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Doctoral Thesis

Shaping Markets: A Neoinstitutional Analysis of the Emerging Organizational Field of Renewable Energy in China

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**Copenhagen
Business School**
HANDELSHØJSKOLEN

Shaping Markets: A Neoinstitutional Analysis of the Emerging Organizational Field of Renewable Energy in China

Nis Høyrup Christensen

Doctoral School of Organisation
and Management Studies

PhD Series 3.2013

Shaping Markets: A Neoinstitutional Analysis of the Emerging Organizational Field of Renewable Energy in China

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For Maja, Liv and Sigge

Summary

Today, China is the world leading investor in renewable energy. At the heart of this effort lies China's ability to shape markets through industrial policies. Through a neoinstitutional theoretical perspective this dissertation views China's efforts within renewable energy as the emergence of a new organizational field. Despite the importance of *organizational fields* as a key concept in the neoinstitutional literature, there is a lack of studies on exactly how they emerge. Throughout four articles this dissertation scrutinizes therefore the emergence of the field of renewable energy in China and the mechanisms driving this emergence.

Firstly, the relation between state and market is examined, and it is argued that Chinese state interventions in markets, for instance through subsidies, are based in deeply rooted historic grounds. Thus, the article explains the general context in which the Party-state handles subsidized markets, like renewable energy.

Secondly, the specific development of the idea of *sustainable development*, and how it evolves into an institutional logic of its own, is analysed. It is around this institutional logic that renewable energy emerges as a field. The key mechanism in play is the *idea work* of the Party state by which sustainable development is positioned in the Party-state discourse.

Thirdly, subsidization of renewable energy in China is examined as an important feature of the increasing institutionalization of the organizational field. It is shown how *negotiation* between companies and Party-state is the vital mechanism by which subsidies are determined.

Fourthly, it is analysed how the institutional entrepreneurship of one single company resulted in an official recognition of biomass power production as a source of renewable energy, and thereby an expansion of the organizational field. Again, the

main mechanism was the company's *idea work*, through which a crucial link between biomass and sustainable development was established.

Taken together, the dissertation contributes to the neoinstitutional theory by emphasizing the importance of discursive processes for the subsequent institutionalization, and by documenting for the first time an emergence of an organizational field around an institutional logic.

On the empirical side, the growing internationalization of China and Chinese businesses has the consequence that China's interferences in and shaping of markets becomes of increasing importance to governments and companies all over the world. The dissertation therefore contributes by showing how the market for renewable energy in China is shaped, and how the corporative relations between Chinese companies and the Party state works.

Resume

Kina er i dag verdens førende investor i vedvarende energi. I hjertet af denne indsats ligger Kinas evner til at skabe markeder gennem aktiv industripolitik. I denne afhandling anlægges der et nyinstitutionelt perspektiv på denne indsats, hvormed fremkomsten af vedvarende energi i Kina kan ses som skabelsen af et nyt organisatorisk felt. På trods af at *organisatoriske felter* er et kernebegreb i den nyinstitutionelle teoribygning, findes der meget få studier af, hvordan de opstår. Gennem fire artikler undersøges det derfor, hvordan dette organisatoriske felt fremkommer, og hvilke mekanismer der driver fremkomsten.

For det første undersøges relationen mellem stat og marked i Kina, og der argumenteres for, at der er dybereliggende historiske årsager til, at den kinesiske stat ofte intervenserer i markederne blandt andet gennem subsidier. Dermed tegnes der et generelt billede af Partistatens håndtering af statsligt subsidierede markeder så som vedvarende energi.

For det andet analyseres den specifikke udvikling af ideen om *bæredygtig udvikling* i Kina, og hvordan den udvikles til en selvstændig institutionel logik. Det er omkring denne institutionelle logik, at vedvarende energi udvikles som et organisatorisk felt. Den afgørende mekanisme er her Partistatens aktive *idearbejde*, hvorigennem bæredygtig udvikling indplaceres i Partiets politiske diskurs.

For det tredje undersøges subsidieringen af vedvarende energi i Kina som et vigtigt aspekt af den stigende institutionalisering af det organisatoriske felt. Her viser det sig, at den bærende mekanisme, hvorigennem subsidier fastlægges, er løbende *forhandlinger* mellem virksomheder og Partistaten.

For det fjerde blotlægges en enkelt virksomheds institutionelle entreprenørskab, der resulterede i en anerkendelse af biomasse som en vedvarende energiform i Kina og

dermed en ekspansion af det organisatoriske felt. Den afgørende mekanisme er her virksomhedens *idéarbejde*, hvorigennem der skabes forbindelse mellem biomasse og bæredygtig udvikling.

Samlet set bidrager afhandlingen til den nyinstitutionelle teori ved at fremhæve de diskursive dimensioners vigtighed for den efterfølgende institutionalisering og ved for første gang at dokumentere en skabelse af et organisatorisk felt omkring en institutionel logik.

På den empiriske front bidrager afhandlingen med at vise de dynamikker, der driver skabelsen af markedet for vedvarende energi i Kina, herunder det tætte samspil mellem kinesiske virksomheder og Partistaten. Den øgede internationalisering af Kina og det kinesiske erhvervsliv medfører samtidigt, at netop Kinas indblanding i og skabelse af markeder bliver af stigende vigtighed for regeringer og virksomheder verden over.

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Introduction

This dissertation takes its starting point in one of the most vibrant business settings worldwide: the emergence of the renewable energy sector in China's emerging economy. Strong political signalling from the Chinese government followed by heavy investments has completely changed the prospects for the sector within a few years. This to an extent, where China in 2009 emerged as the biggest investor in renewable energy in the world, ahead of both Germany and the USA. And in 2020 as much as 15 % of the total energy production is projected to come from renewable sources (i.e. hydro, wind, solar, biomass and bio fuels), compared to an existing share of 8 % in 2006. This 7 % increase must be seen against the backdrop of China's increasing energy consumption, which follows from the continued expansion of the economy, and the fact that China's natural potential to generate hydro power has been utilized for many years. In addition, and contrary to many western governments, the Chinese government is actually working steadily in the short run to fulfil its long term targets.

China's efforts to develop the sector for renewable energy are by all means significant. Who would have thought that China, a country in the midst of rapid and massive industrialization and urbanization, faced with severe challenges like rural-urban divide, poverty, ageing population, social welfare and civil rights issues, pollution, scarce natural resources, over population, etc., could also find time, capacity and resources to actually promote renewable energy and an agenda targeting a more sustainable development trajectory. On the other hand, one might argue that some degree of sustainability, defined broadly, seems to be the only answer to these challenges precisely. This is obviously the rationale behind the Chinese government's efforts, but it does not change the fact that making such a turn is difficult both politically and organizationally. The institutional literature has taught us that changing status quo is always difficult due to vested interests and institutional inertia (Seo, Creed 2002, Holm

1995). It is in this context that China's efforts to promoting renewable energy must be understood and assessed.

Developing China's sector for renewable energy has global implications. Any meaningful global effort to cut down on carbon emissions will require China not only getting better at utilizing its energy resources (saving energy) but also an increasing share of China's energy consumption to be based on non-carbon emitting sources like nuclear power or renewable energy. The share and timing is debatable, as COP15 in Copenhagen 2009 so clearly illustrated, but renewable energy remains one of the few viable options. In one way or the other, China's success or failure within renewable energy will have global repercussions.

More than anything else, the fast emergence of the sector for renewable energy underlines the Chinese Party-states capability to establish new markets. In this respect the Party-state draws upon the last 30 years of economic development in China, which could be described as one massive expansion of markets through active policy making (Peng 2003: 277). The emergence of the sector relates therefore to China's specific take on industrial policymaking. A take, which holds China's international aspirations as the focal point. Interestingly enough, industrial policy making has always had an external side to it in the sense that China wanted to catch up with the rest of the world. In the Mao era, for instance, under the (disastrous) Great Leap Forward, the slogan was: "Surpass Britain and catch up with America"¹. Industrial policymaking has thus been an important tool in the Chinese government's attempt to develop the economy and catch up with the rest of the world (Walder 1982: 220). This line of thought is echoed, even today, when the current Chinese government asks Chinese companies to

¹ This famous doctrine was issued by Mao back in 1958 under the Great Leap Forward.

“go global” in order to grow stronger (for the benefit of China). This is also the case for the sector for renewable energy, which is designated by the Chinese government to be a place for nurturing tomorrow’s “national champions” (McDonald, Bossard & Brewer 2009). This dissertation targets the industrial policy making through an institutional perspective. In this light it becomes a capability to change existing institutions and to establish and promote new ones. Some scholars see this as a very specific feature of the Chinese Party-state and a part of the explanation as to why China has been able to reform itself almost beyond recognition in only 30 years. Saith, for instance, points to the flexibility of the institutional framework as a key factor when explaining China’s economic success (Saith 2008). The malleable Chinese institutions have thus allowed decision and policy makers in China to respond to changing demands in ways that would not have been viable in most other countries. It is in this respect that the emergence of China’s sector for renewable energy becomes a laboratory for studying the mechanisms, which shape a new market.

This specific Chinese take on institution making and institutional change is interesting in its own right. How is it done, and through which mechanisms? What is more, the huge international attention paid to China’s efforts to develop renewable energy gives evidence of the wider implications of these special capabilities. They become important factors in China’s attempt to cut down on carbon emissions and redirect the economic development into a more sustainable track.

The emergence of the world’s biggest market for renewable energy has significant firm level consequences. The future market size is, for instance, decided by the Chinese Party-state and regulated through various subsidies. Technological solutions within renewable energy are strongly supported, and Chinese companies are encouraged to compete with western companies both in China and on the international markets. And subsidies for renewable energy are now being negotiated in an intricate relationship between Party-state and companies. Hence, the Chinese institutional context, in which

the sector for renewable energy develops, challenges foreign companies in a number of ways.

Research question

A way to understand the emergence of the renewable energy sector in China as a process of institution making is through the concept of *fields* or *organisation fields* - a key concept in the neoinstitutional theory within organizational studies (DiMaggio, Powell 1983, DiMaggio 1991) Meyer, Rowan 1977, Scott 1995). With inspiration from important predecessors (like Pierre Bourdieu) the first to introduce the term *organization field* was DiMaggio and Powell (1983). They came up with the following founding definition: "Those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar service or products" (DiMaggio, Powell 1983: 64-65). With this formulation, they wished to draw attention to the totality of relevant actors, and not exclusively to competing firms or networks of organisations. However, though the definition tends to focus on the constellation of actors, the criterion for what can be termed a field actually depends on whether or not it is institutionalized (DiMaggio, Powell 1983: 64-65). An organizational field is therefore a concept that points to the institutionalization of certain relations amongst a set of organizations.

In a later definition from 1994, Scott added an emphasis on the institutionalization of meaning systems: "The notion of field connotes the existence of a community of organizations that partakes in a common meaning system and whose participants interact more frequently and fatefully with one another than with actors outside of the field" (Scott 2008: 86). Hence, this definition of fields points to both: 1) patterns of interactions amongst actors, and 2) a common meaning system, like for instance addressed by the concept of institutional logics (Friedland, Alford 1991).

In the existing literature it is possible to differentiate between mature fields and emerging fields. With a minor rewriting of the process of institutionalization, mature fields can be described as: "...relatively well-structured configurations of actors that are aware of their involvement in a common enterprise and among which there are identifiable patterns of interaction such as domination, subordination, conflict, and cooperation" (Maguire, Hardy & Lawrence 2004a). Lawrence et al also point to the fact that institutions in mature fields are often widely shared and highly accepted (Lawrence, Hardy & Phillips 2002). Under such conditions the neoinstitutional literature offers a number of concepts to understand the processes and mechanisms through which the institutionalization takes place: Diffusion, socialization, translation, coercion, rewards, etc. (Scott 2008: 191). However, these concepts point to processes on a general level, and they are not targeting the field formation or emergence specifically.

A few attempts have been made to point to characteristics of emerging fields, but, as expected, they are more vague. It has, for instance, been noted that actors in the field tend to recognize some kind of degree of common interest, but with little coordinated interaction (Maguire, Hardy & Lawrence 2004: 659, Fligstein 1997). This is also what Barbara Gray describes when suggesting that such examples represent: "...potential networks of organizations rather than already established networks or federations of organizations" (Gray 1985: 912). Thus, we are talking about an open-ended and unfinished institutionalization process.

In the neoinstitutional literature the starting point of empirical analysis is most often taken in existing fields and consequently the dynamic aspects of field formation are left untouched. The scarce attention being paid to explaining the *emergence* of fields or the *mechanisms* leading to the institutionalization of a field has been noted by a number of scholars (DiMaggio 1991, Greenwood, Hinings & Suddaby 2002, Anand, Peterson 2000).

Two avenues for explaining field emergence and the early institutionalization are explored. The first relates to institutional logics, and the second to institutional entrepreneurship. Institutional logics are defined as “a set of material practices and symbolic constructions which constitutes its organizing principles and which is available to organizations and individuals to elaborate” (Friedland, Alford 1991: 248). They provide theoretical substance to the “meaning system” part of the organizational field definition and logics have empirically been shown to co-evolve with the wider field (Inoue, Drori 2006, Montgomery, Oliver 2009, Oliver, Montgomery 2008). This means that studying the emergence of new logics provide a possible way of addressing the emergence problematique.

The concept of institutional entrepreneurship is particularly helpful when analyzing how specific agents influence the institutionalization processes (Battilana, Leca & Boxenbaum 2009, Delbridge, Edwards 2007). In this respect, it contributes to explaining the early institutionalization of the field.

For both concepts, however, institutional logics and institutional entrepreneurship, there is a need for addressing the discursive dimension, which becomes apparent when studying aspects of field emergence. To this end Discursive Institutionalism as developed by Vivien Schmidt will be applied (Schmidt 2008). With Discursive Institutionalism it becomes possible to analyze how discursive mechanisms have consequences for the formation of fields.

Furthermore, this dissertation takes institutional theory into a different context, which is authoritarian China. This is an interesting and challenging setting for a neoinstitutional inquiry in two ways. Firstly, because this has only been done a very few times, which means, that there are hardly any studies to relate to (Child, Lu & Tsai 2007). Secondly, the literature takes its starting point in the Western world, where the construction and maintenance of organisational fields are a much more open-ended process. There are simply more agents involved in the process, like for instance various

NGO's and associations (employers, labour, and business), as well as free medias, opposition parties, dissonant voices, etc., and it becomes therefore a more complex and incontrollable institutional trajectory. In China, on the other hand, the Party-state is in a position to define the rules of the game to a far greater extent. This is not least the case with a (state) subsidized market like renewable energy in China. Studying this sector therefore enables an expansion of the neoinstitutional agenda to more state-dominated settings in general as well as the particular Chinese aspects of field formations and institution making.

To sum up, with China's sector of renewable energy as the empirical context it becomes possible to study precisely those processes where a field emerges and develops. It is the aim of this dissertation to scrutinize these dynamics and thus 1) advance a better *empirical* understanding of how the Chinese Party-state is capable of shaping markets and thus circumvent what the institutional literature has described as institutional inertia or the stickiness of institutions. And 2) contribute to the neoinstitutional literature by advancing our *theoretical* understanding of how organizational fields emerge.

The following question directs the research:

How does renewable energy in China emerge as an organizational field and which mechanisms drive this institutionalization?

The question has two parts which, in line with normal academic conventions, are both formulated in open terms (Gadamer 2004: 345). With mechanisms I refer to a "...delimited class of events that alter relations among specified sets of elements in identical or closely similar ways over a variety of situations" (McAdam, Tarrow & Tilly 2001). The particular attention paid to mechanisms is inspired by Peter Hedström and Richard Swedberg (Hedström, Swedberg 1998). They argue that mechanism based approaches enhance the explanatory power because: "The search for mechanisms

means that we are not satisfied with merely establishing systematic covariation between variables or events; a satisfactory explanation requires that we are also able to specify the social “cogs and wheels” (Elster 1989:3) that have brought the relationship into existence” (Hedström, Swedberg 1998). This ambition is reflected in a continuous focus throughout all articles on the institutional setting in which the mechanism are applied. The mechanism based approach will be discussed further below under “Methodology”.

The main delimitation of the research question follows from the particular setting of this inquiry: China, and therefore particular Chinese historical, political and organizational traits as well as the authoritarian system.

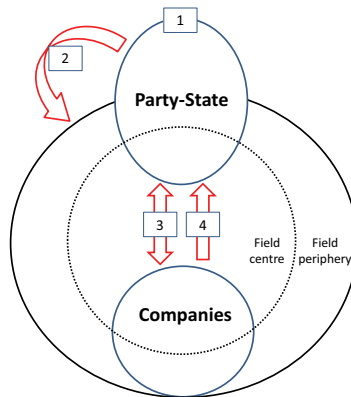
Research question and the four articles

The research questions focus on *emergence* and *mechanisms* will target three aspects of field formation and institutionalization: 1) the initiation, 2) the internal dynamics and deepening of institutionalization, and 3) the expansion of the field.

The dissertation is based on a compilation of four articles. The first article is introductory in the sense that it scrutinizes the basic conditions for market creation in China. The second article deals specifically with how renewable energy in China emerged as an organizational field. The first two articles are based on desk studies of the historical aspects relating to the initiation of the field. The remaining two articles target the internal dynamics of the emerging field (article 3) and the expansion of the field (article 4). Both of these articles are informed by field work in China.

These different foci are illustrated below. The figure outlines China’s sector for renewable energy as an organizational field specifying the main actors, the Party-state and firms, and field centre and periphery. The arrows represent the mechanisms which drive the institutionalization of the field. Boxes represent the focus area of the four articles:

China's sector for renewable energy as an organizational field



In the tables below, the four articles are explained in terms of focus, theory and method. For articles 2, 3 and 4 a description of mechanisms are included. This means, that it is possible to see how they relate to the overall research question. However, since these articles should be assessed in terms of their potential to become published, they are mainly structured according to basic journal requirement. This is reflected in the tables below in the way that the specific theoretical or empirical contribution is described as a separate category, which might not always show an immediate relation to the overall research question.

Article 1. China's free market – and why the border between state and market is malleable

Focus	<p>This introductory article looks at how the border between state and market is constituted in the interplay between the gradual introduction of market mechanisms and the phasing out of the planned economy.</p> <p>It thus shows the basic conditions for market creation in China.</p>
Theory	Institutional logics (Friedland & Alford)
Method	Desk study, longitudinal
Mechanism of Institutionalization	N/A
Theoretical and/or empirical contribution	<p>It confirms the theoretical point that the potential conflicts between institutional logics are curbed by the institutional setting – China's authoritarian system.</p> <p>It contributes empirically by explaining why China is not scared of subsidizing or even creating markets.</p>

Article 2. The Making of a New Institutional Logic: From Sustainable Development to the Emerging Field of Renewable Energy in China

Focus	This article asks: How does an organizational field emerge? It shows how the Party-state combines a set of ideas and establishes the institutional logic of "sustainable development". The analysis shows how this logic becomes institutionalized and how this leads to the wider institutionalization of renewable energy as an organizational field.
Theory	Institutional logics (Friedland & Alford), Discursive institutionalism (Vivien A. Schmidt)
Method	Desk study, longitudinal
Mechanism of Institutionalization	Idea work
Theoretical and/or empirical contribution	<p>Theoretical: Shows how an organizational field can emerge around an institutional logic. Contributes to the Discursive Institutionalism agenda.</p> <p>Empirical: Shows how renewable energy in China is based in a very comprehensive understanding of sustainable development. Climate and energy security were not the main drivers.</p>

Article 3. Between market, state, and sustainability: Institutional logics and subsidization of renewable energy in China

Focus	This article shows how subsidies are negotiated in the interplay between Party-state and companies on the basis of three logics (market, state and sustainable development).
Theory	Institutional logics (Friedland & Alford)
Method	Two cases based on interviews with companies in the field
Mechanism of Institutionalization	Negotiation
Theoretical and/or empirical contribution	It contributes theoretically by showing how the particular elaboration and combination of institutional logics is the key to understand the early institutionalization of a field. Empirically, it shows how companies are able to negotiate future subsidies, and it illustrates the dynamic and cooperative nature of the relationship between companies and the Party-state.

Article 4. Institutional entrepreneurship and the emergence of an organizational field: How Dragon Power introduced biomass as a source of renewable energy to China

Focus	This article analyses a case of institutional entrepreneurship (the introduction of biomass), and how that results in an expansion of the emerging field of renewable energy.
Theory	Institutional entrepreneurship; Discursive institutionalism (Vivien A. Smith)
Method	Interviews with company executives
Mechanism of Institutionalization	Idea work
Theoretical and/or empirical contribution	First attempt to combine the two theories. Contributes empirically by showing how radical an impact one single company can have on an emerging organizational field

Publication strategy

During the period of the PhD-project, two articles have been published. Article 1 (described above) has been published as a chapter in “Offentligt eller privat?” (Kaspersen, Lund & Petersen 2010). A translated version can be found here in the compilation. A second article titled “The Chinese Paradox: Integrating Socialism and Market Economy” has been published in the peer reviewed journal *Tidsskriftet Politik* (Christensen 2008). Since it applies Discursive Theory I have, however, chosen not to include it in this compiled dissertation. But it still remains an important reference for key arguments in article 1 and 2, and much of the research done for this article also informed article 1. The last three articles have not yet been published.

State of the art

Search methodology

Guided by the research question and the neoinstitutional approach, a literature search was conducted in EBSCOhost databases. Within EBSCOhost four databases were selected in order to circle in on the relevant research fields. Together these four databases would cover most social science (including economy) and business literature:

- Academic Search Elite: Contains full text for more than 1,700 peer-reviewed journals. It is a multi-disciplinary database dating back as far as 1985.
- Business Source Complete: The world's definitive scholarly business database containing leading collection of bibliographic and full text content. It covers indexing and abstracts for the most important scholarly business journals (more than 1,300 journals) and goes as far back as 1886.

- EconLit: As the American Economic Association's electronic database, EconLit covers most areas related to economics. It is the world's foremost source of references to economic literature and contains more than 1,010,900 records from 1969 to present.
- SocINDEX with Full Text: The world's most comprehensive and highest quality sociology research database containing full text for 777 journals dating back to 1908.

As a first simple test I searched for “organizational field” as a phrase and not as two separate words. However, if searched within the full texts, the count for this phrase runs as high as 3036. This count emphasizes the importance of the concept as an analytical framework for numerous (mostly neoinstitutional) studies. But it also meant that certain criteria had to be established in order to further specify the search. Instead of searching within full texts, it was narrowed down to title, abstract, and keyword. This implies that the author would have had to attach some importance to the phrase “organizational field” when using it in the title, abstract or as a keyword. This seems a reasonable criterion, which would only exclude articles in which the concept was not of any analytical importance. The search was narrowed further by only searching in articles (journals) and thus excluding book reviews (although a few ones made their way in anyway), editorials, call for papers, etc. Finally, the period searched was set at 1st of January 1983 to present. The year 1983 was chosen as the starting point because this was the year of DiMaggio and Powell's first use of the term in what later became a neoinstitutional approach (DiMaggio, Powell 1983). Also, in order to include the plural of “organizational field” an * was added so that all extensions (like fields) would appear too. With these criteria and specifications the count ended at 231.

However, at this point it was also possible to assess to what extent the databases actually matched each other. A way to assess this was to look at the number of overlaps between the four databases. But in the 231 count all overlaps between the four databases were excluded. I therefore tried searching the four databases one at a time using the same criteria as above. Searched in the same order as above, the counts ended

at 45, 160, 15 and 221 respectively. This means that if there had been no overlaps between the databases, the final count should have been 441 and not 231. In other words, there are quite a lot of overlaps in the 441 count which are excluded from the 231 count. The four databases are therefore not only in wording but also in practice somewhat complementary and targeting the same research areas. This makes it less likely that a whole branch of studies is left out of the search.

Within this pool of articles a range of options were tested to specify the search further. I aimed for articles dealing with the institutionalization of fields and the mechanisms involved. Such studies could potentially be framed in numerous ways, not least because the concept of mechanisms has no theoretical status. The table below shows the attempts to explore several ways of combining the search for “organizational field” with other phrases, for instance “organizational field” AND “mechanism”.

Search phrases and results

Search phrase	Second search phrase	Result
“Organizational field*”		231
	Emerge*	33
	Develop*	76
	Construct*	28
	Shape*	18
	Dynamic*	36
	Transform*	20
	Evolution*	20
	Evolv*	10
	Form*	65
	Institution*	146
	Institutionalization*	24
	Institutionaliz*	34
	Change*	96
	Mechanism*	14
	Comp*	101
	Entrepreneur*	16
	Drive*	14

What this table exhibits is the fact that there is a huge risk of excluding potentially important articles if only a few of these “second search phrases” are chosen. I therefore decided to make the 231 articles the first basic (though extensive) pool of articles.

The next step was to scrutinize this pool of articles on the basis of abstracts. This (lengthy) exercise aimed at excluding all the articles referring to “organizational fields” only in passing, as a reference to field work in organizations, or which related the concept to other theories like organizational psychology, conflict studies, immigration studies, transaction cost theory and all sorts of intra-organizational studies. This selection process brought the number of articles down to 86.

This pool of articles formed the basis of the literature search. However, when closely read, a number of studies turned out to use the concept only as an analytical framework (Karhunen 2008, Mullins, Rhodes & Williamson, Pipan, Porsander 1999, Johansson 2003, Tai-Young Kim et al. 2007, Brint, Riddle & Hanneman 2006), or without any theoretical reflections (Barnes 2002). These studies did not in any way look at the institutionalization mechanisms, field emergence, or challenge, develop or expand the organizational field concept. A number of studies proposed the concept as an answer to other theoretical shortcomings in various literatures, but without developing, testing or assessing the concept or specifying the mechanisms involved (Fligstein, Dauber 1989, Thatcher, Brower & Mason 2006, Arum 2000, Breese 2000).

More importantly, the pool of articles did not include any books or book chapters dealing with organizational fields. Therefore, the database search method had to be supplemented with the “old” incremental way of finding relevant studies through reading and checking references. This made it possible to include a number of important contributions (Scott 2008, Powell, DiMaggio 1991, Campbell 2004, Scott et al. 2000, Poole, Van de Ven, Andrew H. 2004, Meyer et al. 2009, Sahlin-Andersson 1996).

Organizational fields in the neoinstitutional literature

The most common approach within the neoinstitutional literature has been to look at how organizations adapt to their environment and thus to changes in their organizational field. This approach was based on DiMaggio and Powell’s seminal

study of the drivers of isomorphic behavior and increasing field homogeneity (DiMaggio, Powell 1983). This line of inquiry thus deals with the classic issue of structure and (organizational) agency, and how that relates to organizational performance (Heugens, Lander 2009, Oliver 1988). But it also meant that in most cases the organizational field has been treated as the independent variable and a set of or a single organization as the dependent variable (Dingwerth, Pattberg 2009, Vasi 2007).

Logically speaking, the emergence and structuration of a field happens prior to processes of diffusion and isomorphism in and across organizational fields. Whereas the last mentioned processes are extremely well studied in the neoinstitutional literature, the emergence of fields has been neglected. This was noted by Paul DiMaggio as far back as in 1991 and repeated by other scholars in the new millennium (DiMaggio 1991, Greenwood, Hinings & Suddaby 2002, Anand, Peterson 2000). And, as we shall see, only a few studies have taken up the challenge.

In the first study of its kind, DiMaggio analyses the emergence of the organizational field of art museums in the U.S. in 1920 to 1940 (DiMaggio 1991). The key mechanism was an increasing professionalization and its effects on the wider structuration (institutionalization) of the field. Andrew Hoffman also addresses the issue directly when arguing that fields emerge around issue areas or disputes (Hoffman 1999: 352). In this way, the issue defines what the field is. This line of reasoning was based on empirical research on how the U.S. chemical and petroleum industries confronted corporate environmentalism. Building on this, Klaus Dingwerth and Philipp Pattberg show how an organizational field of transnational rule-making developed around the issue area of sustainability politics (Dingwerth, Pattberg 2009). Though targeting the literature on transition economies, Tihanyi and Hegarty are able to conclude that the field of commercial banking in the Czech Republic and Hungary evolved through negotiations between bank managers and government officers over banking services and earlier specific problems of banking (Tihanyi, Hegarty 2007).

They stress the role of political interest in altering institutions in an organizational field and can thus, though with a different literature in mind, be seen to support Hoffman's argument as presented above. A number of studies have subsequently used Hoffman's perspective on fields as an analytical framework (Van Alstine 2009).

Another study dealing with field emergence can be found in Anand and Jones 2008. Drawing on ritual theory, they analyze how award ceremonies - in this case Grammy awards - were an important mechanism for shaping the organizational field of commercial music. The mechanisms they found to be contributing to the evolution of the field were: 1) the situated performance contributing to the distribution of prestige within a field; 2) the collective attention of interacting actors; 3) the surfacing and resolution of ongoing conflicts among constituents; and 4) the horizontal patterning of dynamic interlocks among institutional actors. They generalize their findings by stipulating the role of rituals as shapers of field evolution (Anand, Jones 2008: 77).

