, at this time, the environmental benefits of wind power have gained the upper hand over other interests. Although development is indeed often path dependent, the development of wind power in Sweden shows that paths can change.

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