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“Emerging Energies, Emerging Landscapes:
Revisioning the Past, Constructing the Future”

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Scientific Report

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Executive summary

Over the past decade, the European Union (EU) has initiated a process of reforming energy sectors and energy policy. European countries have developed a variety of policy schemes in order to foster the development of renewable energies. The ongoing changes in the European energy mix trigger new interest in the landscape-energy relationship. Due to their decentralized pattern, the spatial impact of renewable energies provides a perceptible link to energy generation. This spatial impact can be regarded as the re-composition of socio-technical links to energy generation and its environmental impacts. Landscape is one important arena for such links, not the sole, but of particular interest as it calls for new policy schemes in order to open up decision processes and integrate a new dimension into energy policies. Many of the new policy schemes are intending to address both energy and (other) spatial issues. As these emerging policies face a variety of challenges, a renewed understanding of landscape issues seems to be called for in order to improve policy instruments. The idea underlying this workshop was that the notion and practice of landscape could be revisited through the analysis of planning and/or siting processes in order to reach a better understanding of the process of social construction of landscape.

The workshop was organized over three days. The first day was covering issues related to the general relation between landscape, energy and the social. The second day was devoted to issues related to the planning and the siting of renewable energies. The third day was continuing with issues of planning and siting before turning to conventional energies.

The general relation between landscape, energy and the social was discussed based on seven presentations. They covered issues related to landscape and power, the turn to carbon neutral landscapes and the need for the emergence of new landscape aesthetics, the various forms of energies embodied into the landscapes, the debated social and environmental impact of new energies such as biomass, the debated relevance of carbon accountancy as a rationale for assessing landscapes environmental performance, the involvement of non humans (e.g. wind, birds) in agencies/assemblies driving the construction of new energy landscapes. *The planning and the siting of renewable and conventional energies* was discussed based on 9 presentations covering cases of successful or unsuccessful planning of wind power, accounts of policy processes in conventional energy (water in Spain), case studies examining the perception of energy landscapes from the viewpoint of different group of actors (off shore wind power) or for different types of energies (comparison of hydro and nuclear energy impact on perceived river landscapes) as well as more theoretical contributions on planning theories or the role of aesthetics categories in wind power planning (Australia).

Overall, the contributions covered a broad range of issues related to energy landscape. They range from empirical to theoretical approaches and came from fields such as cultural geography (including planning theories), political sciences, anthropology of landscape, science and technology studies and landscape design. They dealt with the development of renewable energies (e.g. wind power, biomass) and more conventional types of energies (e.g. hydro, nuclear ...) and covered a range of different European countries. Planning issues and the underlying narrative and connections of energy landscapes to the cultural and political context were tackled, which provided us with room for very stimulating exchanges.

Ample time for discussions was provided and a synthesis was made by one participant at the end of each day. This moment was the occasion to discuss the outcomes of the day and try formulate research questions that were felt to be theoretically and empirically relevant by the participants as well as meaningful at the European scale. The idea was that such questions could help us formulate a research agenda in the area and contribute to the future direction of the field. Four themes emerged as key research questions, approached in the discussions through many sub-questions (Cf. report 2.1).

Theme 1. Landscape, power /energy: clarifying basic analytical concepts

The relation between landscape, power and energy has been at the core of the discussions. Two questions were formulated to which further work should point at, if not start to answer, so as to frame future research perspectives in the area. These questions are: What do we want to look at when analysing the “energy turn” in Europe through landscape? What do we want to look at, when we look at landscapes in terms of energies? Answering such questions implies clarifying further the notions of energy/power and landscape and their relations, which all underlay the workshop agenda

Theme 2. Setting the stage: accounting for the variety of emerging energy landscapes

An important dimension to cover is to account for the variety of emerging energy landscapes in Europe and the ways in which these energies affect existing landscapes. Wind power is an evident case at the time being, but other energies should also be taken account of. Methodological issues also emerged in asking *how* we should reflect on these changes, some participants being more inclined to positive descriptions whereas others defended more normative/prescriptive approaches. In turn, research work should answer the following questions: How do newly emerging energies change landscapes in the different regions of Europe? How should we reflect on these changes and on the resulting landscapes? How are emerging energy landscapes perceived in the different regions/ countries of Europe?

Theme 3. Power, network and (re-) connexion: Which future, which governance, which assemblies and which aesthetics for the emerging energy landscapes?

The third dimension embarked on a very metaphoric dimension of the notion of power, that of network and connexion in their material or social acceptations. A key idea was that new energies might bring new power to some regions in Europe and change the current patterns of power. This led us to question the ways in which the overall landscape of power could evolve, connect or re-connect. This topic was embraced rather broadly, covering issues that ranged from vision for the future to governance, assemblies or new aesthetics. Key research questions were: What could be the future of energy landscapes in Europe: options and visions? What about the relationship(s) between emerging energy landscapes and the institutions underlying the development of renewable energies? Which governance for the emerging energy landscapes in Europe? As regards to the emergence of new assemblies in relation to the new energies, who is empowered by the new powers and by which processes? Which aesthetics for the emerging landscapes of energies?