In somewhat the same line of thought, Garud suggests that conferences can function as venues for the configuration of emerging organizational fields (Garud 2008). Looking at the cochlear implant field he illustrates how conferences are embedded events within a larger flow of field unfolding activities. Garud specifically points to conferences as venues for enactment of possibilities, sense making and for achieving closure. A very few other studies could also be said to target the emergence problematique, but I will address these studies in different sections below.

The general lack of studies that specifically targets the issue of emergence makes it necessary to widen the field of research. An obvious starting point is the literature on institutionalization of organizational fields. A number of criteria has been introduced and said to target the institutionalization of organisational fields that have evolved around markets, policy domains or technologies (DiMaggio, Powell 1983, Scott 2008). This claim has, however, never been substantiated, and therefore tends to represent the basic assumptions of field emergence in the neoinstitutional literature. This aside, the

criteria for field institutionalization provide a good overview of some of the most important processes. According to DiMaggio, the institutionalization (or structuration) of a field happens through four parts: "an increase in the extent of interaction among organizations in the field; the emergence of sharply defined inter-organizational structures of domination and patterns of coalition; an increase in the information load with which organizations in a field must contend; and the development of a mutual awareness among participants in a set of organizations that they are involved in a common enterprise" (DiMaggio, Powell 1983: 65). These parts can, according to Scott, be supplemented by additional criteria: The extent of agreement on the institutional logics guiding activities within the field; increased isomorphism of structural forms within populations in the field; increased structural equivalence of organizational sets within the field; and increased clarity of field boundaries (Scott 2008: 191).

A number of studies has pointed to various mechanisms and processes enabling this institutionalization. Scott has summarized these in terms of top-down mechanisms like diffusion, translation, socialization, imposition, authorization, inducement, and imprinting, and bottom-up mechanism like selective attention, interpretation, sense making, identity construction, error, invention, conformity, reproduction, compromise, avoidance, defiance, and manipulation (Scott 2008: 191). A few other mechanisms are worth adding.

Michael N. Bastedo and Nicholas A. Bowman, for instance, demonstrates how published college rankings influence the organizational field of higher education in the US (Bastedo, Bowman 2010). The mechanisms and institutional forces in play are processes of *certification* and *evaluation*. In the same sphere of research Mats Benner and Ulf Sandström show how changes in research *funding* (as a mechanism) led to radical changes in the university sector as an organizational field (Benner, Sandstrom 2000). And Maria Blomgren demonstrates how certain actors in the Swedish health care field worked as carriers of the idea of transparency and how they *translated* this

idea into a quality issue with discursive transformative effects (Blomgren 2007). These changes are, however, at an initial stage, and they have not yet led to any fundamental institutional transformations. Carmelo Mazza and Jesper Strandgaard Pedersen analyze the business press field in Denmark and Italy, and find that changes from the field periphery have minor impact on the field transformation, whereas external shocks, ineffective isomorphic pressure and boundary rearrangements play a major role (Mazza, Pedersen 2004).

Field change and logics

Relating to the “meaning system” part of the organizational field definition, the concept of institutional logics makes an important entry point to a different line of research dealing with more profound institutional change (Drazin, Glynn & Kazanjian 2004). Friedland and Alford, who invented the concept of institutional logics, defined it as: “a set of material practices and symbolic constructions, which constitutes its organizing principles, and which is available to organizations and individuals to elaborate” (Friedland, Alford 1991: 248). This definition has been the starting point of many studies. And as shown above, it has become one of the key characteristics of organizational fields (Scott 2008: 186-187).

Analyzing how foundations shape social movement in the field of forest certification, Tim Bartley shows that existing studies focusing on how foundation patronage “channels” movement activities through mechanisms of selection of the grantees (financial support) and professionalization of grassroots only offers a partial understanding of these processes. Instead he shows how foundations build a whole new organizational field of forest certification. This happens through structuring new arenas and embedding social movement organizations in new networks. The last part has to do with the increasing interaction amongst organizations (in a field), whereas the first part directs attention to the meaning system. In this respect, Bartley applies the concept of “field frames” (as developed by Michael Lounsbury), but also notes that this

concept draws on institutional logics (Friedland, Alford 1991, Lounsbury 2003). Writing within the field of social movements, Bartley's main aim is to contribute to this literature. However, it is worth noting that when positioning his study on the emergence of fields or field building, as he calls it, he has to refer as far back as to DiMaggio's work from 1991, even though his paper was published in 2007 (DiMaggio 1991).

O'Brien and Slack deal with the interplay between diffusion processes, institutional logics, and isomorphic pressures and show how the change from an amateur to a professional dominant logic within few years changed the English rugby union as an organizational field (O'Brien, Slack 2004). The main mechanism of change, which facilitated the shift in logic, was *competitive pressure* and subsequently through status driven diffusion and band-wagoning. These processes were thus able to radically alter a mature field. The re-structuration of the field was fast, and already in the third professional season the field showed clear signs of maturity.

A different take on institutional logics can be found in a chapter by Giuseppe Delmestri, in which he brings attention to the power, interest and ideology inherent in these social constructs (Delmestri 2009). As institutional logics are context specific he develops the concept of institutional streams depicting the situation where a logic is set in motion (travels) either as a pure ideology (define as symbolic systems of abstract ideas) or as streams where they retain some institutional property and some taken-for-grantedness. In this way, streams of institutional influence originate from somewhere, and are thereby forged by specific ideologically supported interests (Delmestri 2009: 135-136).

A number of studies deal with the co-evolution of institutional logics and fields. Inoue and Drori, for instance, describe the emergence and evolution of the global health care field by looking at the founding of health related international organizations, but does not specify the mechanisms or drivers of the institutionalization of the field (Inoue,

Drori 2006). They do, however, show how the shift between four different discursive frames, or institutional logics as they also call them, have changed the approach to international health. In this way, a shift in logic becomes a shift in the field.

Oliver and Montgomery analyze the emergence of the Jewish legal profession within the “legal enterprise” organizational field in pre-Israel, and point to field-configuring events as a locus for sense-making with the potential to facilitate changes in the institutional logics of a field (Oliver, Montgomery 2008). The premise of this analysis is the co-evolution of institutional logics and the field. The co-evolution between field and logic is also the focus in another study by the same authors on the “scientific research” field (Montgomery, Oliver 2009). Here, they show how changes in the logic come about as new issues arise in the form of jolts (like research fraud) or a more gradual awareness of concerns which are incompatible with the existing institutional logic.

Furthermore, a number of studies deal with the relationship between logics. The starting point has again been Friedland and Alford’s description of the often contradictory relations between different logics (Friedland, Alford 1991). Focus has been on how logics become outcompeted or coexist with new logics (O’Brien, Slack 2004, Thornton, Ocasio 1999), or how the development of collaborative relationships works to manage a shift from one dominant logic to the next (Reay, Hinings 2009). And Ann Westenholtz shows how competing logics are transgressed through the use of discursive methods by institutional entrepreneurs (Westenholtz 2009). These studies illustrate the fact that logics are available to organizations and individuals to *elaborate* (Friedland, Alford 1991). Consequently, the specific relationship between logics is an empirical question, which cannot be assumed a priori.

To sum up, in terms of field emergence, the thesis of the co-evolution of field and logic, which can be extracted from the literature, opens up an important avenue for understanding the emergence of fields through a study of the emergence of logics.

Institutional entrepreneurship and field emergence

The emergence problematic also relates to the well-known critique of the lack of *agency* in institutional theory. Whereas agency was a part of the earlier institutional studies (Selznik 1949; 1957) the main focus in the 1980s was on how mimetic processes led to the same kind of behavior in an organizational field. However, since the mid 1990s we have seen a growing tendency to bring agency back into the institutional analysis (Battilana, Leca & Boxenbaum 2009, Delbridge, Edwards 2007). The starting point has often been the concept of “institutional entrepreneurs”, which was based on DiMaggio’s characterization from 1988: “New institutions arise when organized actors with sufficient resources see in them an opportunity to realize interests that they value highly” (DiMaggio 1988: 14). Hence, institutional entrepreneurship is about the activities of actors, who have an interest in leveraging resources in order to transform institutions or to create new ones (Seo, Creed 2002, Leblebic et al. 1991, Haveman, Rao 1997). The concept of institutional entrepreneurship represents an attempt to overcome the paradox of embedded agency, that is, how agents can change the very structures through which they understand the world. The concept thus offers interesting opportunities for a better grasp of how agency is related to the processes of institutionalization. However, studies have mainly targeted institutional entrepreneurship in mature fields (Greenwood, Suddaby 2006).

A few exemptions to this rule can be found. B.A.S. Koene, for instance, evaluates and writes propositions for further research on the issue of institutional entrepreneurship and the emergence of the field of temporary work agency industry in five countries (Koene 2006). Through comparison it is illustrated that the institutional context (the level of pressure for field emergence; societal confidence; and power of the emerging industry) influences the institutionalization of the field. And John Child, Yuan Lu and Terence Tsai offer one of the very few studies on China, more specifically on institutional entrepreneurship and the emergence (or formation as they term it) of the

environmental protection system in China (Child, Lu & Tsai 2007). Their study could be said to support Hoffman's thesis about field emergence around issue areas by showing how a "made order" of a regulative system initiated the field formation. They show how the Chinese state and its agencies acted as institutional entrepreneurs at important stages of the formation. Another interesting study can be found in Linda Markowitz's analysis of how institutional entrepreneurs in the organizational field of social responsible mutual funds companies use core-framing to build identities among investors (Markowitz 2007). Though the issue of identity building and the mechanisms involved in this process have obvious transformative consequences for the wider field, this particular angle is not developed further.

Neil Fligstein's work on social skills, and the construction of what he calls local orders, also provides important insights (Fligstein 2001a). He shows how agents can transform social structures (organizational fields) especially when a field emerges or in times of crisis originating both from within or outside the field. In this context, Silvia Dorado contributes by pointing to institutional opportunities as an objective condition of a field (Dorado 2005). She suggests that in terms of institutional change, organizational fields may be opportunity opaque, transparent or hazy.

Specifically on agency, Neil Fligstein also contributes by arguing for a privileged role of state in organizational fields in terms of influence or dominance (Fligstein 1991: 314). This was also shown by Mauro F. Guillén, who discussed the changing role of the state as well as industrial firms and professional architects in transforming the field of architecture and modernist architecture aesthetics in particular (Guillén 1997). Vermeulen, Büch and Greenwood, who study the market creation in the Dutch concrete industry, underline the complexity of the interaction of the state with organizational fields, though they found its role in terms of policies to be overestimated compared to conventional understandings in the literature (Vermeulen, Buch & Greenwood 2007). Nonetheless, the role of the state is of general importance

in a study of fields in China, because of the dominance of the Party-state, and it is of particular importance in the case of renewable energy, because it is a subsidized market. A deeper understanding of how this unfolds can be found throughout all four articles.

An important branch of the literature views institutional entrepreneurship as a *discursive* strategy. This has been shown in a number of empirical studies (Fligstein 1997, Westenholtz 2009, Fligstein 2001a, Suddaby, Greenwood 2005, Creed, Scully & Austin 2002, Munir, Phillips 2005, Maguire, Hardy 2006). However, the concept of discourse and how it relates to organizations, institutions and not least institutionalization has not really been handled within the studies of institutional entrepreneurship. There is no theory building which incorporates a discursive level. The notion is used now and then, but how it is related to cognitive scripts, cultural-cognitive institutional dimensions or other key concept within the theory-building is not specified.

Discourse and institutional change

In the wider field of neoinstitutional studies, the concept of discourse has been introduced occasionally. Mostly as a way to explain institutional change (Phillips, Lawrence & Hardy 2004, Ezzamel et al. 2007). Phillips et al argue for instance that: “language is fundamental to institutionalization: institutionalization occurs as actors interact and come to accept shared definitions of reality, and it is through linguistic processes that definitions of reality are constituted”(Phillips, Lawrence & Hardy 2004: 635). And Greenwood, Suddaby and Hinings show how “theorization” in their own words is integral to institutional change (Greenwood, Hinings & Suddaby 2002). With the concept of *theorization* they point to the process by which ideas are rendered into

understandable and compelling formats. It thus provides an analytical framework for discussing how issues are interpreted, translated, and represented in particular settings.² Thus some of the latest studies and theorizations on the role of ideas represents the same ambition to explain institutional change (Campbell 2004, Campbell 1998). The latest attempt to write these efforts into a more comprehensive theory can be found in Vivien Schmidt's work (Schmidt 2008). She calls this Discursive institutionalism (DI), a forth neoinstitutional variant. DI can also prove a viable avenue for analyzing the emergence of logics and thus circumvent the critique of the concept of logics as being exogenous to actors and their strategizing (Lounsbury 2003).

Methodology

Methodological questions relating directly to the four articles are handled in the articles. What will be discussed below are the wider implications of studying renewable energy as a topic and in a Chinese context through the lenses of a neoinstitutional perspective.

In the first phase of specifying the research question a wider desk top study was conducted. The aim of this process was manifold. First, the object of research had to be narrowed down in terms of empirical focus area. The first working hypothesis in this respect was "energy and environment", which was later revised on the basis of actual empirical studies. Second, a preliminary reading of more business oriented publications, in the form of newspaper articles, reports from consultancies, and company presentations provided an overview of the current debates on renewable energy in China, and it generated some preliminary ideas of potential cases. Third, a

² Other related concepts in the literature are "legitimizing accounts" (Creed, Scully & Austin 2002), "rationalities" or "institutional myths" (Townley 1997), "linguistic framing" (Hirsch 1986), "analogies" (Davis, Dickman, Tinsley 1994), "rationales" (Dobbin, Sutton 1998), "rational myth" (Zilber 2006).

first preliminary reading of Party-state documents (officially translated versions, see article 1) provided some conceptual clarifications and ideas as to how renewable energy was framed in the Chinese political discourse. Based on this and combined with an ongoing review of the neoinstitutional literature the research question was formulated.

However, the study of the emergence of a field is a study of a moving target. It poses some problems regarding the design of the study in terms of data, data collection and the conclusiveness of the data. There is for instance hardly any secondary (academic studies) literature on renewable energy in China.

Dealing with an emerging field also changes the focus from institution to its verb form: institutionalize. This is important, because it reminds us of the fact that institutions constantly have to be reproduced (Scott 2008: 190). It also has implications for *how* to study the object. Meyer, Gaba and Colwell have for instance pointed to the fact that most studies within institutional theory are based in the assumption that organizational fields return to a state of equilibrium (Meyer, Gaba & Colwell 2005). When studying organizational fields far from equilibrium, like an emerging field must be said to represent, they call for historic studies of fields that are able to take constant changes into consideration. Writing from a different perspective (ideology, power and interests) Delmestri also calls for studies of field evolution over time in order to grasp developments in institutional contexts, fields and the (inter)action context (as selected by the researcher) (Delmestri 2009). In this case it is a short history beginning in the early 1990s. Nevertheless it is important, and the first two articles of this dissertation are therefore longitudinal studies. This is also needed when questions about the institutional setting and the path-dependencies of the field emergence are addressed (Van de Ven, Andrew H., Hargrave 2004).

Constructivism

With a neoinstitutional theoretical perspective (of the sociological and discursive variant) follows a basic constructivist platform, which has several epistemological implications for how the emerging field of renewable energy can be addressed. The concept of *market* can serve as an example of how a constructivist perspective challenges us to go beyond fixed notions: "...the market is not a natural datum, but (like every other human institution) an artefact - and an extremely complex artefact at that. We must not suppose, as the delusive perspectives of laissez-faire philosophy encourage us to do, that the free market is what remains after all control and regulation has been abolished" (Gray 1992: 28). This understanding is echoed in the way this dissertation questions how for instance sustainability is constructed in a Chinese context, how particular conditions for competition becomes established, and how the notion of renewable energy in China came to encompass biomass.

Studying mechanism

The study of mechanisms follows the classic tradition of Merton in the way it targets the theoretical "middle ground" (Merton 1967). It is not about generating grand societal theories, but it still aims at producing generalizations of some significance and scope. The term "mechanism" has most often been used in an everyday meaning in most sociological literature. There are, however, a number of definitions used by the few (but significant) authors, who have had a continuous focus on this concept over the years. Stinchcombe, for instance, defines mechanisms in a theory as: "...bits of theory about entities at a different level (e.g. individuals) than the main entities being theorized about (e.g. groups), which serve to make the higher-level theory more supple, more accurate, or more general (Stinchcombe 1991: 367). In this perspective the mechanisms under scrutiny works to explain the (higher level) changes of the field. Specifically for this dissertation I will refer to mechanisms as a "...delimited class of

events that alter relations among specified sets of elements in identical or closely similar ways over a variety of situations” (McAdam, Tarrow & Tilly 2001).

This understanding could be illustrated in the following way, where A and B are the entities or events under scrutiny and M the mechanism in play:

$$A \rightarrow M \rightarrow B$$

The kinds of mechanisms, which will be targeted in this study, are of a transformational nature where the interactions of a number of agents through a mechanism produce a collective outcome. In other words, a micro to macro transition (Hedström, Swedberg 1998: 22-23).

The focus on mechanisms is (as noted above) inspired by Hedström and Swedberg, who advocate for a mechanism based approach because of its explanatory power (Hedström, Swedberg 1998). Instead of just pointing to a correlation between two entities, a mechanism based approach will try to explain how they are connected and under which conditions. The claim is, that a focus on mechanisms forces the researcher to actually explain the processes under scrutiny – and thus go beyond the descriptive level. Moreover, Davis and Marquis points to the particular setting of the study as an important reason for choosing a mechanism based approach as well as a focus on organizational field (Davis, Marquis 2005). He finds, that under conditions of major economic changes, like in the emerging Chinese economy, where organizational boundaries are changing, new networks and alliances arise and financial markets are changing (like under the present crisis) normal science driven by internally derived questions becomes problematic. Instead, problem oriented and mechanism-based theorizing that takes the organizational field as the unit of analysis instead of organizations is suggested (Davis, Marquis 2005). Finally, it follows from the above mentioned definition that a mechanism based approach aims at explaining the particular by the general. This has the added effect that any conclusions drawn from a

mechanism based study would have to be of some general significance. These are the main reasons as to why this particular focus has been chosen and even included in the research question.

A mechanism based approach also necessitates a focus on the causal agents who trigger or enable the mechanism and thus the relationship between the entities being studied. This means that a mechanism based approach is positioned well within the realm of methodological individualism (Hedström, Swedberg 1998: 11-12).³ When specifically referring to these agents, be that individuals, firms or organizations, this type of approach enhances the understanding of the studied processes. I have therefore not only specified the mechanism, but also the initiating agent and input, target agent(s) and outcome.

³ It should be noted, that what will be applied is a “weak” version of methodological individualism that on the one hand subscribe to the assumption that all institutions – in theory - can be explained by individual actions (intended or unintended), but on the other hand open up for taking certain macro level conditions as given – simply for practical reasons.

Agents and mechanisms

Article	Initiating agent and input	Target agent(s)	Mechanism	Outcome
2.	Key agents in the Party-state perceive a need for policy change	The wider Party-state, companies	Idea work	The establishment of the sustainable development logic
3.	Key companies perceive a need for subsidies	The Party-state	Negotiation	The issuing of new subsidy schemes
4.	One company wanting to be recognized as renewable	The Party-state	Idea work	Expansion of the definition of renewable energy

Level of analysis

The research question targets the organizational field level. This is an intermediate level between the lower level of organization (and population, groups of organizations), and the wider environment on a higher level. Carol A. Caronna et al have called for systematic attention to the multiple contexts that organizations are embedded in when attempting to fully capture organizational heterogeneity (Caronna, Pollack & Scott 2008). Such a multilevel case study makes it possible to analyze the dynamic and reciprocal relationship existing between the levels. The aim of this dissertation is not to study heterogeneity, but to use this general insight of the dynamics amongst levels as an entry point.

As the criteria for field institutionalization clearly stress (DiMaggio, Powell 1983: 65, Scott 2008: 191), an organizational field is made up by the patterns of interaction amongst organizations and the institutions arising from the process. It is therefore through organizations, in the way they interact and relate to each other, the field becomes reified and thus researchable as an analytical level. This dissertation therefore analyses how organizations on the one hand are influenced by the field, and how on the other hand they reproduce or even create field level institutions in their interactions (Scott et al. 2000: 13). The dynamics between the organizations (and population) and the field makes it therefore difficult to study one without the other. This is also the line of reasoning running through the founding studies of the neoinstitutional tradition (DiMaggio, Powell 1983, Scott 2008: 209). However, in line with the research question, it is the field level institutionalization this dissertation stresses. It has been done before, but it nevertheless belongs to a minority of studies within the neoinstitutional literature.

Research methods

The specific framing of the research question as a “how” type question also had consequences regarding to the choice of methods. For instance it has been shown that qualitative and interpretive methods are best suited to answering “how” questions (Cresswell 2003) as are case studies (Yin 1994: 7).

Two periods of field work were conducted with the primary aim of collecting empirical data. The first period was specifically targeting one company, Dragon Power, which builds and operates biomass power plants. Their headquarters is located in Beijing, and the field work was conducted in October 2008. The second trip went to Shanghai in July 2009. The aim of the trip was a second thorough case study of a single company

named Suntech (solar PV), which had been agreed in advance. However, due to some unforeseen incidents on their side, the original plan of interviewing the executive level could not be realized.⁴ A plan B was therefore developed which instead had a broader aim and targeted a number of mainly solar (PV) energy companies in the Shanghai area. Data derived from the two field trips consists of written material provided by the companies as well as recorded interviews. Altogether sixteen interviews were conducted. Thirteen with company personnel on both executive and management levels from Dragon Power (biomass), Suntech Power Holding, Solarfun Power Holding, Shanghai Topsolar Green Energy Company, Eoply New Energy Technology (all solar PV), Suzlon Energy (the Beijing branch office of an Indian wind turbine producer), and one with a manager at China Huaneng Corporation, one of “the big five” energy companies in China. Two interviews with NGO’s, Chinese Renewable Energy Industries Association, CREIA, and Renewable Energy and Energy Efficiency Partnership, REEEP. And finally one interview with a director at the National Development and Reform Commission, the main government agency when it comes to renewable energy.

All interviews were semi-structured, and questions were posed in an open ended way. Interviews of this sort will always have a bias in the sense that they are retrospective, and therefore adapted to later understandings by the informants. A way to deal with this problem is through triangulation of sources, which was done with respect to some of the important and specific information being conveyed during the interviews. For instance, some of the narratives presented by executives from Dragon Power were cross-checked through written material (business plans) and an interview with their

⁴ The CFO left the company the day I arrived in Shanghai leaving the company in a bit of internal distress. Naturally, my research agenda was not their first priority.

government counterpart, NDRC. The specific use of these interviews will be discussed in the articles.

Delimitating the field of research

Studying an emerging field poses significant problems regarding delimiting the research object. An attempt to add to the organizational field agenda by Patrick Kenis and David Knoke's can prove illustrative (Kenis, Knoke 2002). They state that: "The organizational field concept is insufficiently attuned to the interorganizational relations among member organizations. That is, in specifying a particular field, an analyst only identifies the set of organizational actors that he or she believes may be relevant to an empirical investigation" (Kenis, Knoke 2002: 276). Though it might be a correct description of common research practices that fields are delimited according to what researchers "believe", a critique of this practice should be directed at researchers, not at the concept of organizational fields. Delimiting a field is certainly not a question of what a researcher believes or even a theoretical exercise. It is an empirical question which researchers have to argue for based on normal academic conventions and sufficient documentation. A delimitation of the field can therefore not be presented a priori. It is instead a part of what is actually being researched.

Neoinstitutionalism in China

It has often been argued that China represents a unique case, and that general theories, like neoinstitutionalism, will come short of explaining what really goes on with any accuracy (Edin 2000: 11). In a defence for general theories, a couple of aspects must be considered. First, all cases are in some respect unique, and most often general theories are designed to deal with this or even explain this variance. Obviously, not all theories fit all settings, but this goes for China as well as any other setting. Secondly, though the particular Chinese institutional context does challenge theories developed and refined through studies in western countries, this should be seen as a fruitful challenge, not as a problem. For instance, the huge influence of the Chinese Party-state in many

aspects of business and politics in China allures towards a state-centric perspective. But the role of the Party-state must be viewed as an empirical question in the particular setting of the study; it cannot be taken for granted or assumed (Edin 2000: 41). Likewise, on a broader scale, China's uniqueness cannot be assumed a priori.

Furthermore, one could argue that there is a lack of theoretically informed studies on China. This has long been the case, as Chalmers Johnson addressed the lack of social science in China scholarship as late as 1965 (Johnson 1965). The long standing dominance of linguistics and historical (sinology) traditions within the broader field of Asian Studies or Area Studies are rooted in the strong language capabilities of both traditions, which are an undeniable asset when studying China (Schoenhals 1992: 6). These capabilities, however, often comes with a price: a weaker base in social sciences. Consequently, most studies on China within Asian Studies or Area Studies do not rise above the empirical level, and in so far that theories are used it is not with the aim of generating new theoretical insights or developing theories. Notable exemption from this rule are for instance Benedict Andersons "Imagined Communities" and J. C. Scott's "Weapons of the Weak: Everyday Forms of Peasant Resistance" (Scott 1985, Anderson 1991, Acharya, Buzan 2007).

In conclusion, the present study's insistence on learning more about the emerging field of renewable energy through a neoinstitutional theoretical perspective can therefore be seen as an attempt to bring both China into the neoinstitutional literature, and neoinstitutionalism into China studies. This has only been attempted a very few times before (Child, Lu & Tsai 2007).

Article 1:
The Free Market of China
– and why the border between market
and state is malleable

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Introduction

The border between public and private in China is constantly crossed, moved or manipulated by agents on both sides. The Party-state is busy creating and optimizing markets, but at the same time applying means that blocks the free forces of the market. Private companies are for their part constantly seeking ways to influence public decisions, and making full use of close corporatist relations with public authorities, which effectively erode the borders between public and private.

The concomitant increasing internationalization of China and Chinese businesses extrapolates the problems arising from the erosion of public private borders. Foreign companies on the Chinese market have expressed concern over the lack of transparency of rules governing the (Chinese) public procurement market, and state interferences in market transactions through subsidies to Chinese companies in general. China has, for instance, since its accession to the World Trade Organization (the guardian of the free market) been the main target for charges of state subsidization of industrial goods. From 2005 to 2009 the EU Commission filed 114 antidumping charges in the WTO of which no less than 45 were against China. An over representation that speaks for itself. In China, it is simply difficult to tell where the market begins and where it ends.

To understand this problematique we have to go back to December 1978 and look at how the free market was legitimized along with the gradual dismantling of the planned economy. On the one hand we have seen a massive expansion of markets, but on the other hand we can observe how the borders between public and private, between state and market are far more malleable than in the Western world.

In this chapter, I will start out with presenting a theoretical perspective on the apparent paradox described above. Then follows an analysis of how the free market was

introduced and expanded, and of the means of legitimization applied in this process. Finally, I will discuss the wider implications of this particular historical development.

Theoretical perspective

A neoinstitutional theoretical starting point provides a perspective on this very concrete problematique on the Chinese market. The malleable border between state and market can here be understood as a conflict between two different institutional logics: a capitalistic market logic and a bureaucratic state logic. The concept of institutional logics was developed by Friedland and Alford (1991). They showed how a number of institutional logics were available to individuals and organizations, and that it is through these institutions that individual or organizational interests are shaped. It is an important assumption in the theory that logics are potentially antagonistic. The capitalistic market logic is for instance characterized by accumulation and pricing of human activities, while the bureaucratic state logic is characterized by rationalization and regulation of human behavior through laws and bureaucratic hierarchies. The two logics therefore lead to very different ways of organizing and acting.

The neoinstitutional theoretical perspective has primarily been applied to cases in Western societies, which means that for the present case we have a well-documented basis for comparison. Friedland and Alford have, for instance, pointed to capitalistic markets, the bureaucratic state, democracy, nuclear family, and Christian religion as the core institutions in the Western world. Obviously, the precise same set of institutional logics cannot be said to define China. The market logic is therefore introduced into a very different setting than in the Western world. The free market in American political discourse is, for instance, linked to an individual moral right to freely buy and sell (Nolan 2004: 84, 175), which is far from being the case in China. And it is also through this particular set of institutions that the Western weight on individuality was shaped (Friedland, Alford 1991: 239-240).

The neoinstitutional theoretical perspective also directs attention to issues of legitimacy. This means that decisions about how to deal with the state/market border are based on what agents (this could be Chinese civil servants) perceive to be the appropriate behavior in the particular situation. In this perspective, how to deal with state/market relations therefore emerge as a question of achieving institutional legitimacy. One might then argue that legitimacy is not a prerequisite for the Communist Party of China (CPC) or for the state administration since where dealing with an authoritarian one-party rule. It is obviously true, that the CPC is not based on a popular mandate or held accountable through any democratic mechanisms, but it is not the whole story. We can actually observe that especially Communist regimes are busy explicating and systematizing their ideology, for instance in Party programs, as a way of legitimizing their rule, justify their monopoly, and providing guidelines for the wider elite (White 1993: 148). Where Western politicians would point to a popular mandate, the CPC would point to its ideology. Legitimizing policies and actions are therefore important even in an authoritarian system.

The empirical data consist of Party and government speeches from 1976 and until today. The main source is Beijing Review (formerly Peking Review) – a weekly news magazine published by CPC.

To sum up, this chapter scrutinizes the root causes of how the border between the bureaucratic state logic and the market logic is constituted in China. This is done through a historic analysis of how the free market was introduced, expanded and legitimized concomitant with the dismantling of the planned economy. The planned economy represented a bureaucratic state logic in which economic behavior was regulated through laws and hierarchies. The analysis will therefore show how key concepts like market and ownership/property were constituted. At the same time, the particular ways of legitimizing the special relations between state and market in China will be brought to light.

The free market during the communist era

Throughout the establishment of the Chinese version of communism the market logic was curbed. All economic activity took place either within the state economy or the collective economy, which were both regulated under the planned economy. The collective economy was a joint concept that encompassed the economic activities of the special collective company form that existed in both rural and urban areas. In 1978, the state and collective sectors made up 77.6 and 22.4 % of the industrial output respectively (Lin 2001: 26). The market, as a concept, was used now and then in the official vocabulary, but always as signifying planned economic transactions. A free (non-planned) market did, however, exist even under Mao, but always in a very limited scale (Nolan 1993: 225). How these markets were to be handled in both the ideological work of CPC, and in concrete practice has been an important political point of rotation. This was also the case in the years after Mao's death in 1976, where all economic thinking was heavily tainted by the poisonous political environment that the preceding 10 years of Cultural Revolution (1966-1976) had created. However, two years after the death of Mao, and after fierce internal fighting in the CPC, Deng Xiaoping seized the opportunity to strike a new course. Consequently, a number of the most controversial policies targeting the rural areas were reintroduced. It was legalized to trade in village fairs, take on a sideline occupation, and for households to farm small plots for personal needs and engage in sideline production. In the communiqués of the CPC, village fairs or markets were linked to – and therefore also legitimized as a way to support - the collective economy (Peking Review 1978a: 22).

Initial market reforms

The major shift towards the China we know today, happened at the 3rd plenary session of the 11th Central Committee of the Communist Party of China (1978). Deng Xiaoping had consolidated his position internally, and made a fresh start by declaring

the final elimination of the 'exploiting class', thereby removing class struggle from the political agenda (Østergaard 2004: 61-62). In the first lines of the communiqué from the Party congress, it was stated that: "The stress of the Party's work should shift to socialist modernization as of 1979" (Peking Review 1978b: 7). This shift was absolutely crucial, because socialist modernization became the new point of rotation for all CPC work. The "four modernizations", i.e. modernization of agriculture, industry, technology, and defence, were, for instance, re-launched: "Carrying out the four modernizations requires great growth in the productive forces, [...] and requires changes in all methods of management, actions and thinking which stand in the way of such growth" (Peking Review 1978b: 11). Consequently, everything blocking growth had to be changed.

The link between socialist modernization and economic growth became a key feature of an increasingly market-oriented China. The room for political initiatives was widened as it was necessary to meet the needs of socialist modernization. The CPC now had to combine: "...ideological and political work with economic methods.." (Peking Review 1978b: 12). Thus, for the first time since the CPC came to power, economic methods and ideology/political work were juxtaposed. It was therefore possible to propose what would have been taken for granted in the Western world: "The success or failure of industrial as well as agricultural undertakings in future should be judged by their economic performance" (Beijing Review 1980b: 21). What followed from this general turn from strict ideology to concrete economic results was effectively a new economic regime.

From august 1980 radical changes were initiated: "At present, we are carrying out a step-by-step restructuring of the economic system in accordance with the principle of *combining regulation by planning with regulation by market*" (italics added, Beijing Review 1980b:19). The existing (though limited) free market with free pricing was thereby legitimized and positioned in the socialist economy as a supplement to the

planned economy. A move, which also made it clear that the market was something distinctively different – a new economic logic that were to complement the state regulation of the planned economy. The logic of the free market was thereby, for the first time, legitimized in its own right by the CPC.

The legitimization of the market logic also resulted in the introduction of more market oriented principles in the planned economy: "We should encourage market regulation under the guidance of the state plan" (Beijing Review 1980a: 42). And though the big state owned companies remained under the plan, they too had to function according to more market oriented conditions. Thus, the usage of the market term expanded rapidly: "We hope that the localities and departments will make solid market investigations and forecasts and basing themselves on economic rationality..." (Beijing Review 1980a: 40). It was, however, a characteristic of that period that areas where the market oriented approach were to function, had to be pointed out specifically. This had to do with the fact, that the market logic was still controversial, because of its earlier link to capitalism. A huge insecurity remained with respect to when and where the market logic was considered "appropriate behavior".

Thus, in the early 1980s two markets existed in China. The "old" planned economic market, but with increasing use of market oriented principles, and a market, which in western terms would have been described as free. As a term, the market was applied as a new signifier for the individual economy, which was the part of the economy that related to small scale production, craftsmanship, service, etc., as well as rural household sideline production or sideline occupations. Where the individual economy had hitherto been tolerated as a necessary evil, it was instead positioned as complementary and indispensable: "The state-owned economy and collectively owned economy constitute the main sectors of the national economy while the individual economy is auxiliary, complementary, but indispensable" (Beijing Review 1980b: 27).

To sum up, under "socialist modernization" the free market was established with free competition and pricing. In 1982 the status of the market was consolidated when it was enshrined in the state constitution's article 15. In the state constitution it was given a supplementary role vis a vis the planned economy (Beijing Review 1982c: 14).

At the adoption of the new constitution another important aspect was emphasized: "Given the premise of upholding the leading position of the state economy, we must develop *diverse economic forms* so as to promote the prosperity of the whole national economy" (italics added, Beijing Review 1982b: 14). "Diverse economic forms" obviously meant something different (and more) than the state economic sector. In this way, an expansion of both the collective and individual economy was welcomed, but the precondition for this move was the continued dominance of the state economy. The legitimization was based in necessity, in the sense that the demand for economic growth necessitated other forms of production: "As the level of development of the productive forces in our country is on the whole still fairly low and uneven, it is necessary to maintain different economic forms for a long time to come" (Beijing Review 1982a: 18). The reason for developing "diverse economic forms" was therefore the low level of development of the productive forces.

The use of the term "productive forces" was a direct reference to the classic Marxist development model. But the reference also underlined that what China was embarking on was a deviation from the original development model. The socialist revolution had been realized, but, to follow the logic of the argument, it was realized before the productive forces had reached a sufficiently high level. The productive forces had to be developed further, and the CPC therefore had to reintroduce a form of production (through "diverse economic forms"), which, according to the classic model, belonged to an earlier stage (see table 1 for a list of reforms). This particular argument was further developed and refined over the years, and was therefore central to the

development of market oriented reforms in China. At the same time, the emphasis on China’s different development trajectory was used as a source of legitimacy.

Table 1. Market oriented reforms in the industrial sector 1979 – 1984

Reforms targeting state enterprises	Reforms targeting nonstate enterprises
<ul style="list-style-type: none"> - Pilot reform programs to increase decision-making autonomy and link reward to performance in selected enterprises - Replacement of fiscal grants with interest-bearing bank loans - replacement of profit hand-over with taxes 	<ul style="list-style-type: none"> - Departure of urban collectives from the plan - Rise of market-oriented rural collectives - Entry of foreign direct investment - Re-emergence of private entities

Source: Lin 2001:33.

Deepening market reforms

After the major political shift and the initiation of comprehensive market reforms, China went into a different phase. From the mid 1980s many of the early initiatives were developed further, and the whole framework for the market reforms had to be established. One of the most important new initiatives was a price reform, which also included a gradual downsizing of the planned economy (Beijing Review 1985: 19-20). The free market was therefore further developed at the expense of the planned economy (see Table 2). But also prices for goods under the planned economy had to be readjusted to the free market: “...and steadily readjust planned prices so that the disparity between the planned and market prices will gradually diminish” (Beijing Review 1985: 19-20). The firm grip on pricing was gradually loosened, and the reform was therefore instrumental in ensuring an increasing influence of the market logic.

The price reform was also initiated with the aim of establishing a socialist commodity market: "...in order to develop the *socialist commodity market*, we must (...) reform the price structure for means of production and the price control system" (italics added, Beijing Review 1985: 19). Though the commodity market became increasingly free it was still important to call it a *socialist* commodity market: "The socialist commodity economy cannot develop without the growth and improvement of markets, so regulating through the market does not mean practicing capitalism" (Beijing Review 1987: 11).

After the commodity market a number of other markets were also introduced. For instance, financial markets, labor markets, and real estate markets (Beijing Review 1987: 13). The push for markets was legitimized in a remarkable way:

"If there is only a commodity market it is impossible to give play to the market forces. The socialist market system must be competitive and open. A monopolized or closed market provides no incentive for commodity producers to raise their efficiency, and a self-enclosed market promotes neither rational division of labour at home nor international trade" (Beijing Review 1987: 13).

Evidently, the push for markets was explained by the CPC as an inevitable demand from market forces. Moreover, the socialist market system, as it was phrased in that phase, had to be open and competitive to create incentives and efficiency. Interestingly enough, the vocabulary applied by the CPC to describe the market logic very much resembles what we would find in Western countries.

The issue of ownership was also raised in conjunction with the introduction of the socialist commodity market. A retrospect from 1987 shows CPC's perspective on the matter: "... a structure of ownership evolved in which *undue emphasis was placed on a single form of ownership*, and a rigid economic structure took shape (...). All this seriously hampered the development of the productive forces and of the socialist

commodity economy” (italics added, Beijing Review 1987: 4-5). The undue emphasis on a single form of ownership was of course state ownership. Moreover, with this kind of phrasing a green light was given to further push the weight towards collective and individual ownership.

In 1987 a number of important new notions were introduced. Most importantly the notion of ”private sector”: “The reform we have already carried out includes the development of different types of ownership, public ownership remaining predominant, and even allows the private sector to exist and develop” (Beijing Review 1987: 9). Contrary to what one might think, the private sector did not replace the individual economy. Instead, the notion pointed to companies owned by individual persons and with more than 8 employees. Like the individual economy the private sector was introduced as a necessary and useful supplement to the public sector (Beijing Review 1987: 14). With the acceptance of the private sector a number of policies and laws were formulated in order to protect and control the sector. This was implemented in 1988, where a revision of the state constitution was adopted. Here, the private sector achieved the same level of protection as the individual economy: “The State protects the lawful rights and interests of the private sector of the economy, and exercises guidance, supervision and control over the private sector of the economy” (Constitution of the People’s Republic of China 1999: 61).

Table 2. Market oriented reforms in the industrial sector 1985 – 1992

Reforms targeting state enterprises	Reforms targeting nonstate enterprises
<ul style="list-style-type: none"> - “Factory director responsibility system” aimed at introducing pilot measures to all enterprises - Reduction of plan-allocated input and output - “Dual-track price system” - Adoption of contract employment system - Decline of CCP’s role in the workplace 	<ul style="list-style-type: none"> - Full market orientation of urban collectives - Rapid growth of rural collectives - Managerial incentives schemes in collectives - Expansion of foreign direct investment - Legalization of private enterprises

Source: Lin 2001: 33.

The socialist market economy

In 1992 at the 14th Party Congress, the full step towards a market economy was taken with the introduction of the term “socialist market economy”. The market economy was introduced with the following quote, which described the theory of socialism with Chinese characteristics: ”The objective of economic restructuring is to develop a socialist market economy, keeping the public sector as the dominant one...” (Beijing Review 1992: 14). The Socialist market economy was introduced as the free market expanded and the final dismantlement of the planned economy was initiated. Consequently, any reference to the *market* in the CPC speeches was hereafter referring to the *free* market. This underlines the immense impact of the market logic on all economic relations in China.

The introduction of the socialist market economy also brought along a rare reference to individualism: ”In the condition of a socialist market economy, we should (...) work to promote public and professional ethics, and combat money worship, extreme individualism and decadent lifestyles” (Beijing Review 1993: 31). In this way, it was

recognized that the market economy could lead to individualism, but in the Chinese context this was obviously regarded as something bad. Individualistic values were seen as a threat against the market economy, not as an integrated part of the market economy as in the Western world. Instead, collectivism was promoted as a special characteristic of the socialist market economy, and as way to guard against individualism: “Under the circumstances of developing a socialist market economy, greater efforts should be made to foster among all the people the spirit of serving the people and of collectivism...”(Beijing Review 1996: 25-26). Obviously, in the understanding of the CPC, the market logic was related to individualism in a very different way than in Western countries (Nolan 2004: 84, 175, Friedland, Alford 1991: 239-240).

Legitimizing the market logic

In order to introduce the socialist market economy, the CPC had to leave behind the traditional understanding where planned economy and market economy belonged to socialism and capitalism respectively. Instead, a common feature of market and plan was emphasized: The fact that both are means to control an economy (Beijing Review 1992: 17).

However, the most important (or most commonly used) explanation aimed at legitimizing the introduction of the market economy in the socialist project pointed to the need to develop the productive forces. In that respect the explanation followed the same pattern as when the first market reforms were introduced back in 1979. Using the need for developing the productive forces as a way to introduce the market economy was supported by a Party decision from 1987, where China was described as being in the *primary stage of socialism*.

This way of understanding China’s development was based on the claim that China was in a unique situation, in the sense that socialism had never been introduced in such

a big and backward country. China’s situation was simply too different from what the founders of Marxism had imagined, and China therefore had to find a way of its own. Hence, the starting point had to be China’s actual conditions, and the need for further economic growth.

Now, the market economy was directly linked to the primary stage of socialism, because it was claimed as a way to develop the productive forces. This meant that the market economy, when it was introduced, became the defining characteristic of the primary stage of socialism, and thereby an important part of China special version of Marxism (Jiang 1997: 8).

Table 3. Market oriented reforms in the industrial sector 1993 – 1999

Reforms targeting state enterprises	Reforms targeting nonstate enterprises
<ul style="list-style-type: none"> - Adoption of various forms of shareholding - Privatization of some enterprises - Dept restructuring - Shift of enterprise-based welfare provisions to socialized funds - Reduction of labor redundancy 	<ul style="list-style-type: none"> - Privatization of urban and rural collectives - Rapid growth of private enterprises

Source: Lin 2001: 33.

Ownership

After the introduction of the market economy, all sectors were subsequently referred to by their ownership status: "...it is necessary to encourage the development of the individually owned, privately owned and foreign invested economic sectors" (Beijing Review 1993: 17). This was a significant step, because it signaled a more level playing field vis a vis different types of ownership. It also enabled a lot of creative arrangements with respect to issues of ownership and property rights: "With the

fluidity and reshuffling of property rights, there are more and more economic entities with mixed ownership; this will bring forth a new structure of ownership” (Beijing Review 1993: 17). A quotation from 1999 illustrates how the new ownership structure was framed as a deliberately chosen strategy at national level: “A mixed ownership economy should be developed, while the State controls the main stake in key enterprises” (Beijing Review 1999: 22). All types of ownership, as well as a mix, were allowed, and attempts were made to establish equal conditions and free competition along the lines of the market logic. Below follows a table with the development of types of ownership in terms of share of industrial output for that period.

Table 4. Share of Industrial output in China by type of ownership, 1980 – 1998

Year	State owned companies	Collectively owned companies	Individually owned companies	Other (private companies)
1980	76,0	23,5	0	0,5
1985	64,9	32,1	1,9	1,2
1990	54,6	35,6	5,4	4,4
1991	56,2	33,0	4,8	6,0
1992	51,5	35,1	5,8	7,6
1993	47,0	34,0	8,0	11,6
1994	37,3	37,7	10,1	14,8
1995	34,0	36,6	12,9	16,6

1996	33,7	36,5	14,4	15,4
1997	29,8	35,9	16,9	17,4
1998	26,5	36,0	16,0	21,5

Source: Zheng 2002: 65.

1999 also saw the introduction of a new notion, non-public ownership, which was designed to represent both the individual and the private economy (Beijing Review 1999: 22). This particular notion obviously emphasized precisely the *non* public status, which used to be considered a problem. The legitimization of the market economy therefore seemed to ease the tension with respect to ownership issues. However, despite yet a revision of the state constitution in 2004 the non-public sectors were still not granted status as formal types of ownership. Even today, the public ownership therefore enjoys a privileged status.

With respect to property right the situation is a bit different. The 2004 revision of the state constitution stated that "Citizens' lawful private property is inviolable", which is the exact same protection as public property enjoys (Constitution of the People's Republic of China 2006). It is, however, important to keep in mind that ownership still trumps property rights in China.

Discussion and conclusion

In only 13 years, from 1979 to 1992, the CPC managed to dismantle most of the planned economy and introduce a socialist market economy. The border between public and private was re-constituted and the free market established. First, as a supplement to the planned economy; then as an integrated part of the socialist economy; and finally, as *the* market in China. This short and intense development has turned CPC's ideology upside down and thereby changed the all dominant political

discourse in China. It is also with reference to this dominance, that the analysis at hand can claim the relevance of studying relations between market and state logics in this particular discourse.

The analysis has shown that the market logic, as it is represented in the CPC discourse, is very much like something we could find in western countries. There is, however, a major difference in the way the border between the logics is handled. Here, China's constant and often successful (state) interventions in the free market are well-known. On the other hand, some of these interventions also happen in Western countries. The post-crisis economic stimuli packets, rescue programs for banks, and protectionist measures could all be seen as examples of state interventions. This notwithstanding, something seems different in the Chinese case. Not only the extent to which it happens, but also the complete lack of a platform from which the free market can be defended. With the analysis at hand, we can now see why the free market and the borders between public and private is treated by the CPC in a far more relaxed way – or, in a Western perspective, disrespectful way.

First of all, we have seen how a mix of different ownerships was made into explicated strategy by the CPC. This opened up for a far more pragmatic handling of the border between public and private in China. Secondly, we have seen how the market logic was introduced without any (positive) reference to individualistic moral values as we find it in Western countries. It was recognized that the market economy could lead to individualism, but it was seen as a threat against its existence, not as a part of its foundation. Instead, collective (moral) values were emphasized as the ideal. To explain this, one could point to both the impact of Marxist collectivism and Confucian philosophy on the Chinese society. The root causes aside, the consequence is that the market economy in China is not protected by an individual right to trade freely.

These two aspects also have to be understood in relation to the evolving legitimization of the market logic from December 1978 and until today. We have seen how a whole

new economic regime was pushed through, and how the market was introduced as a way to develop the productive forces. The legitimacy of the market therefore rests on its ability to create growth. It is, however, crucial to note that it is economic growth for China – as a state - not for the Chinese as individuals.

This particular way of legitimization means, that if the market does not deliver (high) growth there is no principle or moral issues that blocks CPC's (state) interference. One could even take this reasoning a step further, in the way that the constant demand for further growth seems to oblige the CPC to move, manipulate, or cross the border between public and private if necessary. The market is a mean to an end – a strong China – not an end in itself.

It is also through this particular legitimization that the border between the bureaucratic state logic and the market logic is constituted. A border, which we can now describe as very malleable. With a neoinstitutional theoretical perspective such a malleable border between two logics would normally be regarded as a source of potential conflict. But Friedland and Alford also stress that in any institutional arena, the scope of politics is depending on the structure of society (Friedland, Alford 1991: 245). In this particular case, the authoritarian rule by the CPC obviously dictates the scope of conflicts. It is therefore in China's specific historical context that we find an explanation to the oscillation of the market logic: On the one hand a massive expansion of the use of the market logic, and yet, on the other hand, recurrent yields for the bureaucratic state logic.

Article 2:

The Making of a New Institutional Logic: From Sustainable Development to the Emerging Field of Renewable Energy in China

Introduction

How does an organizational field emerge? This basic question has not been adequately answered in the neoinstitutional literature even though “organizational field” remains one of the key concepts of the theory. The question of field emergence pertains to a number of important problematiques in the neoinstitutional literature, i.e. the very definition of fields (DiMaggio, Powell 1991: 64-65, Scott 2008: 86) and the persistence of institutions and the sources of institutional change (Seo, Creed 2002, Holm 1995).

In this article the specific taken on this issue of field emergence will be related to the concept of institutional logics as developed by Friedland and Alford (Friedland, Alford 1991). Institutional logics are defined as “a set of material practices and symbolic constructions which constitutes its organizing principles and which is available to organizations and individuals to elaborate” (Friedland, Alford 1991: 248). Accordingly, the concept points to quite comprehensive cultural-cognitive frames (Scott 2008: 186).

Within the neoinstitutional literature it has become an established fact that institutional logics and organizational fields co-evolve (Inoue, Drori 2006, Montgomery, Oliver 2009, Oliver, Montgomery 2008). It is therefore possible to redirect the above question and instead look at how a new institutional logic comes about, and how that relates to the emergence of a new field.

As with organizational fields, however, there is very little literature on the emergence of logics. Instead the focus has been on how existing logics either become outcompeted or have to coexist alongside a new incoming (mostly market) logic (Thornton, Ocasio 1999, O'Brien, Slack 2004); how two seemingly competing logics are transgressed (Westenholz 2009) or managed through the development of collaborative relationships (Reay, Hinings 2009).

A way to address the issue of how institutional logics come into existence is through a revisit to the now classic discussion of institutional change. The latest attempt to overcome the neoinstitutional theoretical problem of explaining institutional change (and the bias towards static institutions) can be found in Discursive Institutionalism promoted by Vivien A. Schmidt (Schmidt 2008). With Discursive Institutionalism (DI) we have an attempt to deal with the intricate relation between discourse and institutions, which is one way to approach the mentioned “emergence” problematique. Thus, DI provides an avenue for analyzing the pre-institutionalization phase before any sedimentation of practices has happened (Scott 2008: 127).

The particular case for this inquiry into the emergence of fields is the making of the “sustainable development” logic and how that logic prepares the ground for the later institutionalization of the emerging field of renewable energy in China. The idea of “sustainable development” entered the Chinese political discourse in the years after China’s official participation in the United Nations Conference on Environment and Development conveyed in 1992. In the following years “sustainable development” (as an idea) was further developed and, more importantly in terms of impact, connected to a number of other ideas about China’s development strategy. This all happened in the official discourse of the Chinese Communist Party, and it basically prepared the ground for a massive effort within renewable energy. This to an extent, where China as a nation in 2009 has emerged as the biggest investor in renewable energy in the world only three years after issuing its first law on renewable energy. This remarkable development has caught worldwide attention because of its global implications with respect climate issues. Likewise, it has had an immense impact on the business strategies of the world’s leading companies within renewable energy. Success at the Chinese market for renewable energy is now a must for a company aspiring to be a world leader in its field. This, however, is complicated by the fact that the Chinese

state has monopolized energy production and holds an all dominant position in shaping the emerging field through industry specific subsidies (Fligstein 1991: 314).

This article tries to explain this shift towards sustainable development and renewable energy by scrutinizing two processes: The shift at the *discursive* level and the subsequent *institutionalisation*. It will show how the Party-state in China combines a set of ideas, which establishes an institutional logic of sustainable development, and how the institutionalization of the logic co-evolves with the institutionalization of renewable energy as an organizational field.

In doing so, this article advance the DI agenda by showing how neoinstitutional theory can enhance its explanatory power by adding an analytical level that can grasp the dynamics of discourses and ideas. Secondly, this article adds to our understanding of field emergence, which is not only of theoretical importance, but also a necessary step when trying to understand the institutional underpinnings of the world's largest market for renewable energy and the particular mechanisms of policy-making at play when the Chinese Party-state changes tracks.

The article is structured in the following way. First, the theoretical apparatus is presented focussing on the co-evolution of organizational fields and institutional logics as well as discursive institutionalism. Second, the notion of sustainability and the particular combination of ideas surrounding it will be analysed. Third, the processes of institutionalizations of the sustainable development logic and the wider institutionalization of renewable energy as an organizational field will be discussed. Fourth, some concluding remarks are offered.

Theoretical framework

The concept of *fields* or *organisation fields* has become a key concept within neoinstitutional theory (Scott 2008: 181). Since DiMaggio and Powell introduced the concept in 1983 it has proven its usefulness as an analytical tool or framework through numerous studies within the neoinstitutional literature. Strangely enough, not much research or theoretical development has been done on the issue of emerging fields (DiMaggio 1991).

When DiMaggio and Powell defined an organizational field they stressed the broad array of organizations that constituted a recognized area of institutional life, like key suppliers, consumers, regulatory agencies, as well as other organizations in the same line of business (DiMaggio, Powell 1991: 64-65). Judging from the wording alone, this extremely influential definition seems to assume that fields emerge around markets or technologies. However, a few studies divert from this mainstream understanding of field emergence. Andrew Hoffman, for instance, addresses the issue directly when he argues that fields emerge around issue areas or disputes (Hoffman 1999: 352). In this way it is the issue that defines what the field is. This line of reasoning was based on empirical research on how the U.S. chemical and petroleum industries confronted corporate environmentalism. Building on this, Dingwerth and Pattberg shows how an organizational field of transnational rule-making developed around the issue area of sustainability politics (Dingwerth, Pattberg 2009). Another study within the neoinstitutional literature (though drawing on ritual theory) is Anand and Jones' analysis of how award ceremonies - in this case Grammy awards - are an important mechanism for shaping the organizational field of commercial music (Anand, Jones

2008).⁵ They generalize their findings by stipulating the role of rituals as shapers of field evolution (Anand, Jones 2008: 77).⁶ Though being few in number and limited in scope, these studies are the first to widen up the agenda and actually address the issue of how fields emerge.

Nevertheless, in order to construct a more comprehensive theoretical framework on the issue of emergence Scott's later definition of a field can provide a starting point. He defined fields as: "A community of organizations that partakes of a common meaning system and whose participants interact more frequently and faithfully with one another than with actors outside of the field" (Scott 2008: 86). With this definition we see an attempt to define a group of organization on the basis of their subscription to the same "meaning system" (which in turn makes it a community) as well as their frequent interaction. This definition *therefore* point to the "meaning system" as a very central part in the overall delimitation and distinctiveness of the field. As we shall see below, this shift in emphasis was based on a growing number of studies on the role of institutional logics in organizational fields. The first to do so were Friedland and Alford who defined institutional logics as: "a set of material practices and symbolic constructions which constitutes its organizing principles and which is available to organizations and individuals to elaborate" (Friedland, Alford 1991: 248). This comprehensive definition made a particular set of institutional logics a main

⁵ The mechanisms that they found to be contributing to the evolution of the field were: 1) the situated performance that contributes to the distribution of prestige within a field; 2) the collective attention of interacting actors; 3) the surfacing and resolution of ongoing conflicts among constituents; and 4) the horizontal patterning of dynamic interlocks among institutional actors.

⁶ Another attempt to address the issue of emerging fields can be found in Koene (2006) who evaluates and writes up propositions for further research on the issue of institutional entrepreneurship and the emergence of the field of temporary work agency industry in five countries (Koene 2006). Through comparisons it is illustrated that the institutional context (the level of pressure for field emergence; societal confidence; and power of the emerging industry) influences the institutionalization of the field.

characteristic of organizational fields (Scott 2008: 186-187). In fact, as shown in a number of studies, a field and its logics co-evolve. Inoue and Drori, for instance, describe the emergence and evolution of the global health care field by looking at the founding of health related international organizations, but does not specify the mechanisms or drivers of the institutionalization of the field (Inoue, Drori 2006). They do, however, show how the shift between four different discursive frames or institutional logics as they also call them, have changed the approach to international health. The premise of this analysis is the co-evolution of institutional logics and the field. The same goes for Oliver and Montgomery, who analyses the emergence of the Jewish legal profession within the “legal enterprise” organizational field in pre-Israel, and points to field-configuring events as a locus for sense-making with potential to facilitate changes in the institutional logics of a field (Oliver, Montgomery 2008). The co-evolution between field and logic is also the focus in another study by the same authors on the “scientific research” field (Montgomery, Oliver 2009). Here, they show how changes in the logic come about as new issues arise in the form of jolts (like research fraud) or a more gradual awareness of concerns which are incompatible with the existing institutional logic.

Based on these studies of co-evolution as well as Scott’s emphasis on meaning systems in his definition of fields, the issue of how a field emerge can now be rephrased into how a logic emerge? This rephrasing, however, does not solve the overall issue of explaining emergence (as no studies so far have targeted the emergence of institutional logics). In that respect, the issue of emergence seems to pertain to the well-known problems of explaining institutional change in the neoinstitutional literature though on a slightly more fundamental level. Nonetheless, a new and promising take on this problematique can be found in Discursive Institutionalism as proposed by Schmidt (2008). Here, we find a theorization of the role of ideas and discourse and how they

influence institutions. Thus, Discursive Institutionalism's focus on discourse represents a novel way of addressing the issue of how a logic emerges.

Ideas, institutional change and discourse

With Discursive Institutionalism (DI) Schmidt attempts to group existing studies within the three branches of neoinstitutionalism (rational choice, historical, and sociological institutionalism) that take serious the role of ideas with regards to institutional change.⁷ However, in doing so Schmidt also radicalizes some of these insights and writes them into a new theory building - DI - a fourth neoinstitutionalism (Schmidt 2008).

Within neoinstitutional theory ideas are understood as both constraining and enabling institutional change (Campbell 2004: 116). What is meant by ideas is, however, often unclear. With DI ideas are understood as the substantive content of discourse. Moreover, with discourse as an analytical level the causal chain than run from idea (to policy) to institutionalization are explicated to a far greater extent than in the other neoinstitutional traditions. Exactly here lies Schmidt's most important contribution to the neoinstitutional literature, because by introducing the concept of "logic of communication", we, for the first time, have a theorization of an analytical level at which we find some of the causes of institutional change.

An important part of DI's conceptualization of ideas has to do with how it they are differentiated and operationalized. Schmidt differentiates between ideas as policies,

⁷ The notion of discourse has in recent years been applied in a number of studies within the neoinstitutional literature. For instance the branch within Sociological Institutionalism that focuses on institutional entrepreneurship has shown how the use of discursive strategies becomes one of the key features of entrepreneurship (Fligstein 1997, Fligstein 2001a, Suddaby, Greenwood 2005, Creed, Scully & Austin 2002, Munir, Phillips 2005, Maguire, Hardy 2006, Greenwood, Hinings & Suddaby 2002). However, Schmidt's attempt to encompass discourses in a neoinstitutional is so far the most thorough in terms of theorization.

who are concrete and specific (solutions); programs, which underpin policies by defining problems, framing issues and outlining goals and means to get there; and philosophies, the deeper values, organizing principles, and knowledge of society that underpin both policies and programs (Schmidt 2008: 306). Whereas policies and programs tend to figure in the foreground of debates, philosophies reside in the background if they are not contested. A second differentiation has to do with the type of idea: 1) cognitive, that speaks about causality, recipes for action, and which constrains actions by limiting the perception of useful alternatives. And 2) normative, the values that ideas speak to, which constrains agency by limiting the range of legitimate and acceptable alternatives (Campbell 1998: 385). These differentiations enable a discussion about causality and the success of ideas (Schmidt 2008: 309). And when applied within a discursive framework as outlined below, it becomes possible to discuss agency and institutional context as a part of the analysis.

With discourse as a distinct analytical level it is emphasized that ideas are never invoked or introduced in a vacuum. In discourses the preconditions for rationality are established through a positioning of categories and the establishment of differences between cause and effect, before and after, here and there, etc. (Pedersen 1995: 17). Ideas are always introduced in a discourse and they are thereby elements in power relations, in the sense that all discourses represent a small universe of a *particular* kind of reason. In this case, we are talking about how ideas are positioned in the Communist Party discourse, which, due to the one party rule and the suppression of dissenting voices, is close to equivalent to *the* political discourse in China.

The specific DI operationalization of discourse as an analytical level is as mentioned through the concept of “logic of communication”. This concept highlights DI’s understanding of discourse as an interactive process encompassing both structure and agency. It therefore matters who says what and to whom (agency), and where and when it is done (the institutional context, structure) (Schmidt 2008: 306). It is in the

specific institutional context of a given discourse that the “rules of the game” for agency is defined. This issue will therefore be discussed in the next section.

Communication in the Chinese Party-state discourse

What will be presented below is the specific “logic of communication” that enables and constrains how ideas are articulated, conveyed, debated and worked with in the Chinese Party-state.

The first aspect relates to policy formulation in China. In an analysis of the power of formalized political vocabulary in China Schoenhals (1992) states: “Language formalization - as a form of power managed and manipulated by the state - thus has a bearing upon all aspects of Chinese politics. The subject of the use and abuse of formulations is subject to constant strategic deliberation at the highest levels of the CCP. In some cases the process of policy making is indistinguishable from the process of policy formulation” (Schoenhals 1992: 3). This extreme sensitivity with regards to wording seems to be a distinctive feature of Chinese politics. It is, however, not a recent phenomenon. Mao, for instance, was very explicit about this: ”One single [correct] formulation, and the whole nation will flourish; one single [incorrect] formulation, and the whole nation will decline” (1963).⁸ Though the quote underlines the importance of taking this feature into consideration it doesn't explain why this formulation process (or language formalization) is essential to the Party-state. An answer to this question can be found in White (1993), who argues that Communist regimes are ideocratic: “They rely on an explicit and systematized ideology which functions to legitimize the regime, justify the Party’s monopoly on power and guide the actions of the political elite” (White 1993: 148). In White's words, this

⁸ Quoted in Schoenhals 1992: 3.

systematized and explicit ideology thus has to do with the legitimization and - ultimately - the survival of the political system.⁹ Again we see that the processes of legitimization in China are vastly different from what we would find in the Western world. Furthermore, the weight that the Chinese political system puts on policy *formulation* is a feature that stresses the importance of looking at developments in the Communist Party's discourse. Especially - as this article will argue - when the Party-state is combining ideas in a way that has had a huge impact on the Chinese society.

The second aspect relates to the specificities of China's political system. Here, one of the main features is the degree to which the Communist Party of China and the state have been intertwined (Guo 2001: 301). This has been one of the defining characteristics of all communist societies, but it has nonetheless been the object of serious deliberations in the Communist Party of China (Shambaugh 2008: 56).¹⁰ However, in practice we can observe that that in most instances state and Party presents themselves rather uniformly – hence the term Party-state.

With an authoritarian Party-state as the institutional setting the conditions for broad-based societal legitimacy is as mentioned different from Western countries. Legitimacy issues are handled within an explicit ideology negotiated amongst the central decision makers in the Party-State. The Party-state discourse therefore becomes a top-down master discourse in which China's socio-economic past, present and future is laid out (Schmidt 2008: 311). All disagreements are settled, suppressed or hidden before any documents of importance are released. The master discourse in China can therefore be

⁹ Whether this feature originates from the fact that China is an authoritarian country (with a recent totalitarian past), that it is ruled by a Communist Party with a Marxist-Leninist ideological starting point or whether it stems from more traditional Chinese cultural traits, like Confucianism, is beyond the scope of this article.

¹⁰ Especially in the late 1980s where initial attempts to separate state from Party were introduced. However, all initiatives were shelved after the Tiananmen Square incident/massacre in 1989.

seen to represent the changing power equilibriums amongst elite fractions struggling for power. This power struggle should, however, be viewed in its right perspective in the sense that the current leadership (Hu Jintao and Wen Jiabao) seems more consensus oriented and relying on coalitions (Shambaugh 2008: 157).

Moreover, in this particular Chinese institutional setting we see a blurring of the distinction between coordinative and communicative discourses that we find in the literature (Schmidt 2008: 310). Coordinative discourses normally refer to the policy sphere where agents at the policy centre coordinate, elaborate and create policies and programs. Communicative discourses, on the other hand, relates to the political sphere where ideas generated in the coordinative discourse are presented and discussed. But in China these distinctions are somewhat misleading. First, the communicative discourse does not include any dissenting voices due to the fact that the dynamics of policy (and regime) legitimization are organized differently in China (as argued above). And second, the coordinative discourse is only shared by the absolute top of the Party-state, as well as expert groups who are called in on an ad-hoc basis to assist in the policy creation. Again, this relates to the authoritarian system in which a more or less public coordinating discourse is viewed as a threat because disagreements in the Party become a potential source to social unrest. This was one of the lessons learnt from the Tiananmen Square demonstrations in 1989 in the way that overt disagreements in the Party prolonged and even encouraged the demonstrations (Shambaugh 2008: 42).

This has consequences for how we should understand the Party-state discourse. On the one hand the discourse is about communication and legitimacy, but, on the other hand, because coordination with the broader elite is still needed, the audience more resembles what we in western countries would define as the agents in the coordinative discourse, i.e. politicians (the 70 million Party members), civil servants (cadres), experts and organised (state sanctioned) interest. It therefore makes most sense to see

the Party-state discourse as a communicative discourse but with strong coordinating features.

To sum up, the “logic of communication” of the Party-state discourse is characterised by 1) a formalized language as part of a systematized ideology that works to legitimize the one-party rule, and 2) by being a master discourse of the political elite with both communicative and coordinative features.

Method, data and limitations

To study the emergence of an organizational field requires a dynamic approach and a basic shift in focus from institutions to institutionalization. The shift to verb form means that attention is directed to how institutions come into existence and how they are constantly reproduced (Scott 2008: 190). In order to grasp these dynamics a longitudinal historical analysis is applied, with the aim of examining how ideas in the form of policies, laws, or more “ideological” statements in Party speeches are formulated, linked, and changed.

In the first phase of the research a range of reports, company presentations, and government statements within the spheres of renewable energy, energy security, climate change, and energy and environment were read in order to establish a basic understanding of the ongoing discussions, problems and understandings. In this process the notion of sustainability kept surfacing, also in somewhat counter intuitive connections, like when sustainability was mentioned as the only explanation for issuing the Renewable Energy Law in 2006 (see below). Going back and forth in time and especially by re-reading Party speeches from the yearly Central Party Committee congresses made it evident, that sustainable development was the point of rotation for renewable energy (and much more as we shall see). Furthermore, the focus on sustainable development also dictated the overall time frame of the study. Accordingly,

the analysis deals with data from the beginning of the 1990s when sustainable development was first introduced, and up till today.

The sources of data are Party speeches, white papers, laws and regulations. A list of the most important document that were analysed can be found in figure 1 at the end of the analysis. All sources are used in their officially translated and sanctioned versions provided by Party, state or through various Party mouthpieces, like Beijing Foreign Language Press, Xinhua news agency and People's Daily. These entities are for instance regulated through lists of appropriate formulations. This continuous control is executed by a number of organizational entities within the Party-state, like China's Communist Party's Central Propaganda Department, New China News Agency (NCNA) and even the Propaganda Department of the People's Liberation Army (PLA) General Political Department (Schoenhals 1992: 3). That they are officially sanctioned translations and publications is an important point in itself, because it signals that the documents are written into and confined by the Party-state master discourse, which is exactly the object of study. Drawing on experience from other studies (Christensen 2008) which required reading through numerous of these Party documents, made it easier to understand this particular genre, and to assess the importance of concepts, for instance by how they were related to each other.

The choice of case has several consequences for the prospect of generalizing the insights. First of all, the Chinese state plays a major role in shaping the logic and subsequently institutionalization of the field which means that top-down processes are brought to the fore. To the neoinstitutional literature this is not necessarily a new thing in the sense that a privileged role has often been ascribed to the state in terms of influence or dominance of organizational fields (Fligstein 1991: 314). However, this general insight seems to be radicalized if we related it to the authoritarian system in China. Here, though broad-based societal legitimacy is important also in authoritarian China (Shambaugh 2008: 7), the Party-state is not challenged in any direct way in the

short run. In the western world, which is where the neoinstitutional literature takes its starting point, the institutionalization of organizational fields is a much more open-ended and democratically governed process even if the state sometimes holds a privileged position. This means that in the Western world there are agents involved in the process that are not present in China or at least play a very different role. It therefore becomes a more complex and uncontrollable institutional setting than what we find in China, where media are controlled, NGO's tend to be government organized (GONGO's), no organized opposition exists, dissident voices are quelled, and where no interest organization exist outside the control of the Party. Consequently, this case only enables generalizations to countries with authoritarian political systems.

Analysis: Sustainable development in China

In 1992 the United Nations Conference on Environment and Development was convened. The Chinese government not only participated but also committed itself to implement the conference resolutions. Subsequently the State Planning Commission and the State Science and Technology Commission was asked to take the lead in formulating "China's Agenda 21 - Whitepaper on China's Population, Environment and Development in the 21st Century". A leading group co-chaired by vice-ministers from the two commissions was formed under the guidance of the Environmental Committee. This leading group guided the formulation of China's Agenda 21 and organized a major working group comprising 52 ministries and agencies as well as 300 experts.¹¹ Thus, in March 1994, two years after the UN conference, China's Agenda 21 was

¹¹ See the preamble of "China's Agenda 21 - Whitepaper on China's Population, Environment and Development in the 21st Century".

published. This document has repeatedly been said to mark the beginning of China's efforts within sustainable development.¹²

China's Agenda 21 is a comprehensive publication dealing with various issues under the headline of sustainability. It takes its starting point in the social and economic problems caused by the expansion of population, excessive consumption of resources, and environmental problems, like pollution and reduced biodiversity. It aims at finding a new path for a sustainable development in which population, economy, society, natural resources, and environment are considered as a whole.¹³ The fact that China's first take on sustainability was based on such a broad platform is important to keep in mind. From the outset sustainability in China was framed as much more than energy and environmental issues.

To be sure, energy and environment were important aspects of this first introduction of the notion of sustainability. For instance, it was actually the first time that renewable energy was mentioned in the official Chinese political discourse. Out of twenty chapters one (chapter thirteen) dealt with "Sustainable Energy Production and Consumption" of which the last part (out of four) was devoted to renewable energy. Renewable energy was framed as a solution to the increasing problems related to the coal-based energy structure that China was (and still is) locked in. Accordingly, it was the environmental pressure caused by air pollution as well as the problems related to the transportation of coal from Western to Eastern China that renewable energy was projected to remedy. It is therefore interesting to note, that with the introduction of renewable energy we saw an increasingly interlinked relationship between energy and

¹² See for instance "Program of Action for Sustainable Development in the Early 21st Century".

¹³ Again, see the preamble of "China's Agenda 21 - Whitepaper on China's Population, Environment and Development in the 21st Century".

environment in China. It is also in these pages that we find the first call for an adoption of appropriate economic incentives and market mechanisms aimed at developing renewable energy resources.

The international influence on China's first take on sustainability seems obvious as "China's Agenda 21" was a follow up on a UN initiative. For this article, however, a proper investigation of the "originality" of the idea of sustainability is outside the scope of the analysis. Instead, emphasis is put on the fact that "China's Agenda 21" was the first attempt by the Party-state in a *Chinese political context* to design new policies within a comprehensive framework of sustainability. We thus saw the contours of what we could categorize as a programmatic idea of the cognitive type, in the way that it frames certain problems, points to cause-and-effect relationships and recipes for action (Schmidt 2008: 306, Campbell 1998: 385).

Below I will show how sustainable development becomes intertwined with a number of other important ideas about China's development and how it was actively positioned in the Party-state master discourse. The first idea relates to the initiation of a new economic mode.

A new economic mode

Up through the 1990s there is a growing understanding in the Chinese leadership of the limits to China's economic growth model based on abundant labour resources, high energy and resource consumption, manufacturing at the lower end of the value scale, and a big inflow of foreign direct investments. The President then in office, Jiang Zemin, stated: "...it is imperative to change ideas about development, and achieve the shift from an extensive economic growth model to an intensive economic growth model" (Jiang 1995: 8). The change in economic mode resembles a programmatic idea in the way it frames an issue by outlining economic efficiency, improving the quality of labourers, and a stronger focus on science and technology as the means to realize the shift.

A solution to realizing the proposed shift in the economic growth model was also offered when China in 1996 adopted “sustainable development” and "Invigorating China through science and education" as the two principles that would work as national guidelines for development. The two principles were to take China to the next step of its economic development. Consequently, both principles (ideas) were from the outset embedded in economic thinking as the main drivers to realize the shift in economic mode. This was the first attempt to link "sustainable development" to the idea of a shift in the economic mode.

With "sustainable development" proclaimed a national guideline we saw an extremely important endorsement from the very top of the Party. “Sustainable development” was introduced into the formalized Party vocabulary and it became a strategy that has been mentioned repeatedly ever since in basically all state documents written about energy and environment (See figure 1 below for a list of documents).

The new millennium

The year 2000 was an important milestone in the great national tale of China's development. The first chapter of this modernization project was launched in December 1978 and it was characterized by Deng's announcement to "let some get rich first". At that time the goal was a quadrupling of China's gross domestic product (GDP) by 2000.¹⁴ However, as a very concrete example of China's economic success, the 2000 goal was reached already in 1992. In 1995 Jiang Zemin therefore stated that "We should continue to adhere to the policy of encouraging some people to get rich first, and finally achieving common prosperity" (Jiang 1995: 12). At that point it was unclear what kind of policies Jiang had envisioned in order to realize the last part of

¹⁴ This goal is also mentioned in the preamble of "China's Agenda 21 - Whitepaper on China's Population, Environment and Development in the 21st Century".

the sentence: "...achieving common prosperity". Still, the new millennium signalled that the first phase was coming to an end and that China was entering a new phase in its development.

The understanding of the need to change the economic development mode was shared and further substantiated by a new CPC leadership. In 2002, at the 16th National Congress of the Communist Party of China Hu Jintao and Wen Jiabao took office. At the same congress a new goal was set: By 2020 China should quadruple its GDP (compared to year 2000) and "build a well-off society in an all-round way". With this target it was proclaimed that growth had to benefit a much bigger proportion of the Chinese people - not just those who got rich first. Thus the second phase of China's development was launched with a clear economic target.

In the new millennium the idea of "sustainable development" continued to be understood in its initial comprehensive version. In the "Program of Action for Sustainable Development in China in the Early 21st Century", which was presented in January 2003 as the official follow up on China's Agenda 21, capacity building for sustainable development was addressed under the headlines of population issues, economic restructuring, efficiency in utilization of resources, ecological improvements, and environmental protection. It is also interesting to note that the national guideline of "invigorating China through science and education" is mentioned, which gives evidence of the great weight put on a certain kind of sustainable development that also brings China forward with regards to developing new technologies. As we shall see below this special take on development was further emphasized by the idea of "independent innovations".

The Scientific Outlook on Development

Already in 2003 at the third plenary session of the 16th party congress President Hu Jintao introduced a "Scientific Outlook on Development" which called for a more comprehensive, balanced and sustainable development. At the 17th Party Congress in

2007, these ideas were enshrined in the Party doctrines under the same label.¹⁵ This new party doctrine pointed to “sustainable development” and "rejuvenating the nation through science and education" as two of the main strategies to secure a sound and balanced development.¹⁶ Looking at the longer term economic, social and environmental consequences basically required a more sustainable approach in terms of resource consumption, but also in terms of what type of industrial production the government was promoting. An industrial upgrading was called for with an increased reliance on advances in science and technology.¹⁷

The "Scientific outlook on Development" can be seen as the substantiation of the milestones of the second phase in the national tale. Hence, it is linked to the efforts of creating a "well-of society". In the "Scientific outlook on Development" the two national guidelines for development, "Invigorating China through science and education" and “sustainable development”, becomes increasingly intertwined as a new way of thinking development in China. Thus, the "Scientific outlook on Development" carries the features of a programmatic idea by defining recipes for action. Its importance in this regard is evidenced by the fact that the Party School of the CPC Central Committee is actively engaged in teaching senior officials in how to understand the "Scientific Outlook on Development"(Shambaugh 2008: 144).¹⁸ It is in

¹⁵ "Hu Jintao's Report: 'Scientific development' Part of Chinese Socialism", October 15, 2007, Xinhua (World News Connection).

¹⁶ Hu Jintao's report at the 17th Party Congress. Chapter III. Thoroughly Applying the Scientific Outlook on Development.

¹⁷ Hu Jintao's report at the 17th Party Congress. Chapter V. Promoting Sound and Rapid Development of the National Economy.

¹⁸ This was also confirmed by Han Bao Jiang, Deputy Director of the Economic Department of the Party School of the CPC Central Committee in a presentation at the Copenhagen Business School, 2 October 2008.

other words a program that calls for a new approach, points to a new orientation of policies, and requires action.

We can also see how the "Scientific Outlook on Development" is actively positioned within the established Party doctrines. In the very beginning of the document we can, for instance, find a references to "socialist modernization" when it was enshrined in the Party doctrines in 2007.¹⁹ This has great influence on the legitimacy of the "Scientific Outlook on Development" as an idea. The reason for this has to do with Deng Xiaoping's modernization project (or socialist modernization as it was termed). This particular project was launched in December 1978 when Deng had resumed power, and it marked a completely new take on the relationship between economy and politics. Economic efficiency was prioritized over politics and all obstacles - ideological and administrative - that stood in the way of growth had to be removed.²⁰ The socialist modernization project can be seen as the founding philosophy for the post 1978 Communist Party of China (Christensen 2008). To illustrate this, one could point to the facts that both the doctrines of "opening up and reform" as well as the new ideological inventions of "socialism with Chinese Characteristics" and later on in 1992 even the "socialist market economy" were launched (the first two by Deng) under the umbrella of "socialist modernization" (Christensen 2008). Thus, these immensely important and defining doctrines in Chinese politics were all based in Deng's socialist modernisation project. In Schmidt's terminology this project has acquired the status of a *philosophy* in the way that it resides in the background of debates and influence policy makers by constituting the cognitive constraints, and defining and delineating the Party-state

¹⁹ See Hu Jintao's report at the 17th Party Congress.

²⁰ This socialist modernization project was therefore the first and most important example of what became known as Deng's pragmatism.

discourse (Schmidt 2008: 306-307). Now, when the “Scientific Outlook on Development” was positioned as a new take on Deng’s modernization project it had consequences for the legitimacy being ascribed to it. Keeping in mind the “logic of communication”, we know that acquiring this status was negotiated at the highest level of the Party, and it therefore also elevates underlying programs, like sustainable development, in terms of legitimacy and policy relevance (Schoenhals 1992: 3).

Another key feature of the "Scientific Outlook on Development" is Hu Jintao's concept of "Harmonious Society". This concept was added to the "Scientific Outlook on Development" in 2004 at the fourth plenary session of the 16th party congress. "Harmonious Society" envisions a (well-off) society characterised by "...democracy, the rule of law, fairness, justice, sincerity, trustworthiness, amity, full vitality, stability, orderliness, and harmony between mankind and nature."²¹ The notion of "harmony" is obviously intended to strike a chord in a Chinese society with strong Confucian traditions (Bell 2008: 9). In this sense, the "Scientific Outlook on Development" (through the concept of "Harmonious Society") is aligned with some of the more normative philosophies in the Chinese populace (Schmidt 2008: 307). This is what Campbell calls the dominant *public sentiments*, the normative assumptions and attitudes held by larger segments of the public (Campbell 1998: 392-394).

Independent innovations

Another idea with clear reference to science and technology and with notable influence on the promotion of sustainable development was the concept of "independent innovations". Since the latter half of 2004 the Chinese leadership has repeatedly promoted this concept as a way for China to climb up the global value chain. In the

²¹ "Hu Jintao Addresses Opening Session of Seminar on Building Harmonious Society", Xinhua Domestic Service, February 20, 2005, FBIS Translated Text.

“Report on the Work of the Government” delivered by Premier Wen Jiabao at the fifth session of the tenth National People’s Congress (March 2007) the phrase “independent innovations” is mentioned as much as ten times in the 34 page long speech.²² In “The Outline of the National Program for Long- and Medium-Term Scientific and Technological Development (2006-2020)” (hereafter referred to as MLP) the ambitious strategies for increasing China’s independent innovation capability are outlined.²³ The measures to be implemented include: improving market environment for technological innovations, implementing policies related to financing, taxing, banking, and government procurement, and absorbing advanced technologies from abroad. The document also identifies energy and environment as key areas for scientific and technological development.²⁴

The rationale inherent in the “Independent innovation” doctrine is an acknowledgement of the need for China to develop its own technological innovations and reduce its dependency on Western technology. For instance, the Party-state seems to regard the ownership of core technologies as a zero-sum game between nations. This understanding runs through the MLP in the way core technologies are mentioned. It states: "Experience shows us that we cannot buy true core technologies in the key fields that affect the lifeblood of the national economy and national security." The rationale is that nations do not trade core technologies. The only way to become the owner of core technologies is therefore to develop them nationally. This understanding

²² “Report on the Work of the Government”, Premier Wen Jiabao at the fifth session of the tenth National People’s Congress (March 2007).

²³ “The Outline of the National Program for Long- and Medium-Term Scientific and Technological Development (2006-2020)” took more than two years to formulate and it outlines the ambitious strategies for increasing China’s independent innovation capability.

²⁴ “China’s Scientific and Technological Actions On Climate Change Introductory Information”, published by Ministry of Science and Technology of P. R. China, June 14, 2007.

therefore legitimizes a strong government hand in the allocation of resources to various types of research.

The attempt to climb up the value chain is viewed as a necessity, if China is to stay competitive in the longer run, but it also resembles a tendency to “techno-nationalism” where becoming a “science nation” is part of China’s re-emergence as a strong nation. The idea of "Independent innovations" is obviously programmatic in the way it provides policy recipes and presents new means and ends. What we also see is how "independent innovations" is framed as a way to revitalize China. It thus follows the same pattern as with "invigorating China through science and education" which was proclaimed a national guideline concomitant with “sustainable development” in 1996.

The above analysis has shown how a comprehensive programmatic idea of sustainability becomes elevated to a “national guideline of sustainable development”. Furthermore, from the late 1990s and in the new millennium it becomes connected to a new economic mode – a new understanding of China’s economic development trajectory. Under a new CPC leadership sustainable development is integrated with the new take on China’s development: the “Scientific outlook on Development”.

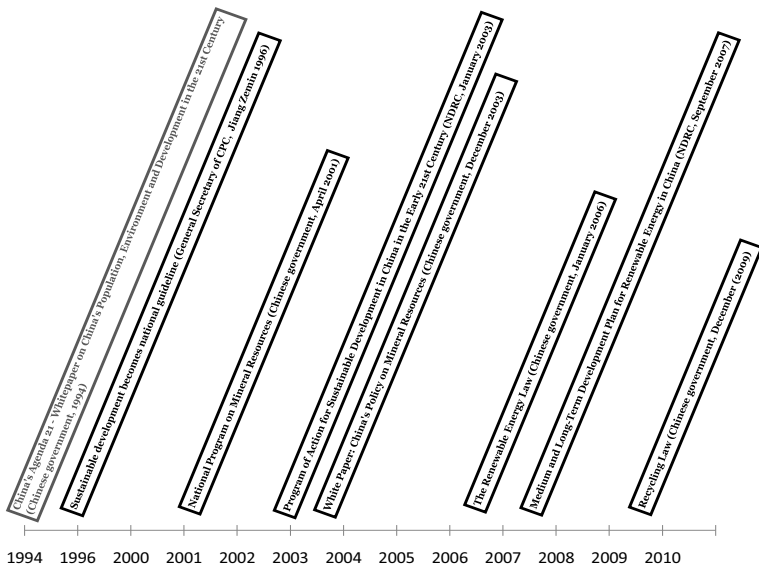
All through this entire process the main agent has been the absolute top of the Party elite. These people are all seated in the Politburo - the most powerful political organ in China consisting of 25 persons – and they are at the same time positioned in top posts in both the state and Party administration on central and provincial level. It is amongst this top of the Party elite that all major decisions in China are negotiated.²⁵

²⁵ An interesting twist to this elite aspect is the fact that the Politburo of the CPC has been crowded with engineers in the last decade (Brødsgaard, Christensen 2002). Thus, there is an interesting overlap between the term elite and profession, which means that the norms, values and beliefs shared and carried by engineers in China are extremely influential (Scott 2008: 99-101).

The fact that the Party-state discourse is a master discourse also means that it is only the very top of the Party, which could be said to have “access” to actually changing the discourse. Agency in this process, though still confined by the particular “logic of communication”, is characterised by a continuous integration and combination of new and existing ideas (Campbell 2004: 90-93).

Figure 1.

References to sustainable development in laws, white books and policy papers



Sustainable development as an institutional logic

What has been outlined above is how a web of ideas is actively linked to sustainable development. In the following it will be argued that this web of ideas has implications for how we should understand sustainability in China and that it represents a genuinely new logic.

Most importantly, sustainable development in China cannot be understood outside this particular combination of ideas. The combination of ideas seems to “lend” meaning to the notion of sustainable development by positioning it in the Party-state master discourse. It becomes, for instance, a certain kind of sustainable development that bases itself on scientific progress. As we shall see below, these links to other ideas also ensures its legitimacy and importance as a political platform.

John Campbell has, for instance, argued that it is the combination or the cumulative effect of ideas that often makes them influential (Campbell 1998: 398-400). Hence, the particular combination of ideas would play a role with regards to the impact of sustainable development in Chinese politics. It is in this respect significant that the combination relates sustainable development to Deng’s modernization project through the "Scientific outlook on Development". This means, that it is not only about sustainability per se - it is about continuing the founding project of modern China. Obviously, this is the strongest possible kind of legitimization within the particular kind of reason that the Party-state discourse represents.

Furthermore, with the “logic of communication” and Schoenhals (1992) in mind, it is evident that establishing such strong links must have been negotiated at the very top of the party. Consequently, these particular linkages send a very strong signal to the party cadres and the bureaucrats in the Party-state that they have to deliver on this agenda. And through the Party School system they would also receive training in how to understand these concepts (Shambaugh 2008: 144-147). Linking back again to the “logic of communication” this type of communication to the wider Party and state apparatus is exactly what we could expect to find in a Party-state discourse with the strong coordinative features.

The radical new understanding of economic and societal development that sustainable development entails, the way that it links to other ideas, and the way it is legitimized constitutes a very particular framework for reasoning. In this way, the active

combination of new and old ideas in the Party-state discourse has created something completely new, which is more than just a set of ideas with possible effect on policy. Instead, it has the features of an institutional logic that has not yet become deeply institutionalized.

These features relates to the sphere it deals with, the perspective it applies, the means it adopts, the principles it organizes by and the legitimacy it is based in (Friedland, Alford 1991, Dunn, Jones 2010: 114, Koch 2010). To be exact, sustainable development entails a comprehensive understanding of both social and economic problems. It points to the expansion of population, excessive consumption of resources, and environmental problems, like pollution and reduced biodiversity as the most pressing issues. It links population, economy, society, natural resources, and environment into a whole and shows a new path for a sustainable development. It applies a long(er) term and holistic perspective on development. It adopts economic incentives and market mechanisms as well as scientific progress and innovations as the means to go by. It organizes itself on the basic principle of lowering the impact of further economic development with respect to natural resources and human living conditions.

Sustainable development logic	
Scope/sphere	Population, economy, society, natural resources, and environment
Perspective	Holistic
Organizing principle	Low impact on natural resources and human living conditions
Means	Economic incentives, scientific progress, innovations
Legitimacy	Sustainability

The ongoing institutionalization of the institutional logic of sustainable development will be discussed below.

From the logic of sustainable development to the field of renewable energy: Indicators of institutionalization

How and where can we find indicators of a possible institutionalization of the sustainable development logic, and how does that enable the co-emergence of renewable energy as a new organizational field in China? What I want to argue is that most of the examples of institutionalization of the field of renewable energy in one way or another rely on the new sustainable development logic.

Looking at China's recent history suggests that renewable energy predates any policies on sustainable development. It is for instance a fact that large and small scale hydropower has been exploited with great success for a long time in China, and long before anybody talked about sustainability. However, since the very first initiatives in China with hydro power (in 1912) it has only been about *energy* (i.e. electricity production) and not about *renewable* energy. This analysis will therefore also show how a part of the energy production was transformed into renewable energy when it became embedded in a very different framework of understanding. Likewise, the presence of world leading solar (PV) companies in China can be attributed to the low production costs, not to the Chinese market for solar energy. The Chinese market is only about to take off, and so far 95 % of all solar panels have been exported to countries with high subsidies like Germany, Spain and Japan. These companies will, nevertheless, to an increasing extent become embedded in the emerging *Chinese* field of renewable energy.

Top-down indicators

The first set of indicators pertains to the top-down state led initiatives in the shape of rules and regulations. As noted, renewable energy was presented under the umbrella of sustainable development in China's Agenda 21. This was the very first attempt to direct some political attention to this area. Nevertheless, some of the most important documents when it comes to shaping the renewable energy market (through subsidies) were presented under the Hu – Wen leadership, which coincides with the final shaping of the sustainability logic.

In January 2003 the official follow up on China's Agenda 21 called "Program of Action for Sustainable Development in China in the Early 21st Century" which was published by the powerful National Development and Reform Commission (NDRC).²⁶ Subsequently, the "Renewable Energy Law" from 2006, "Medium and Long-Term Development Plan for Renewable Energy in China" from 2007 and "Recycling Law" from 2009 all refer to sustainable development (see figure 1 above).

For the renewable energy market the most direct impact comes from the Renewable Energy Law, which was finally promulgated in January 2006. It specifically refers to realizing "...sustainable development of the economy and society..." as the reason for issuing the law. What is more striking, however, is the fact that it is the *only* reference or explanation. There were, for instance, no references to climate issues or energy security. This underlines that China's take on renewable energy origins in a comprehensive approach to sustainability - it is not just an answer to new demands on the climate front or the energy security agenda. Furthermore, using sustainable

²⁶ It is interesting to note that in this document only wind, solar, and obviously hydro power, is mentioned, whereas biomass is not. Thus a type of renewable energy that was mentioned in China's Agenda 21 from 1994 is actually omitted from the official 2003 follow up document. The fact that biomass power generation today (2010) is a major business underlines exactly how emerging this field is in China.

development as the single explanation for the issuing of the law clearly shows that sustainable development at that point was no “empty” concept. It carried with it a much more comprehensive understanding.

In terms of contents this law commits energy authorities at both national and provincial levels to issue development and utilization plans for renewable energy and provide the financial support needed to develop the market. To the companies in or entering this business, this is basically the law that creates the renewable energy market in China.

The "Medium and Long-Term Development Plan for Renewable energy in China", which was published in September 2007 by the NDRC, is the national follow up on the Renewable Energy Law. It puts forth the principles and targets for renewable energy in China and it stipulates the policies and measures for how to get there. It also prioritizes certain forms of renewable energy with the greatest development potential, namely hydropower, biomass energy, wind energy, and solar energy. And it stipulates that by 2020 as much as 15 % of total energy production is projected to come from renewable sources - an 8 % increase from the 2005 baseline. This means that to reach the 2020 target wind energy will have to expand 2281 %, solar 2471 %, and biomass with 1400 % (with 2005 as the baseline).²⁷ The short but concise “preamble” states that the document has been formulated in order to: “...speed up the development of renewable energy, promote energy conservation and reduce pollutants, mitigate climate change, and better meet the requirements of sustainable social and economic development”. Three years later, in 2009, China emerged as the biggest investor in renewable energy in the world accounting for 40 % of the worlds production of solar panels, 30 % of the

²⁷ Source: National Development and Reform Commission

worlds wind power and 77 % of the worlds solar water heating capacity.²⁸ And for the Chinese market specifically the 2020 targets for both wind and solar power had been raised significantly.

With the launch of the “Renewable Energy Law” and the ”Medium and Long-Term Development Plan for Renewable Energy in China” it was specifically pointed out which kinds of energy production that were regarded as renewable. Furthermore, a range of initiatives were introduced, like tax breaks, new feed in tariffs, direct financial support, etc., which effectively differentiated “renewable” from traditional non renewable energy (see below). A new boundary was created with huge financial consequences. With the introduction of these regulative institutional aspects the amount of relevant information for actors in the field increases dramatically. Suddenly there were rules to be followed, subsidies to benefit from, etc. With this, the Party-state effectively enforced a mutual awareness amongst organisations (mostly firms) that they were involved in *renewable* energy. An interesting aspect of this process has to do with the “old players” in the energy business in China. For instance the organisations that had been involved in hydro power generation for decades, like the Yellow River Water & Hydropower Development Corporation. All of a sudden their business became *renewable* and they were thereby positioned in the very centre of a new field with different rules, regulations and a different (better) economic horizon in the sense that they were now renewable and sustainable, and hence to some extent unlocked from the former tight competition with the coal prize on electricity.

Making boundaries, increasing the information load and establishing a mutual awareness of being renewable represents clear examples of a growing

²⁸ “Renewables 2010 Global Status Report”

institutionalization of the organizational field (Scott 2008: 191). Again, the two key documents that initiated this institutionalization were both published after the sustainable development logic had taken shape and they both specifically refer to sustainable development as their source of legitimacy. Moreover, it is only within a sustainable development logic that it makes sense to subsidize these particular industries.

In terms of subsidies a petition on “China’s Policies Affecting Trade and Investments in Green Technology” provided by “The United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union” and presented before the Office of the United States Trade Representative can prove illustrative. Though being partisan in nature, the petition does point to a broad range of WTO-inconsistent policies and subsidies by the Chinese state that (allegedly) threatens the “green” industry in the US. It describes as much as 39 general policy measures and subsidies in support of renewable energy, like research grants, funding for demonstration projects, credit support, loan interest discount, land allocation, tax exemption or reduction, export tax rebates, etc., etc. And it lists 8 specific subsidies for wind, 4 for solar, and one specific subsidy for biomass. Taken together, it is these subsidies that create the Chinese market for renewable energy.

Furthermore, the state has monopolized energy production, which leaves the state with the power to define who they will “invite” into the field, for instance through the use of industry specific subsidies. The state therefore defines the rules of interaction and holds an all dominant position in shaping the emerging field (Fligstein 1991: 314). There are no organizations that are not in some way or another sanctioned by the state. So we see the emergence of sharply defined inter-organizational structures of domination, which again are an indicator of increasing institutionalization of the field (DiMaggio, Powell 1991: 65). But on what grounds does the state open up for interaction? We have to imagine a situation where the state actually decides to break

the normal pattern, and for instance invest in a windmill park instead of yet another coal fired power plant. Here, the legitimacy of the sustainable development logic plays a key role in the way it brings renewable energy on the agenda and makes it a possible and not least legitimate solution. It might even become an initiative that the decision makers in the state apparatus could see a personal interest in (in terms of promotion) or feel obliged to carry through due to its political importance.

“Bottom up” indicators

An evidence of bottom up indicators of institutionalization could be the emergence of renewable energy associations which perform (some kind of) interest advocacy, like CREIA (China Renewable Industries Energy Association) under CARCU (Comprehensive Resource Utilization Association), CNECC (China New Energy Chamber of Commerce), under All-China Federation of Industry and Commerce, CRES (China Renewable Energy Society) under China's Association for Science and Technology, and China Wind Energy Association. In China, these organizations would not exist without an official acceptance or endorsement, and in some instances they would even be a product of a direct government initiative. In theoretical terms this would make most of them resemble GONGO's – a contradiction in terms that stands for Government Organized Non-Governmental Organizations. Describing their business as a bottom up indicator is therefore to some extent misleading as this would have been more correct in a Western institutional setting, where they would also have been able to influence the logics of the field to a far greater extent (Galvin 2002: 673). Nonetheless, the important point here is that they – as organizations - only exist because they subscribe to a common and legitimate platform, i.e. sustainable development. They do have some degree of freedom to define and advocate their particular interest but never to an extent that goes beyond the sustainable development framework. Their very existence is therefore an indication of an increasing institutionalization of the sustainable development logic. Another indication of a subscription to the sustainable development

logic is the planning and construction of up to 40 “eco-cities” in China by various local governments.²⁹ Whether they are truly “green” or have stranded in the planning phase (which a lot of them have) does not change the fact that such branding strategies requires a legitimate platform.

With the institutionalization of the sustainable development logic and the wider institutionalization of the borders of field, it also becomes possible to identify the main agents within the renewable energy field. Obviously, the Communist Party of China (CPC) and the government is the key agent, especially as we have seen when it comes to shaping the logic of sustainable development and subsequently designing subsidy schemes. This in turn both positions a number of companies in the field, and it makes the field available to new companies that also subscribes to sustainability and renewable energy. Moreover, universities and research institutes becomes a part of the field by educating the engineers and managers who eventually populate the field, by acting as advisors on renewable energy issues for the government, and by pushing the field boundaries through new technological innovations. Another set of agents are the financial and tendering institutions that have specialized in the economic aspects of renewable energy. Through loan giving they play a key role in realizing market opportunities. Finally, the before mentioned GONGO’s becomes a part of the field by tapping into the sustainable development logic. See appendix for a map of the field of renewable energy in China.

²⁹ See “Eco-Infrastructure: Letting Nature Do the Work”, Green Leap Forward.

Concluding remarks

This study has shown how the Party-state in China introduced a comprehensive programmatic idea of sustainability and eventually elevated it to a “national guideline of sustainable development”. From the late 1990s and in the new millennium sustainable development became connected to a new economic mode - a new understanding of China’s economic development trajectory. Under a new CPC leadership sustainable development became integrated with the “Scientific outlook on Development” as yet another take on China’s development.

This particular combination of ideas makes up a radical new understanding of sustainable development as a new path for social and economic development. It has the features of an institutional logic characterised by a holistic perspective, a low impact on natural resources and human living conditions as its organizing principle, economic incentives, scientific progress, and innovations as the means it applies, and it draws its legitimacy from being sustainable.

Several indicators of a growing institutionalization of the sustainable development logic have been discussed. Top-down indicators like rules, regulations, and subsidies are all legitimated by sustainable development and bottom up indicators like the emergence of GONGO’s and eco-cities all subscribe to sustainable development as their source of legitimacy.

What these examples of institutionalization of the sustainable development logic illustrate is how they at the same time are affecting the establishment of borders, increasing the information load, and establishing a mutual awareness of being in the renewable energy business. These features are all indicators of an increasing institutionalization of renewable energy as an organizational field. It is in this respect that the logic of sustainable development and the field of renewable energy can be said to co-evolve.

Moreover, in this particular Chinese institutional context we have seen how the very top of the Party-state is able to work with new and existing ideas, and how this process has generated a new logic with huge consequences for what is considered appropriate and legitimate decisions and actions in China. The analysis has thus highlighted what could be described as “idea work” as an important mechanism of institutional change and an important feature of policy making in China. This idea work has basically created the renewable energy field in China, but with some different institutional underpinnings than what one would expect on the basis of the ongoing (international) debates about “going green” and combating climate change. We now know that the drive behind renewable energy in China is based on a very broad and comprehensive understanding of sustainability and hence only loosely coupled to climate issues. This understanding is of major importance for the strategizing of companies in the (Chinese) renewable energy business in relation to the expected level of investment from the Chinese state. In most Western countries the failure of COP 15 and the politicizing of the climate issue have raised doubt about future commitments and willingness to invest not least in the short run. This is simply not the case in China.

Setting aside the firm level consequences, we can now return to the opening question and ask: How does an organizational field emerge? This study has shown the importance of the pre-field discursive processes with regards to the later institutionalization processes. First, this has advanced the research agenda of Discursive Institutionalism by showing the value of integrating a discursive analytical level in a neoinstitutional analysis. For instance by taken the Chinese political context serious when showing how sustainable development was constructed within the confines the “logic of communication” of the Party-state discourse.

Second, because of the focus on the pre-field discursive processes we can see how the creation of the logic comes before the institutionalization of the field. This means that it is possible to radicalize the co-evolution (of logic and field) thesis, and instead

describe it as a field emergence around an institutional logic. In other words, the logic came first and prepared the ground for the later co-evolution of logic and field. This is a new contribution to the neoinstitutional literature, which have so far depicted fields as emerging around technologies, markets or policy domains (Scott 2008: 184) as well as the more well-researched emergence around issue areas or disputes (Hoffman 1999: 352). It is, however, an important point that this happened in authoritarian China with a strong Party-state master discourse, which limits the possibilities of generalizing these insights. Hence, further studies are needed to determine whether fields can emerge around logics in settings that do not share these characteristics.

Appendix

The organizational field of renewable energy in China

	CPC, Government	Companies			Universities, research institutes	Financial and tendering institutions	Associations
		Privately owned		SOE's			
		Chinese	Foreign or JV				
Field Centre	Politbureau of the Central Committee of CPC	32 wind turbine producers (Jinfeng, Yunda, etc)	Vestas, Gamesa, GE, Nordex, REpower Suzlon, Gomebil	Goldwind, Dongfang Turbine, Sinovel	ERI (Energy Research Institute), under NDRC	SIIS (Shanghai Industrial Investment Corporation)	CREIA (China Renewable Industries Energy Association) under CARCU
	NDRC (National Development and Reform Commission), National Energy Agency	20 solar PV cell manufactures (Suntech, Yingli Green Energy, NingBo Solar Electric Power, YunnanTianda Photovoltaic, ENN Solar, Eopply New Energy Technology, Shanghai Topsolar Green Energy, Jiaxing Zhongdian New Energy, etc.)	Kyocera Solar Energy (Tianjin)	State Grid Company China Southern Power Grid	North China Electrical Power University Guangzhou Institute of Energy Conversion (under CAS)	Citibank WB (World Bank)	CNECC (China New Energy Chamber of Commerce), under All-China Federation of Industry and Commerce
	State council		Dragon Power	Shenhua Group Corporation			
	National Leadership Committee on Climate Change		Arup Novozymes	China Yangtze Power	Qingdao Institute of Biomass Energy and Bioprocess Technology	ADB (Asian Development Bank)	CRES (China Renewable Energy Society) under China's Association for Science and Technology
	Ministry of Finance		Danisco	Guoneng Bio Power Generation			
	MOST (Ministry of Science and Technology)			Shanghai Electric Group Dongfang Electric Corporation	Institute of Nuclear and New Energy Technology, Tsinghua University		
	Ministry of Water Resources			China Datang Corporation	Beijing Geothermal Research Academy		
	Ministry of Environmental Protection (formerly SEPA)			China Guodian Corporation Sinohydro			

		etc.) 300 solar water heater manufactures Biodiesel producers (Zhenghe Bio-energy Company, Gushan Oil Chemical Company, Zhuoyue New Energy Development company)	Corporation China Yangtze Three Gorges Project Corporation Ertan Hydropower Development Company Huanghe Hydropower Development Company Wuling Electric Power Company Yellow River Water & Hydropower Development Corporation Fujian Shuikou Power Generation			
Field periphery	SERC (State Electricity Reform Commission) NSFC (National Science Foundation of China) Ministry of Agriculture Ministry of Construction	Companies in the supply chain of the centre companies		Research Centre for Eco-environmental Science (under CAS) Energy Economy Research Centre (under CASS) Beijing Jikedian Renewable Energy Development Center (BJREDC)	China International Tendering (under NDRC) China Hydropower Project Consulting Group (under NDRC)	China Wind Energy Association CARCU (Comprehensive Resource Utilization Association)

Sources: OECD environmental performance reviews China (2007); China Renewable Energy: Development Overview-2008; National Approaches for Promoting Eco-Innovation: Country Profile of the People's Republic of China; Delman 2008.

Article 3:

Between Market, State, and Sustainability: Institutional Logics and Subsidization of Renewable Energy in China

Intro

Amidst rapidly increasing energy consumption and emission of green house gasses China has also emerged as the world's biggest investor in renewable energy. At the heart of China's effort to develop renewable energy lie its subsidy schemes. Like in any other country: Without subsidies no large scale renewable energy. In all its might, however, the Chinese state still have limited funds and needs to consider and prioritize where and what to subsidies. This makes subsidization a delicate question, not least to companies to whom subsidies are nothing less than the precondition of the existence of a market. Subsidies, therefore, becomes the point of rotation for the industry with crucial formative effects on market size and investment horizon.

Where subsidies in the Western market economies are often problematized as state interference in the functioning of the free market, it is perceived differently in China. Due to China's planned economic past and relatively short history with market reforms the borders between state and market are more fluid. State interferences are not blocked for principle reasons, but are actually encouraged if the free market is perceived to fail to deliver growth (Christensen 2010). As a consequence of this particular Chinese way of handling relations between state and market, there is in general a very favorable environment for developing subsidy schemes in order to support businesses and maintain high growth rates. On top of that renewable energy has become a major political and economic priority, which again calls for and necessitates subsidization. The background for this massive effort, which has now propelled China to become the world's biggest investor in renewable energy, is a wide-ranging turn towards a more sustainable development track. A more holistic perspective that encompasses economy, population, society, and environment has been called for by the top of the Communist Party of China in order to lessen the impact on natural resources and human living conditions. These thoughts have come together

under the concept of sustainable development, which now directs – amongst other things – the large scale subsidization of renewable energy.

Thus, for renewable energy the process of designing and deciding on subsidy schemes, and finding the right price level involves reasoning along the lines of sustainability, state and market. These three – market, state and sustainability – represents different logics, which can be defined as meaning systems with associated practices and organizing principles that are available to individuals and organizations to elaborate (Friedland, Alford 1991). Logics thereby provide agents with particular ways of legitimization, distinct forms of organization, enable different means of action, and apply a specific perspective on the sphere of society that it deals with. However, in Friedland and Alford's seminal article on institutional logics they described the interdependent and yet contradictory relations between logics (Friedland, Alford 1991: 256).³⁰ This often peculiar relationship between logics is brought to the fore in the case of subsidization, in the sense that subsidies become a locus for the interplay of different logics. It is this interplay that is under scrutiny in this article, when it asks how subsidies for renewable energy are established in China? And how are logics brought into play, handled and elaborated by renewable energy companies and the operational branches of the Chinese Party-state in relations to subsidies?

This line of questioning is both of theoretical and empirical importance. *Empirically*, because to a growing number of companies aspiring to succeed in China's market for renewable energy, be that foreign or Chinese companies, understanding and being able to navigate between and in relation to different logics is simply needed when dealing with subsidies. For instance, in order to make assessments about future subsidies, when

³⁰ For instance, between the founding logics of Western societies: the market, state, democracy, nuclear family and Christianity.

lobbying for the issuance of subsidies, and when designing informed business strategies for the longer term.

Theoretically, because only a few neoinstitutional studies have focused on how relations between logics are dealt with (Thornton, Ocasio 1999, O'Brien, Slack 2004, Westenholtz 2009, Reay, Hinings 2009). Thus, this article fills out a gap in the literature on institutional logics by showing how different logics are elaborated and combined in concrete business settings.

In order to study the interplay of logics in relation to subsidization three steps are taken. *First*, subsidies are viewed as an institution, a regulatory formal institution (Scott 2008). This means that the issue of subsidizing emerges as an institutionalization process.

Second, because institutionalization processes never happen in a vacuum attention has to be paid to the context. In this instance the context will be dealt with through the concept of organizational fields: "A community of organizations that partakes of a common meaning system and whose participants interact more frequently and faithfully with one another than with actors outside of the field" (Scott 2008: 86). The organizational field of renewable energy in China comprises both companies, various government agencies under the Chinese state, China's Communist Party, business associations and NGO's (see Article 2). Moreover, renewable energy in China can be said to represent an emerging field. This makes it an ideal place to study the ongoing institutionalization of subsidies as a driver for the emergence of the field. In that way the effects of subsidies in terms of structuration of the field are highlighted. This strengthens the ability to deliver insights of empirical importance, because focus is on the more solid social structures that will continue to influence developments in the field.

Third, a particular way of studying the subject of subsidies is chosen. Based on prior studies a typology of logics is drawn up, and used as an analytical tool to analyze two cases of subsidization, specifically biomass and solar power. The main agents are the operational branches of the Chinese Party-state and renewable energy companies.

The rest of the paper is structured in the following way: First, methodological issues are discussed. Second, subsidization and the concept of institutional logics are discussed. Third, based on other studies a typology of institutional logics functioning in the Party-state discourse is presented as an analytical tool for the subsequent analysis. Fourth, the two cases are presented and analyzed. Fifth, the findings are discussed in relation to the theoretical framework. Sixth, a conclusion is offered.

Methodology

This study is based on two shorter periods of field work in Beijing and Shanghai in October 2008 and in July 2009 respectively. These two periods of field work informs two case studies. The choice of applying case studies as the main method was done on the basis of the explanatory aim of this article (Yin 1994).

The first field trip was specifically targeting one company, called Dragon Power, which build and operate biomass power plants. The second trip had a broader aim and targeted mainly solar (PV) power companies in the Shanghai area. The data derived from the two field trips consist of written material provided by the companies and altogether sixteen interviews with business people (13) on both executive and management levels, NGO's (2), and one government agency.

The first case is based on six interviews with the whole executive level of Dragon Power, as well as the founder of the company (who is now chairman of the board), one board member, and one government director from the National Development and Reform Commission (NDRC). The first pilot interview was conducted with the board member (who is Danish), who later helped to open the door to the executive level in

Dragon Power. Interestingly enough, it only took a few interviews to hear the same storylines of the company repeated. This has to do with the relatively little group of executives that all worked close together on a daily basis. Saturation was therefore achieved on the basis of a few interviews of high importance viewed in terms of the relevance of the informants and their closeness to the decisions and events that the case study targeted.

The second case is based on ten interviews with managers from four different solar (PV) producers (Suntech Power Holding 2, Solarfun Power Holding 1, Shanghai Topsolar Green Energy Company 1, Eoplly New Energy Technology 2), representatives from two renewable energy associations (Chinese Renewable Energy Industries Association, CREIA, and Renewable Energy and Energy Efficiency Partnership, REEEP), one interview with the Vice President of Suzlon Energy (the Beijing branch office of an Indian wind turbine producer), and one interview with a manager at China Huaneng Corporation, one of “the big five” energy companies in China. The aim of this line of interviews was the broader understandings of renewable energy in the field and especially the solar (PV) industry’s market situation and relations to government agencies.

As noted above, this study present two cases which basically emerged from these interviews. In that respect the interviews played a very important role. But the relative limited number of interviews makes it impossible only to rely on these. Furthermore, all companies have an interest in presenting themselves in a favorable light and this could lead to a company centric worldview and a bias in how they describe their own role and impact. To make up for the bias and the limited number of informants a number of steps were taken. First, with regards to the Dragon Power case, an interview with the director at NDRC - Dragon Power’s main government counterpart - was organized. As interviews with NDRC staff are notoriously difficult to obtain, this provided a rare opportunity to actually cross-check Dragon Power’s explanations of

their dealings with NDRC. Second, written material, for instance the “Louyang Declaration” which figures prominently in the second case, was used to check chronology, actual wording, and confirm the information obtained through interviews. Third, it is worth noting that both cases are to some extent self evident and easy to verify. And, in terms of reliability, it should be stressed that the issues that the two cases deals with were not considered controversial by the informants.

Subsidies

Subsidies are state interventions in the functioning of the free market. States interfere in markets in many ways and on many grounds. All governments of market economies have for instance adopted and implemented competition laws – a set of rules that in legal terms specify the national conditions for competition. These will, due to for instance the huge differences in the size of the national economies, vary a lot from state to state. On a more general level states shape the foundations of any modern economy through the establishment of educational systems and rule of law (or *by law* as in China); they shape the frameworks for markets through labor market regulations, competition law, bankruptcy laws and property rights; and they interfere directly through innovation and industrial policymaking like subsidization (North 1981: 206). In the Western world, however, many of these direct ways of interference has been limited due to the dominance of the new classical economics and its believe in the ability of the free market to regulate itself in the most efficient way (Wade 1990: 13). This is for instance reflected in the Western dominated trade regime governed by the World Trade Organization, which prohibits trade with subsidized goods (regulated under the anti-dumping and anti-subsidy sections). However, the issue of interference in (free) market operations seems to be contested in basically all Western societies. On the one hand we see how a public or political pressure for interference (e.g. protectionist measures) can easily be mobilized in times of crisis. On the other hand, the argument that interference of any kind in free market operations is harmful (i.e. less

efficient in the long run) is also an easily accessible political platform, though its dominance varies over time and across nation states. In China, the one-party rule does not leave room for any political lines of conflict with regards to state interferences in the shape of subsidization. Instead, what is of importance is how subsidization in particular and interferences in general are perceived and executed by the ruling party. I will return to this aspect below.

Subsidies for renewable energy in china come in many forms. From the subtle “favorable lending environment” orchestrated through the state owned banks to the overt and rule-based reimbursements of for instance installation costs and extra premiums paid by the state per produced kWh of renewable energy. The specific forms of subsidization for biomass and solar power will be discussed in the two cases.

Logics

The concept of institutional logics was developed by Friedland and Alford (Friedland, Alford 1991). They pointed to the fact that a number of institutional logics were available to individuals and organizations to elaborate, and that it is through these institutions that individual preferences and organizational interests are shaped. An institutional logic is a meaning system with associated practices and organizing principles. Any organizational field will therefore be characterized by a particular set of Institutional logics. Consequently, as shown in a number of studies, a field and its logics co-evolve (Scott 2008, Montgomery, Oliver 2009, Oliver, Montgomery 2008).

It is one of the basic assumptions in the theory that institutional logics are potentially contradictory (Friedland, Alford 1991). The focus on conflicts between logics is also a dominant theme in the increasing number of studies on institutional logics within the broader field of neoinstitutional studies (Christensen 2010, Arndt, Bigelow 2006, Ashworth, Boyne & Delbridge 2009, Batora 2009, Bremberg, Britz 2009, Inoue, Drori 2006, Koch 2010, Scott et al. 2000, Townley 1997, Zhou 2010). Moreover, the

conflicts between logics are often fought by two distinct groups of agents that “promote” different logics. Theoretically, however, agents are not in any way confined to applying, utilizing, or acting according to only one logic.

Only a very few studies have dealt specifically with the relationship *between* logics. For instance, on how existing logics either become outcompeted or have to coexist alongside a new incoming logic (Thornton, Ocasio 1999, O'Brien, Slack 2004); how two seemingly competing logics are transgressed by institutional entrepreneurs using discursive methods (Westenholz 2009) or how the shift from one dominant institutional logic (medical professionalism) to next (business-like health care) is managed through the development of collaborative relationships (Reay, Hinings 2009). These studies are important contributions aimed at strengthening our understanding of how relations between logics are dealt with in the real world. In that sense they emphasize the importance of one of the aspects of Friedland and Alford's definition: That logics are available to organizations and individuals to *elaborate* (Friedland, Alford 1991). And *how* logics are elaborated by agents cannot be presumed a priori – it is an empirical question.

The present study aims at contributing to the literature by analyzing the elaboration of logics and how relations between logics are handled by agents – in this case companies and the operational branches of the Chinese Party-state.

In the following, I will outline the overall institutional framework within which subsidies are established in China's emerging field of renewable energy. I will point to three institutional logics that all influences the institutionalization process.

A typology of logics

As in most other fields the Chinese state plays a very important role in terms of influence and even dominance (Fligstein 1991: 314). In China, however, this role is exacerbated by the intertwined nature of the Chinese state and the Communist Party of

China – hence the term Party-state (Guo 2001: 301). The influence of the Party-state is amongst other ways wielded through, in Vivien Schmidt’s words, a master discourse of the Chinese Communist Party (Schmidt 2008).³¹ In the master discourse we find a formalized use of language heavily sanctioned by the absolute top of the Party (Schoenhals 1992). Whereas this discourse is too often dismissed as pure propaganda, it is of extreme importance to the Party as a source of legitimacy and as guidance to the elite (White 1993: 148). It thus lays out a systematized and explicit ideology, which makes up for the lack of direct public legitimacy.

Studies have shown, that in this master discourse we can find three institutional logics of importance in the field of renewable energy: The sustainable development logic around which the field emerged, the bureaucratic state logic, and the market logic (Article 2 and Christensen 2010). These logics will be explained below.

The logic of sustainable development

Since the beginning of the 1990s the Chinese government has developed the concept of sustainable development. In China, sustainable development takes its starting point in the social and economic problems caused by the expansion of population, excessive consumption of resources, and environmental problems, like pollution and reduced

³¹ In China, the distinction between coordinative and communicative discourses that we can find in the literature becomes blurred (Schmidt 2008: 310). Where coordinative discourses refer to the policy sphere with agency engaged in coordinating, elaborating and creating policies, the communicative discourses refer to the political sphere where ideas from the coordinative discourse are presented and discussed. However, in China these distinctions are misleading because the communicative discourse excludes dissenting voices and the coordinative discourse is the domain of the absolute top of the Party-state as well as whoever expert groups they call in on an ad-hoc basis. Both these differences relate to the authoritarian one-party rule and it has consequences for how to understand the Party-state master discourse. First of all, the discourse is centered on communication and legitimacy, but the target group is the 70 million Party members, civil servants (cadres), experts and organized - though state sanctioned - interests. In that respect the target group of the discourse more resembles what we in Western countries would ascribe to coordinative discourses. But it seems as if the specific requirements of the authoritarian system makes the Chinese Party-state master discourse a hybrid with features of both types of discourses.

biodiversity. It aims to find a new path for sustainable development in which population, economy, society, natural resources, and environment are considered as a whole.³²

I have argued elsewhere that “sustainable development” can be understood as a specific logic in the way it stipulates a sound and balanced development and takes on a longer term economic, social and environmental perspective (Article 2). It requires a more sustainable approach in terms of resource consumption but also in terms of what type of industrial production the government is promoting. The “sustainable development” logic led to the emergence of renewable energy as an organizational field. It is therefore an important factor in differentiating the field of renewable energy from other fields.

The capitalist market logic

Two more logics are of general importance in China: The bureaucratic state logic and the market logic. These logics are described by Friedland and Alford as two of the most fundamental logics in contemporary history (Friedland, Alford 1991). In China, their interplay constitutes the overall border between state and market which is of particular importance in the case of a subsidized market like renewable energy (Christensen 2010).

In the renewable energy field some of the most important agents alongside the Chinese state are companies. And, as in most other business settings, the capitalist market logic holds a dominant position. It is characterized by the following properties: It provides

³² See the preamble of "China's Agenda 21 - Whitepaper on China's Population, Environment and Development in the 21st Century". The fact that China's take on sustainability was based on such a broad platform is important to keep in mind. From the outset sustainability in China was framed as much more than energy and environmental issues.

agents with “price” as the main perspective to see the world through; it organizes itself around competition and accumulation as the main principles (Friedland, Alford 1991); it applies market mechanism as its means; and it takes market position as its source of legitimacy.

The bureaucratic state logic

The bureaucratic state logic is characterized by the rationalization and regulation of behavior through laws and bureaucratic hierarchies. And it is through this logic that the Chinese state apparatus unfolds its many tools by which it influences strategic industries, like renewable energy. These tools include: various types of tax incentives and tax breaks, subsidies, preferential bank loans and selective credit allocations, R&D subsidies, foreign exchange controls, import tariffs, licensing, and administrative guidance (Edin 2000). The bureaucratic state logic provides state agents like administrators and China’s Communist Party members with a hierarchical perspective on decisions, and an organizing principle centered on bureaucracy and rationalization. Rules and regulation are the main means applied and legitimacy is based in authority (Christensen 2010).

The interplay of logics

It follows that these logics lead to completely different ways of organizing and acting. It is for instance in the interplay between the bureaucratic state logic and the market logic that we would find the overall constitution of the border between state and market. In some ways the absence of one has defined the domain of the other. In China, however, this particular relationship is different from what we find in western countries. Due to China’s socialist starting point when market mechanisms were introduced, the borders between state and market are far more easily crossed (Christensen 2010). Actually, the bureaucrats in the Chinese state apparatus are to some extent obliged to intervene if the free market is not delivering in China. However, in the case of a subsidized market, like with renewable energy, a high degree

of interference is the very foundation of the market in the first place. This leaves the bureaucratic state logic with a far more important role than in other (non-subsidized) markets. On a national level, it is also obvious that the logic of sustainable development is not as fundamental as the two others. It is so far confined to only a few organizational fields in China. In the neoinstitutional literature on institutional logics there are a number of examples of logics functioning in just a few or even one organizational field (Thornton, Ocasio 1999, O'Brien, Slack 2004, Oliver, Montgomery 2008, Inoue, Drori 2006).

It is also worth noting that the relationship between state and market logics has not been constitutive of the border between public and private. We also find state owned and collectively owned enterprises (and hence public) that function in the market and thus primarily (but by no means exclusively) apply a market logic in most of their operations.

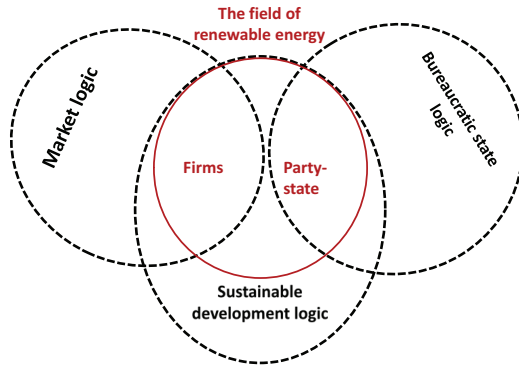
To sum up, the following typology of institutional logics at the master discourse level can be presented:

Typology of logics

	Market logic	Bureaucratic state logic	Sustainable development logic
Sphere	Economy	Administration	Population, economy, society, natural resources, and environment
Perspective	Price	Hierarchy (power)	Holistic
Organizing principle	Competition, accumulation	Bureaucracy, rationalization	Low impact on natural resources and human living conditions
Means	Market mechanism	Rules and regulation	Economic incentives, scientific progress, innovations
Legitimacy	Market position	Authority	Sustainability

This typology will be used as an analytical tool in the case analysis below. It thus functions as an operationalization of the concept of institutional logics in this particular setting. It makes it possible to categorize the different means the agents in the field applies, the perspective they navigate according to, the ways they organize by, and the legitimacy they draw on.

Institutional logics and agents in China's renewable energy field



Analysis

Case 1: Biomass

Before 2006 there were no subsidies for power produced through biomass combustion. In fact, as late as 2003 biomass was not even mentioned in official Chinese documents on renewable energy.³³ Today, biomass power is made economically feasible in China due to a state subsidy. The subsidy is therefore the point of rotation for this business and a key condition for biomass companies' ability to compete with coal fired power plants. The specific subsidy was introduced in 2006 and is called a feed-in tariff. It is basically a premium price that the state pays per kWh produced on top of the normal price of electricity (which is, at least in the longer run, based on the price on coal).

³³ Biomass is for instance not mentioned in the official follow up on China's Agenda 21 which is called "Program of Action for Sustainable Development in China in the Early 21st Century" and published by the NDRC in 2003.

The same year, in 2006, a company called Dragon Power established the Shanxian Plant – the first biomass (straw-fired) power plant in China. This first plant was, however, the product of a three year process in which the founder of Dragon Power (DP), Kai Johan Jiang, and a few colleagues had worked intensively to acquire a special license from the NDRC that would allow them to build power plants with a capacity below the national threshold of 50 MW. By 2011, Dragon Power had build (and operated) 19 biomass power plants, had an additional 13 in the pipeline, and employed 8000 people. They had become the biggest biomass power company not only in China, but in the world. In the Chinese market they were basically without any competitors. And as an illustration of DP’s entrepreneurial nature, it is worth noting that the establishment of the Shanxian Plant was initiated before any subsidy was in place.

In the Renewable Energy Law biomass power is listed alongside hydro, wind and solar as one of four sources of renewable energy recognized in China. Through this law the Chinese state commits itself to promote biomass. As promised, just after China’s Renewable Energy law was promulgated a feed-in tariff on RMB 0.25 per kWh was granted.

When explaining Dragon Power’s short history the President, Simon Parker, mentioned DP’s influence on the crucial renewable energy law and the subsidy:

“There were people within our organization who were actually involved in drafting, commenting on the Renewable Energy Law... the creation of the law, which gives... it is for any company who would qualify for it, but we were... at the inception of the creation of an industry (biomass) in China we made Dragon Power...”³⁴

³⁴ Interview with President, CEO, Simon Parker, Dragon Power headquarter, Beijing, October 2008.

With this quotation the President of DP hints to the fact that the main beneficiary of this subsidy was and still is Dragon Power. In the later interview with the director at NDRC it was confirmed that DP did indeed introduce biomass to China (and the NDRC).³⁵ And as mentioned, this is also evidenced by the fact that biomass is not even mentioned in official documents published by the NDRC as late 2003. NDRC is the main government agency when it comes to exercising government interests and implementing projects in the energy sector (as well as all other politically prioritized sectors), and it has remained DP's main government counterpart throughout the company's short history.

On a general level, NDRC seems to be following the sustainable development logic and its focus on sustainability through renewable energy. Yet, it does so in accordance with the bureaucratic state logic by using laws and regulations (subsidies) as its means. In the follow up plan called "Medium and Long Term Renewable Energy Development Plan" published in August 2007, it is stipulated that China should reach an installed capacity of 5.5 GW in 2010 and 30 GW in 2020 (there were 2GW installed capacity by the end of 2005).³⁶ To reach at least the short term milestone the Chinese state is therefore totally depending on DP's success.³⁷ Moreover, without a continuously build up of DP's capacity it will be impossible to reach these targets. Now, the subsidy of RMB 0.25 per kWh was, according to DP, just a first attempt to find a reasonable price level. And a few years later, when it turned out that it was difficult for DP to make a decent business another RMB 0.10 of premium was added to

³⁵ Interview with Liang Zhipeng, Ph.D. Director, Renewable Energy & Rural Power Division, Energy Bureau, National Development and Reform Commission.

³⁶ See Medium and Long-Term Development Plan for Renewable Energy in China.

³⁷ This was also the explicit understanding held by DP's president.

the existing subsidy. Again, the only beneficiary was DP. Directly asked about DP's influence on this extra premium President Parker stated:

"...I don't have anything that can tangible show you that to be the case. What you can see is since the creation of the industry and the Renewable Energy Law was devised there have been additional incentives provided for biomass at a couple of different steps to ensure that the revenue receipts enabled the industry to be viable. And when you say the industry at the moment NBE (a DP subsidiary) is 80 – 90% of the biomass industry... So other than connecting the dots..."

Specifically on this extra premium the director at NDRC stated:

"Prices have gone up, for instance on steel used in the construction. It was difficult to do business so we talked to Dragon Power".³⁸

NDRC thereby acted upon the sustainable development logic but at the same time in accordance with the bureaucratic state logic when they decided increase the subsidization. This move clearly illustrates a complex and intricate relationship between logics, where the market logic is basically pushed away in terms of means and organizing principle. Instead, NDRC describe their take on biomass as:

"...It must be modern, advanced, efficient and in a commercial way".³⁹

This wording, on the other hand, resembles the means applied within the sustainable development logic.

³⁸ Interview with Liang Zhipeng, Ph.D. Director, Renewable Energy & Rural Power Division, Energy Bureau, National Development and Reform Commission.

³⁹ Interview with Liang Zhipeng, Ph.D. Director, Renewable Energy & Rural Power Division, Energy Bureau, National Development and Reform Commission.

What this case shows is how involved DP actually was in establishing and (upward) adjusting this subsidy. A subsidy, which means make or break for this particular company in terms of its ability to compete with other renewable energy solutions and non-renewable coal based energy production. This happens in a very close relationship with NDRC. In China, however, close connections to government agencies are something that you would openly state as an asset of the company. This insight ran throughout all the interviews I conducted for both cases. But the extent of the actual influence is obviously another matter. In this particular case it is so significant that it is more accurate to describe the relation as a negotiation between two equal partners.

Case 2: Solar power

The second case focuses on the part of the renewable energy field that deals with solar power or more narrowly defined photo voltaic (PV) energy. Before 23 March 2009 there were no specific subsidies for the Chinese market. The Chinese solar industry was exporting between 90 to 95 % of its production to other markets, mainly Germany and Spain.⁴⁰ The Chinese market for solar power was therefore miniscule and had not been an important driver for the massive expansion of industry that had already taken place. So for these solar power companies, all privately owned and mostly located in China because of the low production costs, a boost to their home market would be an incredible help, not least in the midst of an economic downturn (and financial crisis).

A solar subsidy for the Chinese market would make it possible for solar power to compete with the general price on electricity, which is set by the government and (in the longer run) linked to the price on coal.⁴¹ This means that a Chinese subsidy,

⁴⁰ See “China’s Policies Affecting Trade and Investments in Green Technology” p. 195

⁴¹ Whereas the price on coal fluctuates based on supply and demand the price on electricity is kept stable by the government.

especially a feed-in tariff, would have an immediate effect on the size of the market for solar power.

In 2001, a Chinese solar engineer named Mr. Shi Zhengrong founded Suntech and started to manufacture solar cells. By 2007 the company had grown to be the world's 3rd largest in the field of solar power. In China, Suntech is regarded as an industry leader and Shi Zhengrong is an influential personage in the "green" business.

Initiated by Mr. Shi a number of the Chinese solar giants including Suntech, LDK, Trina, Solarfun and Canadian Solar (all publicly listed companies) got together on a PV industry meeting 18 December 2008 and agreed upon an industry pricing roadmap. This pricing roadmap was finalized by Suntech and Trina and subsequently submitted to the Chinese Ministry of Science and Technology (MOST).⁴² The roadmap stipulated the industry's concerted effort to lower the on-grid solar power price to RMB 1 per kilowatt hour (kWh) by 2012. This particular phrase, "RMB 1 per kWh", was coined and promoted by Mr. Shi and Suntech. For solar power, "RMB 1 per kWh" is said to be the threshold for large-scale commercialization of this particular energy source. At that level solar energy will be affordable even without subsidies from the state.

Next year, on April 28th at the 2009 China Solar PV Industry Annual Conference held at the city of Luoyang, Mr. Shi managed to orchestrate what became known as the "Louyang declaration". At the conference thirteen leading Chinese solar photovoltaic companies (see list below) jointly issued the "Louyang declaration". With this declaration the companies committed themselves to lowering prices throughout all parts of the production of a solar cell panel and thereby reach the "RMB 1 per kWh"

⁴² See article at The Green Leap Forward: "Green Hops: Energy Law & Plan, Big 5 Subsidized, Installed Wind Doubles".

target. At the time of the conference, solar power was priced at about RMB 4 per kWh, which is calculated on the basis of production costs and the amount of energy a solar module can produce in 20 years (the standard warranty period in the business).

Signatories of the “Louyang Declaration”⁴³

Suntech Power Co., Ltd.	Cell, module and system production	Headquartered in Wuxi, China. Publicly listed on New York Stock Exchange
Yingli Green Energy Holding Co., Ltd.	Ingots, wafers, cell and module production	Headquartered in Baoding, China. Publicly listed on New York Stock Exchange
JA Solar Holdings Co., Ltd.	Cell production	Headquartered in Shanghai, China. Publicly listed on NASDAQ
LDK Solar Co., Ltd	Polysilicon, wafers production	Headquartered in Xinyu, China. Publicly listed on New York Stock Exchange
Beijing Jingyuntong Technology Co., Ltd	Polysilicon, wafers production	Headquartered in Beijing, China.
China Silicon Corporation Ltd.	Polysilicon production	Headquartered in Louyang, China
Sichuan Xinguang Silicon Technology Co., Ltd.	Polysilicon production	Headquartered in Leshan, China
Emei Semiconductor Materials Factory	Polysilicon production	Headquartered in Chengdu, China
Jiangsu Shunda Group	Ingots, wafers, cells and module production	Headquartered in Yangzhou, China
No.45 Research Institute of China Electronics Technology Group Corp.	Semiconductor Equipment	Headquartered in Beijing, China.

⁴³ See “The Louyang Declaration”.

Daqo New Energy Corp	Polysilicon, ingots, wafers, cell and module production	Headquartered in Chongqing, China. Publicly listed on New York Stock Exchange
GCL-Poly Energy Holdings Limited	Polysilicon and wafer production	Headquartered in Hong Kong, China. Publicly listed on Hong Kong Stock Exchange
China Electronics Technology Group Corporation 48th Research Institute	Ingots, wafers, cell and module production	State Owned Enterprise, headquartered in Changsha, China

The list above tells us, that all of the biggest companies in the Chinese market for solar energy (PV) were participating in the meeting. It also shows, that all types of producers from the whole value chain participated and that there were a lot of overlaps. This means that most of the companies were benched alongside their biggest competitors as well as their closest partners. Present at the meeting were also government officials from the NDRC. The particular constellation of actors therefore illustrates that the “Louyang declaration” and the conference were far from the market logics use of market mechanisms and organizing through competition. Instead, this particular set-up only becomes meaningful and legitimate through the logic of sustainable development. The absence of a market logic is also evidenced by the following blunt answer from a manager from Suntech, when asked about the reasons for promoting the “1 RMB per kWh” phrase:

“... a year or two ago Dr. Shi started talking about “1 RMB per kWh” as the target for solar and at the time people said that was crazy and we won’t be able to achieve it. But it basically set the benchmark for policy-makers in the solar industry to move towards. And now probably everybody believes we can do it. And policy-makers also see that as

the goal and so the idea is to get policy-makers to introduce subsidies that help take us to that point”⁴⁴.

In this light the Louyang declaration becomes a clear and public piece of communication directly targeting the NDRC and MOST. The actual conference and the discussions and preparations beforehand become an integrative effort where industry and government are meeting up and clarifying positions. The common platform is established through the framing of both the “RMB 1 per kWh” and the “Loyang declaration” as a way to further a sustainable use of energy. It is therefore basically legitimized in accordance with a sustainable development logic. The fact that they are discussing how to lower prices could indicate the presence of a market logic, which in most other circumstances would have been the natural starting point for companies, but as the citation above shows, this is all about getting the Chinese state to subsidize solar power. I will, however, return to the role of the market logic in the discussion below.

Why has the Chinese government not introduced a subsidy if others have? Germany and Spain, for instance, have a feed-in tariff, which means that all owners of a grid connected solar module would get paid for the electricity that they produce. When asked about this “missing” Chinese subsidy the Director from Suntech answered:

“They (the government) thought it was too expensive. You can only set a feed-in tariff if it is feasible. They just didn’t introduce it until a point where it was economically viable.”⁴⁵

⁴⁴ Interview with Rory Macpherson, Investor Relations Director at Suntech Power Holdings Co., Ltd., October 2009.

⁴⁵ Interview with Rory Macpherson, Investor Relations Director at Suntech Power Holdings Co., Ltd., October 2009.

So the “Louyang declaration” is basically the industry’s attempt to show the government that they are getting closer to a point where a subsidy would be “economically viable”.

Did the “RMB 1 per kWh” phrase and the Louyang declaration have any effect? This is difficult to assess in the short run, but we know that on 23 March 2009 which is after the “RMB 1 per kWh” roadmap was presented but before the Louyang declaration was formulated, the Chinese Ministry of Finance and the Ministry of Housing and Urban-Rural Development issued the Solar Roof Plan, which subsidizes “build inn PV” with 20 RMB/W and 15 RMB/W for roof top applications (both for systems with a capacity above 50 kW).⁴⁶ This kind of subsidy thereby covers some of the investment costs.

In addition, three month after the Louyang declaration on 21 July 2009 the Ministry of Finance, Ministry of Science and Technology and the National Energy Administration (which is under the NDRC) issued a joint statement that announced a “Golden Sun” program. This program targets demonstration projects and subsidizes 50 % of the investment costs for on-grid projects and 70 % of the costs for independent projects. For both the “Solar Roof Plan” and the “Golden Sun” it is worth noting that these subsidies are issued in accordance with a bureaucratic state logic. They follow standardized and general rules for how the Chinese state implements policies.

Moreover, in May 2010 (which is also after the declaration) a formal alliance, named China Photovoltaic Industry Alliance (CPIA), was created comprising some of the same companies (but not exclusively) that participated in the Louyang meeting as well as government bodies like NDRC and Ministry of Industry and Information

⁴⁶ These subsidies were also a part of the Chinese government’s RMB 4 trillion economic stimuli package to boost up the economy after the (Western) financial crisis and global economic downturn.

Technology (MIIT). Reportedly, this alliance was from the outset framed as a formalization of the Louyang “spirit”. According to Wang Bohua, director of MIIT, developing and implementing industry standards as well as aligning technology, economy and management will be the main focus points of the alliance. He also stressed the fact that through the membership base it would be easier to collect more accurate industry data in order to help support government policies to guide the development of the industry. The alliance therefore signals a commitment to a cooperative relationship in the future.

However, the important point here is not so much the supposed effects of the RMB 1 per kWh roadmap or the Louyang declaration. What is important is the basic fact that it took place; that thinking, facilitating, and enacting these events made sense to the participants – both companies and government. Because in itself, the event bare witness of an expectation of a negotiability of subsidies.

Discussion

What do the two cases tell us about subsidization in China’s renewable energy field? The first case, Dragon Power, is extreme in the sense that the negotiability of the subsidy level is so obvious. A feed-in tariff is decided and even raised and all along one company is the only beneficiary - a company which is well connected and able to speak directly to the NDRC. In some ways, due to the importance that the Chinese government attaches to actually fulfilling its renewable energy targets, Dragon Power could even be expected to have the upper hand in these negotiations.

With the case of solar power companies, we see a less clear cut example, but nonetheless an *expectation* of negotiability. An expectation that to some extent is met when one considers the subsequent launch of subsidy programs and the establishment of a formal alliance between companies and government agencies.

In order to understand how this negotiability comes about, we have to look at the institutional framework that is made up by the three logics. In both cases the negotiability of condition for competition is heavily influenced by the sustainable development logic. To launch a subsidy and even to propose it would in most instances not make sense within a market logic. It has to come from somewhere else and in this case the influence of sustainable development is obvious. Moreover, the logic of sustainable development is apparently pretty dominant when one considers that the Chinese state have actually provided one company, Dragon Power, with a monopoly on biomass in China. This is not in line with the market logic, though the monopoly to some extent is countered by the Chinese state's role as monopsonist – the sole buyer of biomass (Endres 1997: 143).

These interventions in the free market are thus legitimized by the sustainable development logic, but they also follow the pattern of any action based in the bureaucratic state logic in the way that the Renewable Energy Law has to be promulgated before any subsidy can be launched. In this respect, the logic of sustainable development and the bureaucratic state logic seem to reinforce each other.

With the solar power case the market logic plays a peculiar role in relation to the issue of the economic viability of the proposed subsidy. It is in this (soon to be) subsidized market that the seemingly counter intuitive situation arises: That companies ask for a subsidy by showing that they are (almost) economically viable. Their attempt in the first place to line up and show how close to viable they were about to become therefore signifies a recognition and acceptance of which logic they are heading towards: the market logic. What we can also learn from the framing of the issue of economic viability is that the Chinese Party-state apparently sees a full-blown free market (logic) as the ideal. This basically proves the theoretical point that the market logic is not solely confined to agents within the business sphere. That the companies on the other hand shares this ideal is less surprising. Amidst all the talk of subsidies an executive

from a Chinese solar power company described grid parity (i.e. that solar energy would reach the electricity price) in the following words:

”Grid parity is the Holy Grail. We are only 3-4 years away from that.”⁴⁷

This particular wording illustrates that to companies grid parity represents a major commercial breakthrough as well as a return to the far more familiar market logic, and thus an escape way from the logics of the bureaucratic state and sustainable development.

Conclusion

The analysis of both cases revealed how subsidies for renewable energy are negotiable. The negotiability or expectation of negotiability is a key finding of this study. From the outset the interest of companies to actually engage in this negotiation is obvious, because they are essentially negotiating their ability to perform economically. This follows from the basic fact, that to companies in the Chinese market for renewable energy a subsidy is make or break – otherwise they would not be able to compete with the coal price on electricity. As to why the Chinese Party-state on its side is willing to negotiate we can point to the logic of sustainable development. In fact, for both companies and the Chinese Party-state it is the logic of sustainable development that makes it possible to set aside the market logic and invite the bureaucratic state logic in. It is therefore the sustainable development logic and the way in which it can function alongside or even reinforce the other logics, that opens up the possibility to negotiate these subsidies. Thus, the particular elaboration and combination of institutional logics

⁴⁷ Interview with Paul Combs, Solarfun

in the organizational field is the key to understand the establishment of subsidies for renewable energy business in China.

Moreover, as evidenced by the overt descriptions of these events by both companies and Party-state, the negotiability of subsidies seems to be taken for granted. It is therefore on the one hand becoming institutionalized and thereby a distinctive characteristic of the emerging renewable energy field. On the other hand, however, it also enables the constant production of new rules, regulation and norms in the interplay between companies and Party-state. In this respect the negotiability of subsidies becomes a key mechanism for the institutionalization of the wider organizational field.

On a theoretical level the analysis adds to our knowledge of logics by providing an example of an understudied subject: A non-conflictual meeting between logics. More importantly, however, it shows how agents that we would normally categorize as either state or market agents can take on, relate to, shift between, and even promote “the others” logics. Thus, the active application of the particular combination of logics in the field also emphasizes the role of strategic agency. This study can therefore point to agents’ ability to shift between logics as a theoretical way around the well-known lack of agency in neoinstitutional studies.

On an empirical level the two cases illustrate that the nature of the relationship between companies and the Party-state is extremely dynamic and cooperative. It is therefore reasonable to see this relationship as one of the key features enabling China’s leading position within renewable energy.

The dynamic relationship and negotiability also has consequences for business strategies in the field. It would for instance be a mistake for bigger companies to take the level of subsidy at face value, when they are actually negotiable. And to new or incoming companies with new technologies and renewable solutions both cases have clearly illustrated that completely new subsidies can be launched with short notice. The

speed and flexibility with which the market can develop will continue to be a key attraction point to companies worldwide. It does, however, require that companies are able to master both the logic of the free market *and* the sustainable development logic, and thus apply a more holistic perspective based on sustainability and centered on lessening the impact on natural resources. This will remain a particular challenge to new companies entering China's field of renewable energy.

Article 4:

Institutional Entrepreneurship and the
Emergence of an Organizational Field:
How Dragon Power Introduced Biomass as
a Source of Renewable Energy to China

Intro

As late as 2003 biomass power generation was not on the agenda when renewable energy was discussed in China. By 2010, however, one single company had build and was running as much as 19 power plants across China, with additional 40 in the pipeline. The Chinese state has embraced biomass power generation and has set a high target for installed capacity in 2020, which will expand capacity with as much 1400 %.¹ This is the case of Dragon Power, the first company to introduce biomass power generation on a large scale as a source of renewable energy in China. This article will look at how Dragon Power did this, the context it happened in, and what consequences it has had for how we should understand the renewable energy sector in China.

Dragon Power's entry to the renewable energy business in China will be seen as a case of institutional entrepreneurship. Most of the literature on institutional entrepreneurship focuses on the processes through which an institutional entrepreneur introduces a novel element (of some sort) into an existing field. This can take many forms, for instance the introduction of a new practice, an idea, a new cognitive script etc. However, as will be substantiated below, the renewable energy sector cannot be said to represent a fully developed organizational field. Consequently, we are faced with a case of institutional entrepreneurship in an emerging field or to be more precise, were the novel element works to expand and shape the emerging field. This means that there are only a very few neoinstitutional studies, which are actually dealing with this particular situation. Those studies are to be found either within the relatively small body of literature on institutional entrepreneurship (for a review see: Leca, Battilana & Boxenbaum 2008) or within the much larger body of literature on organizational fields,

¹ With 2005 as the baseline. NDRC figures.

which offers some theories on how the institutionalization of a field proceeds (DiMaggio 1991, Scott 2008: 191).

Moreover, only a very few studies have applied neoinstitutional theories on *Chinese* cases and only two studies have applied the concept of institutional entrepreneurs (Child, Lu & Tsai 2007, Yang, Modell 2009). The setting, an authoritarian Chinese political system in which the state and the Communist Party of China has practically merged in a Party-state, therefore provides a unique context for this case of institutional entrepreneurship (Guo 2001). Not least, because the Party-state was the main agent that DP had to engage in order to introduce biomass to China.

Within the literature on institutional entrepreneurship an important branch has shown the use of discursive strategies (Westenholz 2009, Fligstein 1997, Fligstein 2001a, Suddaby, Greenwood 2005, Creed, Scully & Austin 2002, Munir, Phillips 2005, Maguire, Hardy 2006). In fact, the use of discursive strategies by institutional entrepreneurs is probably the best documented way of entrepreneurship in the literature. And though this present study could be said to be in line with this tradition, it is also a critique of the existing studies. It is for instance a problem that the institutional context (resources and constrains) in which the discursive strategy is situated is not systematically theorized. As a consequence, the explanatory power of the analytical framework is weakened and conclusions difficult to generalize.

To escape this fallacy I will therefore introduce Discursive Institutionalism as a way to add an analytical level, the discursive level, to the analytical framework. Discursive Institutionalism (DI) was developed by Vivien A. Schmidt and it is dealing with the relations between discourse and institutions (Schmidt 2008).

Thus, the present case study of Dragon Power's introduction of biomass power generation to China targets the lack of attention paid to institutional entrepreneurship in relation to emerging fields, and it advances the DI agenda by showing how

neoinstitutional theory can enhance its explanatory power by adding an analytical level that can grasp the dynamics of discourses and ideas. It does so by asking how institutional entrepreneurs can impact the institutionalization of an emerging organizational field and by which mechanisms?

This question is also of empirical importance, because organizational fields make up the institutional context (the environment) that businesses operate in. How to impact an emerging field dominated by the Chinese Party-state is therefore of critical importance as a way to shape future market conditions.

The focus on the mechanisms by which the institutional entrepreneur impacts the field is chosen because of its explanatory potential (Hedström, Swedberg 1998). The claim is, that a mechanism based approach will try to explain how two entities (the institutional entrepreneur and the field) are connected and under which conditions. Hence, a focus on mechanisms forces the researcher to go beyond the descriptive level and actually explain the processes under scrutiny. Moreover, a mechanism based approach aims at explaining the particular by the general. This has the added effect that any conclusions drawn from a mechanism based study would have to be of some general significance. With mechanisms I will refer to a: "...delimited class of events that alter relations among specified sets of elements in identical or closely similar ways over a variety of situations" (McAdam, Tarrow & Tilly 2001).

First, the theoretical concepts of organizational fields, Institutional entrepreneurship, and Discursive Institutionalism are presented. This also includes an operationalization of especially Discursive Institutionalism in relation to the Party-state – the key agent (also) in the emerging organizational field of renewable energy in China. Second, the methodological issues related to case studies based on interviews are discussed. Third, an analysis is presented. Fourth, a conclusion is offered.

Theory

The concept of organizational fields refers to sets of institutions and networks of organizations that together constitute a recognized area of institutional life (DiMaggio 1991: 64). As such, a field is institutionally defined, and it is therefore in this particular case the increasing institutionalization of the renewable energy sector in China that makes it a field (DiMaggio 1991: 64). For this case, it is also important to distinguish between mature fields and emerging fields. Mature fields are characterized by a: "...relatively well-structured configurations of actors that are aware of their involvement in a common enterprise and among which there are identifiable patterns of interaction such as domination, subordination, conflict, and cooperation" (Maguire, Hardy & Lawrence 2004 summarizing DiMaggio, Powell 1983). Lawrence, Cynthia and Nelson also find that institutions in mature fields tend to be widely diffused and highly accepted (Lawrence, Cynthia & Nelson 2002). With emerging fields, on the other hand, members of the field tend to recognize some degree of mutual interest, but with little coordinated interaction going on (Fligstein 1997, Maguire, Hardy & Lawrence 2004: 659).

This brings forth the question of how fields emerge? Or posed in another way: how does the institutionalization of a field proceed? The figure below presents eight criteria that are specifically targeted to explain the development of organisational fields evolving around markets, policy domains or technologies.²

² Through an empirical study of the U.S. chemical and petroleum industries (and how they confronted corporate environmentalism) Hoffman suggests that organizational fields can also emerge around issues or disputes (Hoffman 1999: 352). In this way it is the issue that defines what the field is.

The Institutionalization of organizational fields

Criteria's by DiMaggio & Powell (DiMaggio, Powell 1991: 65)	Additional criteria's by Scott (Scott 2008: 191)
An increase in the extent of interaction among organizations in the field	The extent of agreement on the institutional logics guiding activities within the field
The emergence of sharply defined interorganizational structures of domination and patterns of coalition	Increased isomorphism of structural forms within populations in the field
An increase in the information load with which organizations in a field must contend	Increased structural equivalence of organizational sets within the field
The development of a mutual awareness among participants in a set of organizations that they are involved in a common enterprise	Increased clarity of field boundaries

One of the key features that this case will highlight, relates to the issue of "the development of a mutual awareness" and "increased clarity of field boundaries" (DiMaggio, Powell 1991: 65, Scott 2008: 191). We will see how this introduction of biomass in China changes the mutual awareness and expands the renewable energy field with notable effects on how we should understand its boundaries. It is thus exactly the institutionalization of the renewable energy sector that I want to focus on, but through the concept of institutional entrepreneurship.

Institutional entrepreneurship

Since the mid 1990s we have seen a growing tendency to bring agency back into the institutional analysis (Leca, Battilana & Boxenbaum 2008).³ Often the starting point has been the concept of “institutional entrepreneurs” which was based on DiMaggio’s characterization from 1988: “New institutions arise when organized actors with sufficient resources see in them an opportunity to realize interests that they value highly” (DiMaggio 1988: 14). Hence, institutional entrepreneurship is about the activities of actors who have an interest in leveraging resources in order to transform institutions or to create new ones (Leblebic et al. 1991, Haveman, Rao 1997, Seo, Creed 2002).

A few studies focus on institutional entrepreneurship in emerging fields. Maguire, Hardy & Lawrence studies the activities involved when new practices are introduced by institutional entrepreneurs in the emerging field of HIV/AIDS treatment advocacy in Canada (2004). And one of the best studied examples of the creation of an entirely new industry is Haveman and Rao’s analysis of the early thrift industry in the US (Haveman, Rao 1997).⁴ Child, Lu and Tsai offers one of the very few studies on China and the emergence (or formation as they term it) of the environmental protection

³ A well-known critique of institutional theory in organizational analysis has been a lack of agency. Whereas agency was a part of the earlier institutional studies (Selznik 1949; 1957) the main focus in the 1980s was on how mimetic processes led to the same kind of behavior in an organizational field.

⁴ Though the focus is on how institutions and organizations co-evolve, they also point to some of the factors that initiated the creation of a new industry. First of all there was a growing demand for home financing that was not being covered by commercial banking. This basically created opportunities for institutional entrepreneurs. Secondly, the inspiration for establishing thrifts in the US came from the building society movement in England (Haveman, Rao 1997: 1608). Thus, the basic conditions for this example of institutional entrepreneurship were the existence of an unsatisfied demand as well as the diffusion of an idea (from England).

system in China (Child, Lu & Tsai 2007). They show how the Chinese state and its agencies acted as institutional entrepreneurs at important stages of the formation.

As noted an important branch of the literature views institutional entrepreneurship as a discursive strategy (Westenholz 2009, Fligstein 1997, Suddaby, Greenwood 2005, Creed, Scully & Austin 2002, Munir, Phillips 2005, Maguire, Hardy 2006). One might indeed ask whether we could imagine a case of institutional entrepreneurship without some kind of wilful discursive act? As I see it, as a matter of definition the term “entrepreneurship” basically rules out any change of institutions as a result of unconscious actions – it is simply not that class of events that the concept of institutional entrepreneurship targets (and though this might very well happen it would have to be analysed through other concepts). And though the discursive act(s) might be a continuous effort and/or undergo change along the way, it seems hard to imagine its total absence in a case of institutional entrepreneurship. It therefore seems obvious that some kind of theoretical grasp on the discursive aspects is needed, without, of course, diverting attention away from other potentially important dimension (Lounsbury 2007).

In the existing literature the focus is on the strategies used to frame, initiate, or inspire the desired institutional change. For the strategy, the point of rotation is its potential to mobilize resources, people (alliances), and legitimacy (Rao, Morrill & Zald 2000). A key point here is how to successfully frame an issue in a way that resonates with the intended audience (Suddaby, Greenwood 2005, Fligstein 2001a). In fact, institutional entrepreneurship is very much about framing a project so that it is new, but still not totally out of sync with existing understandings (Maguire, Hardy 2006, Seo, Creed 2002). This means, that institutional entrepreneurs have to start from pre-existing ways of the field or the wider society that they are operating in (Lawrence, Phillips 2004, Déjean, Gond & Leca 2004, de Holan, Phillips 2004, King, Soule 2007, Hardy, Phillips 1999, Lawrence, Cynthia & Nelson 2002). To sum up, these studies address the

important issue of how institutional entrepreneurship is always confined or enabled by the institutional setting. But, as this study will show, to understand precisely these mechanisms the discursive dimension must be addressed in a more comprehensive way. If the discursive dimension is not an integrated part of the theoretical framework the context for institutional change is discussed only on an ad hoc basis if the empirical data suggests it. And without a theoretical grasp it is difficult to adequately discuss conditions for discursive acts or strategies and the possibility to compare or even generalize insights is limited.

Discursive Institutionalism

In Discursive Institutionalism discourse is an interactive process encompassing both structure and agency (Schmidt 2008: 306).⁵ Thus, the specific institutional context of a given discourse defines the “rules of the game” for agency. Moreover, in DI the substantive content of discourse is ideas. This means that the causal chain from idea to policy to institutionalization is explicated. And it is in that respect that DI targets discourse as a distinct analytical level, at which we find some of the causes of institutional change.

For institutional entrepreneurship, however, it is of particular importance to note that in DI new ideas are always introduced into a *particular* discourse. To conceptualize these rules of the game Schmidt propose the notion “logic of communication”. The specific “logic of communication” of a discourse enables and constrains the articulation of ideas, and influences how they are conveyed, discussed and worked with. In the case at hand, it is the Communist Party discourse, which - due to the one party rule - is

⁵ With Discursive Institutionalism (DI) Schmidt groups existing studies within the three branches of neoinstitutionalism (rational choice, historical, and sociological institutionalism) that take serious the role of ideas with regards to institutional change (Schmidt 2008).

basically equivalent to *the* political discourse in China. First, I will highlight one key feature of the “logic of communication”, which is of particular importance for this case. Second, an outline of the actual substantive content of the discourse is presented, because this study is basically about tapping into the discourse and supplement it.

One of the main specificities of China's political system is the degree to which the Communist Party of China and the state have been intertwined (Guo 2001: 301). It therefore makes better sense to merge the two entities in one concept: The Party-state. And with an authoritarian Party-state one of the major differences to western countries is with respect to the conditions for broad-based societal legitimacy. Legitimacy issues are not about direct public support (through elections) but are instead dealt with through an explicit ideology negotiated amongst the central decision makers in the Party-State (White 1993). This has consequences for how we must understand the overall functioning of the Party-state discourse. It is a top-down master discourse that lay out China’s socio-economic future, present, and past (Schmidt 2008: 311). In this master discourse all disagreements are negotiated, settled or suppressed before any documents are released. The master discourse in China therefore represents the changing power equilibriums amongst elite fractions struggling for power (Shambaugh 2008: 157).

Moreover, this particular Chinese institutional setting also blurs Schmidt’s theoretical distinction between coordinative and communicative discourses (Schmidt 2008: 310). In the literature *coordinative discourses* normally refer to the policy sphere where the coordination, elaboration and creation of policies and programs are done by agents at the policy centre. In contrast, *communicative discourses* refer to the political sphere where ideas generated in the coordinative discourse are presented and discussed. In China, however, these distinctions are somewhat misleading. The communicative discourse, for instance, does not include any dissenting voices due to the one-party rule. And the coordinative discourse is only shared by the absolute top of the Party-

state as well as some designated expert groups who are called in – only on an ad-hoc basis - to assist in the policy creation. This again relates to the authoritarian one-party rule in which a more or less public coordinating discourse is viewed as a potential source of social unrest. The reasoning seems to be that the Party-state must present itself uniformly and thus prevent the public from choosing side and thereby split the Party (Shambaugh 2008: 42).

How then should we understand the Party-state master discourse? The discourse is basically about communication and legitimacy, which at a first glance makes it resemble a communicative discourse. The audience, however, mostly resembles what we in western countries would define as the agents in the coordinative discourse, i.e. politicians (the 70 million Party members), civil servants (cadres), experts and organised (state sanctioned) interest. This follows from the absolute top of the Party's need to coordination with the broader elite, i.e. the Party-state. It therefore makes most sense to see the Party-state master discourse as a communicative discourse but with strong coordinative features.

Sustainable development

As this study is about outsiders, who do not normally have access to actually changing the discourse, the actual content of the discourse becomes of major importance. For this particular case the most important aspect of the discourse is the concept of sustainable development and how DP managed to link to this.

The concept of sustainable development entered the Party-state vocabulary in the beginning of the 1990s. With sustainable development the social and economic problems caused by the expansion of population, excessive consumption of resources, and environmental problems (pollution and reduced biodiversity) were addressed in a more encompassing and comprehensive way than before. The point was to sketch out a new path for sustainable development where issues like population, economy, society, natural resources, and environment were considered as a whole. As argued elsewhere

the concept of sustainable development evolved as a logic in its own right centred on balanced development and a longer term economic, social and environmental perspective (article 2, Friedland, Alford 1991: 248). A more sustainable approach was called for with respect to resource consumption and industrial production as well as on the macroeconomic level to balance out income disparities and the urban – rural divide. As a logic, “sustainable development” led to the emergence of the organisational field of renewable energy in China (article 2).

Method

In line with Maguire, Hardy and Lawrence I will argue that cases of institutional entrepreneurs in emerging fields are well suited for qualitative studies (Maguire, Hardy & Lawrence 2004: 660). The case calls for a detailed and interpretative analysis because the phenomenon is poorly understood and the particular context is important to take into account (Garud, Jain & Kumaraswamy 2002).

The empirical data consists of a number of interviews as well as presentation material published by DP. This last part includes two presentations by a DP board member (slide shows), information at DP’s website, and one lengthy written presentation that outlines company structure, market potential, business strategy, and financing and valuation prepared by DP for key stake holders, business partners and investors. With regards to the interviews, one pilot interview with a DP board member was conducted in Denmark in order to explore different perspectives on the case. Based on the pilot interview an interview guide was produced and an additional five semi-structured interviews were conducted at DP’s headquarters in Beijing over the course of a week. All interviews were with key persons at the top executive level.

The founders of Dragon Power and the key executives make up a very limited number of persons. The five in-depth interviews was therefore enough to reach data saturation

for this particular case. To a great length they shared the same interpretations, analysis and narrative of their company's development.

Another issue of importance, especially with the limited number of persons involved in the process, was the reinterpretation of past events and strategies. This can never entirely be avoided but certain measures were taken to ease the problems. Thus, in order to verify and cross check some of the key insights from the interviews with DP executives, I also managed to arrange an interview with the director of the Renewable Energy & Rural Power Division at the Energy Bureau of the National Development and Reform Commission. For DP this division functions as their main government counterpart (on the central level). This informant was able to verify DP's role in the process of institutionalizing biomass as a form of renewable energy in China.

All interviews with executives at DP were conducted in either Danish or English. The interview with the director at NDRC was conducted with the help of an interpreter. All informants were therefore able to answer questions in their native language or their working language.

The questions circled around the strategic approach of the company throughout the different time phases. The line of questioning aimed at uncovering where DP's approach encountered challenges when confronted with the field as well as when they were following the "taken for granted" ways of the field. These questions were helping to map out the institutions of the field and not least the institutions that they had to confront and eventually alter. In order to outline the DP executives' perception of change they were asked to describe in more detail the situation before and after this or that initiative. Finally, concrete examples of events were asked for in order to be able to cross-check events through secondary sources.

Analysis

Dragon Power's history

In 2003 Kai Johan Chiang, Anders Brendstrup, and their chauffeur started to look for business opportunities within the energy sector, mainly coal power generation. At that time China's coal industry had just experienced a major boost. However, this also meant that a lot of really strong Chinese players had already established a solid market position and that the market would probably flatten out after the initial boom. After half a year of research they decided to aim for biomass power generation of which both Kai and Anders had some prior experience in and knowledge of.

In January 2004 they established Dragon Power and bought a license from a company called Bioener ApS⁶ to produce boilers for straw combustion. However, it took DP an additional three years before they acquired their first license to actually build a biomass power plant. In this time span they overcame several significant barriers. For instance, there was a regulation that banned the establishment of power plants that produced less than 50 MW. As a standard biomass power plant produces about 30 MW, DP was left with quite a hurdle. They basically had to go through the difficult process of bending the rules and eventually acquire a special license.

The idea of “waste as a resource”

The key problem that DP faced was a complete lack of knowledge about biomass in the Chinese government. They simply hadn't heard about it and it was not mentioned

⁶ BIOENER ApS is owned by Takuma Co., Ltd, a Japanese company which is one of the largest Japanese manufactures of industrial boilers. BIOENER ApS has acquired the patents and know-how to produce straw fired boilers from FLS Miljø.

in any government report about renewable energy.⁷ For instance, as late as 2003 in the "Program of Action for Sustainable Development in the Early 21st Century" published by National Development and Reform Commission, only hydro, solar, and wind power is mentioned.⁸ DP was therefore faced with two problems: Nobody knew about biomass power generation and when they learned about it, they didn't know what to do with it. There were no directives, no regulations, no standard operating procedure, and no models to emulate. DP's introduction of biomass to the Chinese state apparatus was therefore on a very concrete level met by significant technical barriers. How should biomass power generation be handled? By which department? Under what regulation?

Also the broader understanding in the Party-state of energy issues was a hindrance. Anders Brendstrup compared the difference in understanding by referring to the Danish situation in the 1970s: "Before the oil crisis in 1973 energy in Denmark was all about coal and oil. After the crisis we started to look for other sources. The situation in China, when we introduced biomass, was very much like in Denmark before 1973."⁹

What DP introduced in China was a completely new way of thinking, where agricultural waste was understood as a resource – a potential source of energy. It was a new way of thinking which opened up new opportunities but also a range of technical problems. Using agricultural waste for biomass power generation was therefore in the Chinese context a completely new idea which required a mental shift.

⁷ Interview with Liang Zhipeng, Ph.D. Director, Renewable Energy & Rural Power Division, Energy Bureau, National Development and Reform Commission.

⁸ See: "Program of Action for Sustainable Development in the Early 21st Century" published by National Development and Reform Commission.

⁹ Interview with Deputy General Manager, Anders Brendstrup. The Danish example was a natural starting point because Anders Brendstrup and I are both of Danish nationality.

It is well known that the emergence of new industries is often hindered by what Aldrich and Fiol calls a lack of cognitive legitimacy (Aldrich, Fiol 1994). It simply becomes difficult for the institutional entrepreneur to communicate sense about this new activity. And as illustrated by the description above, they were also up against a massive institutional inertia in the sense that the “normal” way the Party-state did things would basically continue to keep DP out of business.

The work required by DP to introduce biomass power generation underlines the profoundness of this idea in a Chinese context. Both the founding fathers of DP, the Chairman Kai and Anders Brendstrup, described this process as extremely hard and difficult: “We are the first ones. Before Dragon Power nobody knew they could use straw or forest waste to produce electricity. (...) We had to work like a donkey. All the time talk talk talk... We send out 100 letters and got maybe one trough to a vice premier.”¹⁰

They learnt that what they needed was a political approval which could push away the technical barriers. So what they did was to knock on doors, meet with as many government officials as possible, and participate in and push for visits by Chinese high level decision makers to biomass power plants abroad. They did this for close to three years before they finally got there first approval to build a biomass power plant. The fact that they had to sell their electricity production at the same price as for coal power production underlines just how many of the technical issues that were left unresolved even after the first approval. As a consequence DP was left with a financial problem, because renewable energy production tends to be more expensive than energy production based on coal (that is if the externalities of coal production are not added to

¹⁰ Interview with Chairman of the board, Kai Johan Jiang.

the price). They had to wait until after the Renewable Energy Law was promulgated in February 2006 before they could benefit from subsidization through a feed in tariff.

One of the most important turning points in DP's history was the visit to Denmark in 2004 by Wu Bangguo, who was the Chairman of the National People's Congress and thereby in the top-three of the Party hierarchy. During this visit Kai managed to get to present his idea (one hour meeting) to Wu, who apparently endorsed it. According to Kai, this endorsement from one of the most senior leaders in China opened up new doors to the Party-state. Likewise, for the financing of DP's first power plant a visit by the chairman of China Development Bank to a Danish plant (Avedøreværket) was said to be instrumental.

In fact, as soon as the company was established they managed to attract the attention of many of the top Party leaders. For instance, Kai the founder of the company referred to the following meetings: With Wu Bangguo (then Chairman of the National People's Congress and number two in the Party hierarchy) in 2004, two meetings with then vice premier Huang Yu (now deceased) at DP's headquarters, a meeting with then vice premier Hui Liangyu,¹¹ and several meetings with changing majors of Beijing (both Wang Qishen and Liu Qi).¹² Moreover, the walls in the meeting room at DP's headquarters were covered with pictures of Kai shaking hands with various members of the Standing Committee of the CPC Politburo, i.e. former President Jiang Zemin, former Premier Zhu Rongji, Wu Bangguo, former Minister of Foreign Affairs Li

¹¹ According to Kai, Hui Liangyu has for instance stated: "Bioenergy is for our children". Interview with Chairman of the board, Kai Johan Jiang.

¹² According to Kai, Wang Qishen has visited DP twice and Kai has met him several times. When Wang was promoted to Major of Beijing he handed Kai his first business card. Liu Qi (Wang's successor) was also present at that event, and he too has visited DP twice.

Zhaoxing, then premier Wen Jiabao, and the then Danish Prime Minister Anders Fogh Rasmussen. This list of people makes up the absolute top of the Party-state (except of course the Danish Prime Minister). It should be stressed that not just any company in China can present such a track record.

It was during these meetings that the idea of “waste as a resource” was communicated. How they managed to get “waste as resource” introduced will be analyzed below as a discursive strategy.

Discursive strategy

When explaining the idea of understanding waste as a resource DP first had to point out the basic processes involved when using boilers for energy production, the different types of waste (straw and forest waste) that could be exploited, and the amount of waste available in China. Immediately after the technical explanation they linked the idea to 1) the benefits it created for rural areas, and 2) that it was environmental friendly. These two key points could then be substantiated in a number of ways. Environmental friendly, by pointing to the CO₂ reductions, that it was “green” renewable energy, and as a way to escape the pollution stemming from the long distance travel of coal for the coal fired power plants. With respect to rural benefits they pointed to the fact that they could pay cash directly to the farmers for something that was normally considered a waste product (straw) and that it created jobs in rural areas (for running the plant, logistics, etc). Later on, when DP had some plants in operation and thereby some tangible results to point to, they simplified their storyline: “We said three things. First how much CO₂ reductions, second, how much farmer income had increased, third, how many jobs they had created.”¹³

¹³ Interview with Chairman of the board, Kai Johan Jiang.

What is important to emphasize is how both key points were targeting the broad definition of sustainable development in the Party-state discourse that covers population, economy, society, natural resources, and environment. The President of DP, Simon Parker, was clear about this “...this massive urban divide with the East coast of China with huge wealth and now this incredible poverty with 800 million farmers... They are trying to redistribute the income... or to reduce the income disparity. This is definitely China’s single biggest issue”. With this being the situation DP’s business model (paying cash to farmers) was a very direct way to target one of China’s long standing problems.

Moreover, the combination of both environment *and* the benefits for rural China was unique and hence a selling point: ”I said to them (the NDRC)... Wind, solar, hydro is very good too, but the farmer never get the extra money. ”¹⁴ The particular combination was therefore used as a way to distinguish biomass from other sources of renewable energy. What was also striking was DP’s confidence in its choice of strategy: “For a farmer country this idea is perfect. (...) 50 million in net income to the farmers, 250.000 ton CO2 reduced, you can’t stop that idea....”¹⁵

It is also at this point interesting to recognize the possible alternative strategies that DP could have chosen. They could, for instance, have appealed to the very definition of renewable energy, which in most of the OECD world includes biomass. This would have been a persuasive, though highly technical approach. Instead they stayed within the sustainable development logic. Why that proved to be a wise move can be illustrated by the answer from the Director from the NDRC when asked about the

¹⁴ Interview with Chairman of the board, Kai Johan Jiang.

¹⁵ Interview with Chairman of the board, Kai Johan Jiang.

positive aspects of biomass for China: "It's renewable; it protects the environment; it raises farmers' income."

Surprisingly, the link to sustainable development also surfaced when the motivational factors involved in this piece of institutional entrepreneurship were scrutinized in the interviews. Motivational aspects appeared throughout all interviews. This had to do with the fact, that this was a company that was doing something new, which in itself seemed to highlight the issue of motivation, because they had been confronted numerous times with the question: "Why did you do this or that?".¹⁶ And though we were in a business setting which meant that material wealth obviously formed the baseline and source of legitimization of most activities, the interviews also revealed that as the company matured a second motivational factor emerged. Especially the founder and chairman of the company was emphasizing the contribution by the company to China's development. DP was said to be at the very forefront of China's development, in the sense that they were taking part in a process which was about to change China.¹⁷ In many ways this was a part of the entrepreneurial spirit of the company. The positive feedback they got from the Party along the way thus played a key role with respect to strengthening the understanding amongst the DP executives that their company was unique in the way it contributed to changing China's development track towards a more sustainable mode. This motivational aspect reflects an almost ideological drive in the way it becomes embedded in the major political

¹⁶ For the same reason we can see that the question of motivation often appears in the forefront of most studies of institutional entrepreneurship.

¹⁷ Interview with Chairman of the board, Kai Johan Jiang.

agenda of the Party-state (Rao 1998).¹⁸ The agenda's of both Party-state and DP thus merged over the years.

The impressive amount of meetings with high-level people from the Party-state did more than serve as venues for communicating the idea of “waste as a resource”. The fact that they were all documented through photographs served a wider purpose which relates to the specificities of the “logic of communication”. The photographs target the coordinative features of the Party-state discourse by documenting that the idea had been approved by the very top leaders. In this way, the company, DP, facilitated the spread of this piece of information to decision makers in the wider Party-state: provincial governments, ministries, agencies, etc. DP was of course acting in self interest and they obviously had no time to wait until the leaders of the Party-state themselves found time to tell the system what to do. The personal approving through meetings and photographs thus served as a short cut to tell the Party-state to start working on this. The coordination was thereby to some extent outsourced to an external agent with a strong motivation to push on.

By bringing themselves close to the top of the Party-state DP communicated directly to the very few once who can add to or change the Party-state discourse. And by documenting the meetings as events that endorsed the idea, they communicated to the wider Party-state.

The best example of the effects of the discursive strategy in terms of changing the Party-state discourse is the Renewable Energy Law from 2006. This law represents the formal acceptance of biomass as a type of renewable energy in China on par with wind, hydro and solar energy. The subsequent decision by the Party-state to subsidize

¹⁸ It thus goes beyond the narrower concept of a *value* (Wade-Benzoni et al. 2002).

biomass through a feed in tariff provided the financial framework that made building and operating biomass power plants a viable business case.

Field-level impact

When DP managed to get their idea of waste as resource formally accepted, they basically succeeded in expanding the boundaries of the organizational field of renewable energy. In doing so they also expanded the definition of what kind of companies that would be regarded as *renewable energy* company in China. First and foremost it changed DP's own status with notable effect on the market position of the company. For instance, Arndt Nørgaard (DP board member) explained the change in Price – Earnings (P/E) ratio that followed from DP's transformation from being a forge company (producing boilers) targeting the market for coal fired power plants to being a renewable energy company: "The value, which your banks estimate in order to grant you a loan, might be four-five times the annual EBIT value you have. But then when you come in and become a green company... (...). And then the P/E value ranging from six-seven-eight, well it might be closer to a doubling or tripling without anyone really doing anything...."¹⁹ With the change in P/E status we have a very concrete example of how radical the scope of possibilities changed as soon as they could put on the renewable energy tag. It significantly eased the access to and scope of loan giving from Chinese banks. By their own hand DP had thereby changed the very conditions for their business. This amazing change in a company's status that comes with the renewable energy brand is a very obvious example of the increasing institutionalization of clarity of field boundaries.

¹⁹ Interview with Member of the board, Arndt Nørgaard.

The expansion of DP's motivation towards an alignment with the Party-state is indicative of a mutual awareness in the field. And in this instance it is DP, which is taking on the ways of the field – and then subsequently also reinforcing and strengthening the mutual awareness. The alignment with the sustainable development understanding of the Party-state also illustrates the particular structures of domination that exists in the field. At least it seems to be a precondition not to be in conflict or at odds with the Party-state. And when you ask the Party-state to actually change you need to be able to “stand” in the Party-state discourse – that is to accept its basic premises. This obviously also relates to the extent of agreement on the institutional logics guiding activities within the field and thus another example of the institutionalization of the field.

What is more, as soon as biomass was declared renewable, DP automatically assumed a unique position in the field as *the* biomass company in China. By being a first mover DP basically created a monopoly for themselves: “In this market we are a monopoly”.²⁰ This to an extent were they didn't really fear new competitors, because in terms of company building and market knowledge DP was three years ahead of anyone.²¹

One thing is DP's efforts, but the Party-state obviously also endorsed the creation of this monopolistic position. Being able to – in the perspective of the Party-state – to position another agent to the extent that we have seen also speak to the institutionalization of the Party-state's domination of the renewable energy field and its ability to create new coalitions.

²⁰ Interview with Chairman of the board, Kai Johan Jiang.

²¹ Interview with President, CEO, Simon Parker.

The following quote from the Interview with Simon Parker illustrates just how intertwined the relations and interests of both DP and the Party-state had become: “The government is not going to let this industry fail. (...) If we can’t make money – and we are the industry in China – is it going to fail? Or are they coming in and help us make it succeed? We could do this wrong to or three times and we are still going to get help to figure it out, because the Chinese government needs this industry so badly to succeed. Both for political reasons – it is such a good thing for the environment and income distribution”. The establishment of these interorganizational structures of domination and patterns of coalitions are indicators of the emerging institutionalization of the field.

Conclusion

The study at hand has presented a very unique case. Not only in terms of DP’s successful piece of institutional entrepreneurship, but also in terms of setting. Neoinstitutional studies on Chinese cases are rare and close to none existing when it comes to cases of institutional entrepreneurship.

This case study has revealed how DP managed to introduce biomass to China and the wider effects on the emerging field of renewable energy in China. The case has therefore expanded our knowledge of discursive strategies as a way of institutional entrepreneurship. Here, the discursive strategy worked to expand and shape the field boundary. In this way it facilitates the incorporation and establishment of a whole new business sector. DP thereby acquired a unique position which ultimately meant that the Party-state needed DP to succeed. DP’s ability to make business would therefore determine for instance the subsidy level and thereby the overall conditions for biomass in China. The extent to which DP was able to define the rules of the game underscores just how radical an impact one single company can have on an emerging organizational

field. So in this case the problems related to the insecurity of maneuvering in an emerging field turned out to be outweighed by the opportunity to influence the field.

What are then the mechanisms that drove the institutionalization of the field? What the analysis has shown is how crucial it was to establish the link between waste as a resource and sustainable development. As soon as that link was established the re-institutionalization of the renewable energy field (now with biomass) began with new boundaries, a strengthened mutual awareness, agreement on the logics guiding activities, (yet a) confirmation of the Party-state dominance and clear patterns of coalition building. What enabled this process was DP's successful work with reading the particularities of the party-state discourse, both the sustainable development logic and the coordinative features, and positioning their idea accordingly. How they managed to work with their idea was therefore the main mechanism that drove the subsequent institutionalization.

With the analytical focus on the mechanisms of institutionalization this study can therefore highlight the importance for business strategist to take serious the particularities of the Party-state discourse - especially for a politically infused market like renewable energy. This recommendation goes against the commonly held understanding that Party speeches are empty talk or mere propaganda.

Furthermore, the particular setting for the study characterized by a lack of civil society and presence of Party-state interests in most market interactions make up some very different conditions for institutional entrepreneurship than in Western countries. In their own respect these conditions seem to necessitate a theoretical emphasis on the role of the Party-state. For this particular study the emphasis has been provided by Discursive Institutionalism and a focus on the dynamics of the Party-state master discourse in relation to discursive strategies. On the one hand this article therefore adds to the growing literature that views institutional entrepreneurship as an act of discursive strategizing. On the other hand Discursive Institutionalism makes it possible

to take this tradition one step further through a more comprehensive theoretical grasp on the long standing issue of the relationship between institutions and discourses. To the neoinstitutional literature such a reframing is important in order to capture the dynamics that this article, amongst others, has exposed.

Conclusion

Though *organizational field* is a key concept in the neoinstitutional literature, there is surprisingly little knowledge on how they emerge (Greenwood, Hinings & Suddaby 2002, Anand, Peterson 2000, DiMaggio 1991). Through four articles this dissertation has, therefore, scrutinized key aspects of the emergence of China's organizational field of renewable energy and the mechanisms enabling this process. The aim has been to advance the theoretical agenda on the emergence of fields, and to learn more about the empirical consequences of the processes involved in shaping renewable energy in particular, and markets in China in general.

The key argument put forth by this dissertation is that the emergence of the organizational field of renewable energy was initiated by the logic of sustainable development, developed and deepened by the issuance of subsidies, and expanded through the inclusion of biomass. The key mechanisms which drove this institutionalization and thereby the emergence of the field, was the Party-states *idea work* regarding the establishment of the sustainable development logic; the *negotiation* of subsidies by leading companies and the Party-state; and one company's *idea work* that established a crucial link between sustainable development and the idea of waste as resource.

Before a more extensive summary of key findings and a discussion of the wider theoretical and empirical implications, the overall limitations of the study will be addressed.

Methodological limitations and impact on validation

As an organizational field, renewable energy in China is obviously a special case in the sense that it enjoys particularly strong Party-state attention. I have claimed that this makes it a very suitable laboratory for studying some of the mechanisms in play when the Party-state shapes markets. It is, however, also the particular setting of this inquiry that limits the potential to generalize the insights beyond China. The fact that China is an authoritarian country would for one thing seem to enable generalizations to other authoritarian countries. However, China's particular history and the basic fact that China's Communist Party is one of the few remaining Leninist modeled parties in the world makes any generalization complicated. What will be presented below is therefore confined to conclude only on emergence of fields in China. Nonetheless, these insights could hopefully work as an inspiration for further studies on field emergence in settings which do not share China's characteristics.

An obvious limitation follows from the 16 interviews conducted during two field trips. From the outset 16 interviews would seem to be too few to make any sound and reliable base of data. With respect to reliability a few comments will hopefully make it clear as to how these interviews were used exactly.

First of all, it is important to emphasize that the interviews played an absolutely vital role as a way of finding case material and increase my understanding of what was actually going on in the field. Moreover, it is important to take into account that the interviews were used only for the last two articles, and in two different ways. For the third article the interviews could be said to inform the solar power case. Informed in the sense that I learnt about the case from interviews, but the case was basically validated through written sources. The "Louyang Declaration", for instance, was a key source for validating chronology, actual wording, and confirming the information obtained through interviews. The interviews worked to support and put words on these facts. For the biomass case in the third article as well as for the fourth article, the

interviews played a very important role as a key source of information. Here the whole executive level of the company was interviewed, and it would simply have been impossible to find any more relevant persons to interview. *What* the company achieved was, however, possible to validate by looking at their market position and track record. The explanation as to *how* they did it was, on the other hand, based on interviews. Obviously, there is a bias in the sense that the interviews were retrospective and therefore adapted to later understandings by the informants. To deal with this the narratives presented by executives from Dragon Power were cross-checked through written material (business plans), and an interview with their government counterpart, NDRC, worked as a way to triangulate key points.¹ Moreover, regarding reliability, it should be emphasized that the interviews circled around themes that were not considered controversial by the informants.

Using only English written material as the source is another important constrain necessary to address. As noted, this has had limited theoretical implications as almost all neoinstitutional studies have been done in English. Regarding the empirical data, my lack of Chinese reading skills is a bigger problem. Of the two desk studies, the first article deals with the broader economic and societal reforms, which seem well-documented in English. For the particular wording of how the market economic reforms and finally the market economy itself were introduced, relevant Party speeches published in Beijing Review were used as the key source. As a Party mouthpiece these translations were officially sanctioned. The second article's more narrow focus on the Party-state discourse was also based on officially sanctioned translations.² Translations

¹ It should be noted that interviews with NDRC staff are notoriously difficult to obtain. The interview made it possible to actually cross-check Dragon Power's explanations of their dealings with NDRC.

² See Article 2 for a discussion of the quality of the translations, and how they come about.

as such pose some obvious limits as to how this data can be used. As for both the first and second article I have therefore abstained from analyzing specific connotations, but instead looked at the broader picture of how key concepts were developed or reinstalled in the Party-state discourse.

Furthermore, what is lacking from this officially translated picture is obviously the understandings “on the ground” or in the wider populace, which would have been interesting to include. At the very least these understandings would represent what the Party-state had to relate to in their communication. And the access to Chinese written sources would have been a necessity here. There is therefore a built in risk in the analytical set-up that the importance of the Party-state’s own logic is overplayed. If the Party-state has simply reacted to what was already reality “out there”, it is obviously hidden in their self-centred worldview (there is no reason to think that the Party-state would differ from any other organization in this regard). This said, even if the Party-state has been “pushed around” by history the understandings that they develop in this process still remain the platform, they would have to base themselves on for new initiatives. Hence, what I conclude on in the more specific study in article 2 is at least valid – even if it is not the whole story. But it is then up to the subsequent studies to show how these basic logics are dealt with outside the Party offices in Beijing. And this is exactly what is being done in article 3 and 4.

Alternative approaches

It is important to consider alternative approaches to the different aspects of field emergence. For obvious reasons, all of the (few) existing studies on the emergence of fields have chosen a longitudinal approach. As longitudinal studies can be done in many ways and through various methods, there are important alternatives available to the ones chosen in this dissertation. Overall, the desk study of Party speeches presented in article 2 could be said to follow the tradition of historical studies (Dingwerth, Pattberg 2009, DiMaggio, Powell 1991, Child, Lu & Tsai 2007). A few studies have,

however, been based on field studies (Tihanyi, Hegarty 2007, Garud 2008). If such a qualitative field study approach had been chosen, it could have targeted the key persons involved in the early formulation of the concept of sustainable development, for instance, the people from various influential research units involved in drafting China's agenda 21. Through interviews and incremental mapping of links to government and Party bodies such an approach could have provided a richer description of the impact from different sources on the final framing in the Party speeches. And it would most likely have produced an outcome in which the Party-state does not come out as a monolith. This notwithstanding, I have throughout the dissertation argued for the importance of the Party-state discourse as a source of legitimacy and hence an important object for research.

Another, though still longitudinal, approach would have been to emulate the one study of field emergence in China (Child, Lu & Tsai 2007). Child, Lu and Tsai apply a method in which events and activities giving rise to the field of environmental protection are categorized into *critical events* (milestones, disasters, legal/administrative events, release of white papers, etc.) and *trajectory activities* (subsequent activities that reinforce a regular path of institutional development). The strength of this approach is its ability to provide a detailed and coherent description of how the institutional inertia of the existing system was overcome. Though some of the elements of this approach are reflected in e.g. the focus on white books and the renewable energy law in article 2, or in article 3 with the focus on the "Louyang Declaration", it has been done in a less systematic way. This is due to the focus on mechanisms, which have required a more narrow study of some of the less obvious processes that drove the institutionalization of the field.

With these important limitations in mind we can now return to the research question posed in the introduction.

The research question - part one

How does renewable energy in China emerge as an organizational field, and which mechanisms drive this institutionalization?

The two parts of the research question will be answered separately. First, how does renewable energy in China emerge as an organizational field? For answering this question, three aspects of the wider emergence of renewable energy has been analyzed: The initiation, the deepening of the institutionalization, and the expansion of the field.

The *initiation* of the field evolved around the concept of sustainable development. The Party-state in China introduced the idea of sustainability in the early 1990s and elevated it to a “national guideline of sustainable development” in 1996. In the late 1990s and after year 2000, sustainable development became connected to a new economic mode, which represented a new understanding of China’s economic development trajectory. After the new CCP leadership was in place (2002/3), sustainable development became integrated with the “Scientific outlook on Development” as the new leaderships take on China’s development.

It was in this particular combination of ideas that sustainable development came to represent a radical new path for China’s social and economic development. And because of the particular combination it makes sense to describe sustainable development as an institutional logic of its own. An institutional logic characterised by a holistic perspective; taking a low impact on natural resources and human living conditions as its organizing principle; applying economic incentives, scientific progress, and innovations; and drawing its legitimacy from being sustainable.

This logic was to an increasing extent institutionalized, which was evidenced by the way in which rules, regulations, and subsidies were legitimized by sustainable development, and by the emergence of GONGO’s and eco-cities that all subscribed to sustainable development as their source of legitimacy. The institutionalization affected

the establishment of borders between renewable businesses and other (non-renewable) businesses, it increased the information load, and it established a mutual awareness of being in the renewable energy business. These features all indicated the increasing institutionalization of renewable energy as an organizational field. Hence, the establishment of the logic of sustainable development initiated the field of renewable energy in China.

The *deepening institutionalization* of the emerging field of renewable energy in China is best illustrated by the establishment of one key institution: Subsidies. This follows from the basic fact that to companies in the renewable energy market a subsidy is crucial since they would otherwise be unable to compete with the coal price on electricity. Through two case studies (article 3) it was possible to show how solar companies as well as the leading biomass company in China expect subsidies to be negotiable. These companies have obviously a huge interest in engaging the Party-state as they are essentially negotiating their ability to perform economically. The Chinese Party-state's willingness to negotiate relates directly to the logic of sustainable development as the source of legitimacy. Moreover, for both companies and the Chinese Party-state it is the logic of sustainable development that makes it possible to set aside the market logic and instead invite the bureaucratic state logic in. That is, a bureaucratic state logic within which subsidization makes perfect sense. Thus, the possibility of negotiating subsidies is enabled by the way the sustainable development logic can function alongside or even reinforce the other logics. The particular elaboration and combination of institutional logics is therefore the key to understanding the establishment of subsidies, and thereby a key institutional feature of the organizational field of renewable energy in China.

An *expansion* of the organizational field of renewable energy was realized when biomass power production was accepted as a source of renewable energy. This expansion was pushed through by the effort of one single company, Dragon Power. A

key feature in their continued effort was their ability to link the idea of seeing agricultural waste as a resource for biomass power production to the comprehensive understanding of sustainability as represented in the institutional logic of sustainable development. With that crucial link the re-institutionalization of the renewable energy field followed, which meant new boundaries, a strengthened mutual awareness, agreement on the logics guiding activities, a re-confirmation of the Party-state dominance and clear patterns of coalition building. Thus, a discursive strategy worked to expand and shape the field boundary and thereby the establishment of a whole new business sector. Dragon Power's successful institutional entrepreneurship meant that the company acquired a unique position in the sense that the Party-state basically needed the company to succeed (in order to reach national targets for biomass). Hence, Dragon Power's ability to make a profit would ultimately determine the subsidy level and thereby the overall conditions for biomass in China. In many ways, Dragon Power could be said to define the rules of the game, which underlines the immense impact of one single company on the expansion of an emerging organizational field.

The research question - part two

Which mechanisms drive the institutionalization of renewable energy as an organizational field?

With the establishment of the logic of sustainable development we saw how the very top of the Party-state was able to actively position and link new and existing ideas. This process generated a new logic with huge consequences for what is considered appropriate and legitimate decisions in China. Thus, the key mechanism enabling this institutional change was the Party-state's *idea work*.

From the two analysed cases in article 3 we see how both companies and the Party-state seem to take the negotiability of subsidies for granted. The ongoing negotiations enable the constant production of new rules and regulation (subsidies) in the interplay

between companies and Party-state. And in this respect the *negotiability* becomes a key mechanism for establishing subsidies and thereby the institutionalization of the organizational field.

Finally, we have seen how Dragon Power managed to read the particularities of the party-state discourse, both the sustainable development logic and the coordinative features, and positioned their idea accordingly. Through their *idea work* they established the link between waste as a resource and sustainable development. How they managed to work with their idea was therefore the main mechanism that drove the subsequent institutionalization.

Based on how the Party-state constructed the institutional logic, this study therefore shows how the Chinese Party-state, both confined and enabled by the Party-state discourse, can dominate the initiation of a field through its idea work. What is interesting is how the two other mechanisms, the negotiability of subsidies and the idea work of one single company, were based in some kind of openness or flexibility on the part of the Party-state. So where the Party-state is dominating the initiation of the field, the wider emergence (deepening and expansion) was very much influenced by more dynamic relations amongst a larger number of agents. Moreover, it is through these mechanisms that the real institutional change is achieved which in the end establishes the emerging field. It is therefore also through the focus on mechanisms that we find some explanation as to China's alleged ability to change institutions and circumvent institutional inertia (Saith 2008).

Theoretical contributions and future research

As shown in the state of art section of the intro there is a general lack of studies which specifically targets the issue of how an organizational field emerges. Two theoretical avenues were therefore identified with the aim of answering the research question and thereby strengthen our understanding of how fields emerge. These were institutional

logics and institutional entrepreneurship, and for both theories Discursive Institutionalism were integrated in order to strengthen the focus on discursive processes. Throughout the four articles these theories – often in combination - have been explored. Moreover, a mechanism based approach was chosen as a way to direct the neoinstitutional theoretical apparatus towards the drivers of the institutionalization of the field.

Discursive Institutionalism as developed by Vivien A. Schmidt provided an important way to add an analytical level, the discursive level, to the analytical framework. This made it possible to take the Chinese political context seriously when analysing how the sustainable development was constructed within the confines of the “logic of communication” of the Party-state discourse. Moreover, what this analysis also underscored was the importance of the pre-field discursive processes with respect to the later institutionalization of the field.

The theoretical combination of *Discursive Institutionalism* and *Institutional Entrepreneurship* made it possible to show how one key agent managed to expand the emerging field. Though discursive strategies are the best known way of institutional entrepreneurship, an expansion of an emerging field has not been documented before. This study clearly shows that institutional entrepreneurs can play a key role in the emergence of a field.

The particular combination of theories also made it possible to systematically theorize the institutional context in which the discursive strategy was enacted by the institutional entrepreneur. Again, by showing the value of integrating a discursive analytical level, Discursive Institutionalism has proven its relevance as a way of strengthening a neoinstitutional analysis.

The concept of *institutional logics* also provided an entry point to the issue of field emergence - specifically the thesis of co-evolution of field and logic. And again, with

the focus on the pre-field discursive processes it became possible to see how the creation of the logic preceded the institutionalization of the field. This made it possible to radicalize the co-evolution (of logic and field) thesis, and instead describe it as a field emergence around an institutional logic. Thus, the logic came first and prepared the ground for the later co-evolution of logic and field. As noted, this is a new contribution to the neoinstitutional literature. So far, fields have been said to emerge around technologies, markets or policy domains (Scott 2008: 184) or around issue areas or disputes (Hoffman 1999: 352). As mentioned, it should be noted that this field emergence around an institutional logic happened in the authoritarian China with a strong Party-state master discourse. Further studies are therefore necessary to determine whether fields can emerge around logics in a non-authoritarian or even a non-Chinese setting.

What we have also learnt from the analysis is how agents, which we would normally categorize as either state or market agents, can take on, shift between, or even promote “the others” logics. This adds to our knowledge of logics by highlighting a non-conflictual meeting between logics. Moreover, it is in the active application of the particular combination of logics in the field that we find a role for strategic agency. It is therefore possible to point to agents’ ability to shift between logics as a theoretical way around the well-known lack of agency in neoinstitutional studies.

Neoinstitutionalism in China

With a neoinstitutional theoretical approach, this dissertation has insisted on applying a general theory on China - a country often described as a unique case (Edin 2000: 11). The particular Chinese institutional context has (hopefully) functioned as a fruitful challenge to a theory developed and refined through studies in western countries. As mentioned, this has only been done a very few times before (Child, Lu & Tsai 2007).

And what is more, this dissertation can also be said to address the long standing lack of social science studies on China (Johnson 1965).

What have we learned then? First of all, we have seen how the Chinese state played a major role in shaping the sustainable development logic, which had huge effects on the subsequent institutionalization of the field. To the neoinstitutional literature such a privileged role has often been ascribed to the state in terms of influence or dominance of organizational fields (Fligstein 1991: 314). However, what this dissertation presents is a radicalization of this general insight if related to the authoritarian system in China. Even if the state sometimes holds a privileged position in the Western countries, the institutionalization of organizational fields is a much more open-ended and democratically governed process. There will, for instance, always be agents involved which are not present in China or at least play a very different role. Media, for instance, are controlled and NGO's or interest organizations are allowed to operate only to the extent that they do not work against the agenda of the Party-state. There is no organized opposition, and disobedient voices are quelled. And though broad-based societal legitimacy does play a role in authoritarian China, the Party-state is not challenged in nearly the same direct way as in the Western world (Shambaugh 2008: 7). This means that neoinstitutional studies often take their starting point in a more complex and uncontrollable institutional setting. Or a more democratically governed setting in other words. This study can therefore contribute to the neoinstitutional literature in two ways. Firstly, by showing how the initiation of a field can be dominated in a far more profound way by an authoritarian state. Secondly, and with reference to the defence for general social theories mentioned in the introduction, by exemplifying that although the emergence of fields in China might evolve in different ways and with fewer agents involved, the neoinstitutional concepts is indeed applicable to China.

Future research

The theoretical advancements achieved by this dissertation open new questions and avenues for future research. Studies on the emergence of organizational fields in different settings are for instance necessary in order to establishing a more complete understanding of these processes. Can fields emerge around logics in non-authoritarian states or in non-Chinese authoritarian states?

Studies of emerging fields are also essential in order to increase our understanding of when a field becomes an adequate unit of analysis or analytical frame. When is, for instance, a field a closed enough entity to analyze only its internal dynamics and not impacts from the outside? Theorizations of this kind would be of great benefit for future neoinstitutional studies, where the concept of organizational fields will probably continue to play a significant role.

Moreover, keeping in mind the importance of the pre-field discursive processes for the emergence of the field, and the discursive strategy of Dragon Power as an institutional entrepreneur, the application of Discursive Institutionalism has proven its worth. However, further studies targeting the processes through which discourses and institutions interact, are necessary. At least it seems to be very important if we are studying *institutionalization* and not just institutions.

Finally, China's alleged ability to circumvent institutional inertia is a fascinating theme and needs to be looked further into. While the mechanism of idea work at the highest level of the Party-state might describe exactly such an ability, further studies are obviously necessary. Will China, for instance, be able to do this when it is not about investment driven building and creating, but also when it is about regulating and changing behavior? This kind of institutional change "against the wind" is exactly what China will have to embark on to fulfill the promises inherent in for instance the sustainable development logic.

Empirical insights

Insights from this dissertation have consequences for both governments and companies. The overall claim is that what happens in China's renewable energy market have global effects. Not only in terms of global attempts to reduce emissions of green house gasses, but also in terms of global business development.

Firm level

A consequence of the uncovered processes relates directly to the market development. We know now that the drive behind renewable energy in China is based on a very broad and comprehensive understanding of sustainability. This means that the attention paid to developing renewable energy is not as tightly coupled to climate issues as in most Western countries. This insight is of major importance for the strategizing of companies in relation to the expected level of investments from the Chinese state, and thereby the size of the market these companies are in. As noted, the failure of COP15 in Copenhagen, and the politicizing of the climate issue in most Western countries have raised doubt about their future commitments and willingness to invest – especially in the short run. This is simply not the case in China. Consequently, there is no reason to doubt that China is going to remain the leading investor in renewable energy in the next decade.

Moreover, to companies with new technologies and renewable solutions this dissertation have clearly illustrated that completely new subsidies can be quickly launched. Understanding the speed and flexibility with which markets in China can develop is obviously crucial. The Chinese potential to develop markets will continue being a key attraction point to companies worldwide.

Tapping into these processes can, however, be challenging. The many foreign as well as Chinese companies aspiring to succeed in China's market for renewable energy will

need to be able to relate not only to the logic of the market but also to the logic of the state and especially sustainable development. It is necessary in any communication with the Party-state, and especially when dealing with for instance subsidies. And one way or the other, subsidies would come up when designing business strategies for the longer term and obviously when lobbying for the issuance of subsidies. Relating to these different logics therefore remain directly linked to renewable energy companies' room for maneuver.

This dissertation has brought to the fore some of the best cases of agents being able to navigate in this mix of logics. Agents, who worked actively to change the core conditions for their companies. What these agents had in common was their familiarity with the particular Chinese setting and ability to take on different logics. Obviously, to foreign companies this is much more difficult. They would for instance tend to take subsidies as givens, while this dissertation has shown they are actually negotiable for leading companies. Foreign companies need therefore to ensure that they have staff sufficiently skilled in understanding these circumstances and adequately equipped to act in them. This challenge is exacerbated by the fact that it is very rare for Chinese professionals to oscillate between jobs in the government and in businesses. There is simply a lack of people with experience from both fields.

On a very concrete level, this dissertation can also point to the importance of taking seriously the Party-state discourse - especially for a politically infused market like renewable energy. This recommendation goes against the commonly held understanding in business communities that Party speeches are empty talk or mere propaganda. The particular type of vocabulary applied in these Party documents will be necessary for promotion materials targeting the wider Party-state, for instance on provincial or lower administrative levels or in dealing with state owned enterprises.

Policy relevance

In the longer run China's ability to shape markets also has consequences for Western governments. They have to take China into consideration in a number of interrelated ways, for instance in relation to their own national levels of subsidy. This follows, because when discussing subsidizing one of the key arguments is not only the political aspiration to move towards a more sustainable development track, but also the effects in terms of business development, i.e. that subsidies would help foster companies who would eventually be competitive – even without subsidies. But in a globalized world, and if we are talking sufficiently big markets, the effects on business development would tend to benefit the first mover. At least this is the Chinese take on it.³

Moreover, it is important to take not only China's subsidies into consideration, but also the wider business environment. For instance, on the one hand China's low prices on energy remain a major disadvantage for further market developments (because traditional sources of energy are too competitive), but on the other hand China's low production cost is still a key point in terms of attracting companies. This has for instance meant that German, Spanish and Japanese subsidies for solar power have made China the leading manufacturer on a global scale. This example, which runs counter to the first mover argument, illustrates that the added value in terms of business development could easily – in a globalized economy - end up in China. The bottom line is that the specificities of the Chinese market are becoming of increasing importance to policy planners in the Western countries.

³ A future market that could very well turn out to be an example of this, is the market for hybrid or electric cars. Chinese initiatives and investments could make China a hot-spot for developing solutions for tomorrow.

Concluding remarks

For more than 30 years, the Chinese Party-state has been busy shaping markets through industrial policy making. This effort is closely connected to China's particular way of handling the borders between state and market as pointed out in the introductory article. This handling has enabled a very benign policy climate in relation to subsidies and market creation in general. And exactly because China's way of handling the border is not a deliberate short term political move but a result of a historical development and hence much deeper institutionalized, it will not go away in the short run and maybe not even in the long run. For this reason, I argue that the current high level of trade disputes involving China (briefly mentioned in article 1) is not just a temporary phenomenon, but instead indicative of a prolonged clash between Chinese and Western ways of handling markets.

Subsidizing is handled in a paradoxical way in a Western context. On the one hand (again for historic reasons), we maintain huge subsidies for the agricultural sector. On the other hand, the neo-classical economic textbooks, which do not speak highly of subsidies, are dominating the Western economic thinking in all other areas. For instance in the industrial production, where in the West we tend to see subsidies in general as market distortions and the more specific subsidies as attempts to pick the winners, which is destined to fail. Yet, this is exactly what China is doing. The textbooks might very well be correct and China might waste money investing in the wrong things. Or maybe they might just have the market size to make them winners? The point is, we do not know and we will not know for many years. Meanwhile, things are happening on the ground which have effects and cannot be ignored.

We know that Chinese companies are expanding internationally. This means that the issue of subsidizing not only concerns the Chinese market. Some of these subsidies, direct and indirect, affect the competitiveness of these companies on the world market

as well. For instance, one of the executives in one of the solar companies that I interviewed willingly admitted that the company would have gone bankrupt during the economic crisis in 2009 if the Chinese banks had not kept them floating. This kind of policy motivated support illustrates how crucial the more subtle ways of subsidizing can be. However, to prove my point, what goes on in the solar business in China has not gone unnoticed. US companies have just filed a complaint in the WTO, accusing China of subsidizing its companies and making them too competitive. In March this year, the US imposed therefore preliminary anti-subsidy duties of 3 % to 5 % on Chinese solar panels, followed by anti-dumping tariffs ranging from 31 % to nearly 250 % in May.⁴ This move will also force the EU to take a stand. Will the EU Commission help the few remaining European solar companies and try to level out the playing field by joining the US in an antidumping case against China? Or will they look to the climate agenda and welcome cheap Chinese solar panels as a major contribution to cutting down on emissions?

In a Danish context this complaint has been filed right at the point where solar panels have reached the economically feasible tipping point making it an attractive investment to any homeowner. This tipping point was by the way reached by the exact same companies that signed the “Louyang declaration” and worked to drive down costs.

Obviously, these questions are not easy. There are a lot of different agendas in play, and finding a political standpoint fitting all settings is challenging. Interestingly enough, on the European level, a policy initiative by the Vice President of the European Commission in charge of competition policy, Joaquín Almunia, clearly

⁴ Obviously, the set of rules governing this field in the WTO plays a key role, but I will abstain from going into that debate. It suffices to say that any Chinese company could be seen as being subsidized simply through the (below market) price on energy and cheap land lease.

illustrates that hitherto fixed positions are drifting. On 8 May 2012 the Commission adopted a Communication on the Modernisation of our State aid policy, which stated: “Under the present circumstances, public support to firms is fully justified and needed provided it is efficient, well-designed and addresses a real market failure.” Setting aside the interesting question of whether Almunia has been inspired by China, the initiative clearly shows that state subsidy in some form is on the agenda.

Since we have not seen the last of China’s industrial policymaking and ability to shape markets, the big question is whether Western governments will keep fighting China on these issues or whether realities on the ground will force Western governments to adapt?

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