Theme 4. Dealing with scale: global/national policies, local processes, planning/ siting

Scale was often pointed at as an important issue for planners. Due to their multi-dimensionality, the developments of renewable energies and energy landscapes raise crucial scale issues, which global or multi-national regulations have difficulties in reflecting upon. This calls for theoretical work and evidence-based case studies in order to understand the ways in which successful or non-successful policies and processes are dealing with the scale issue, succeeding or not in setting multi-scalar processes. In turn, research questions are: How is the articulation between EU policies, the national renewable energy policies and the local processes of development of these energies currently structured? How does that “scaling” of the policy process compare with (what could be prescribed by) the “subsidiarity” principle? How might scales be differently “re-connected” in the policy process? How do issues related to the European energy network and the EU energy policy compare with those involved in the development of new energies at the local level, at which people experience the landscape (visual but also leisure ...)? What are the landscape representations underlying renewable energies planning decisions in different countries / regions in Europe? How do they compare across scale or institutions? How can frameworks and practices be developed that help to include the creation of new landscapes in the siting and planning process for renewable energies?

As to the outcomes of the workshop, one major outcome has been to allow the participants to meet and have time for a three-day long intensive scientific exchange. We got to know one another. Everybody enjoyed the social and scientific dimensions of the event, which results, today, in a strong desire to co-operate further. The EEEL (Emerging Energy Emerging Landscapes) network is born. A website hosted at CIRED is under development to follow up with its future activities.

The workshop also opened three perspectives for group publications, which would allow, if successful, to publish about 14 contributions out of the 19 contributions presented at the workshop.

The first perspective is a Special Issue on “Landscapes of Energies” for the journal *Landscape Research* (Routledge / Taylor and Francis). This project has received a preliminary approval¹. This Special Issue would develop the notion of “landscape of energies” and issues related to it, such as: the relation between landscape and power; the aesthetics issue raised by the emergence of landscapes of energy; the possible rationale for characterizing these landscapes and the social dimension of these landscapes (assemblies related to these landscapes).

¹ Meaning that they agreed, on the basis of the first project we submitted, to review a first manuscript of the Special Issue when it will be ready.

In some cases, Routledge publishes a book out of a special issue of its journals. This possibility has been discussed with the European editor, who thought the subject matter could allow us to apply for this. While it is still too early to seek the approval of the editor, our intention is to pursue this line once the special issue has been sufficiently advanced.

The third project is a Special Issue on “Planning renewables, framing the landscape”. This issue would include about 6 to 8 case studies spanning different national contexts, wind and hydro electricity, land and sea scapes. Papers would explore either one or both of two strongly interlocking themes; (i) the ways in which publics and stakeholders frame renewable energy in specific landscape contexts, and (ii) the tensions that can arise from these different framings when state or private sector initiatives are planned at the strategic (national) or practical (site) level. Editorial projects are still under discussion with different editors.

Finally, we are considering, to apply for European funding in order to develop a European research program on the theme. Following the ESF representative’s advice at the workshop, we have been considering ESF EUROCORES. However, as EUROCORES would allow us, in the best case, to only start the actual work in 2010, this orientation has to be discussed further with the members of the network.

Introduction

Over the past decade, the European Union (EU) has initiated a process of reforming energy sectors and energy policy. Several texts have marked progress towards an energy policy framework that would be more respectful of the environment and take into account EU commitments to the Kyoto Protocol, the 1996 Green Paper, the 1997 White Paper and the 2006 Green Paper. The Directives on the internal market for electricity (Dir. 96/92/CE and 98/30/CE) and on the promotion of electricity produced from renewable energies (RES-E) (Dir. 2001/77/CE) have also been important steps. Kyoto commitments were translated into RES-E national targets for the horizon of 2010. Some European countries have since many years designed, implemented or even evolved national policy frameworks for RES-E (e.g. Denmark, Germany, Netherlands, Sweden and Austria for biomass energy, Spain more recently for wind energy).

While it is clear that energy has always played an important role in the structuring of landscapes, the ongoing changes in the European energy mix trigger new interest in the landscape-energy relationship. Due to their decentralized pattern, the spatial impact of renewable energies provides a perceptible link to energy generation. It reminds us in many ways that our energy comes from somewhere, which contributes to raising consciousness about the impacts and consequences of our energy demand (Pasqualetti, 2000)². This spatial impact can be regarded as the re-composition of socio-technical links to energy generation and its environmental impacts. Landscape is one important arena for such links, not the sole, but of particular interest as it calls for new policy schemes in order to open up decision processes and integrate a new dimension into energy policies.

European countries have developed a variety of policy schemes in order to foster the development of renewable energies. Many of these schemes are intending to address both energy and (other) spatial issues. As these emerging policies face a variety of challenges, a renewed understanding of landscape issues seems to be called for in order to improve policy instruments. The idea underlying this workshop was that the notion and practice of landscape could be revisited through the analysis of planning and/or siting processes in order to reach a better understanding of the process of social construction of landscape.

The workshop was organized over three days. The first day was covering issues related to the general relation between landscape, energy and the social. The second day was devoted to issues related to the planning and the siting of renewable energies. The third day was continuing with issues of planning and siting before turning to conventional energies³. The scientific content of the event is presented in two steps. Part 1 of this report presents the contributions, organizing them in an order which is not chronological but makes sense of the overall scientific content and of the initial scientific intention. Part 2 summarizes the debates and the research questions (§2.1), which the event led us to formulate and lists the outcome of the event (§2.2). Part 3 to 5 provide the final program, the list of participants and statistical information about participants.

² Pasqualetti M.J., 2000, Morality, space and the power of wind energy landscape, *Geographical review*, vol 90 (3), 381-394.

³ Because of contingencies, Paul Selman's contribution, which was initially part of the first pack, had to be moved over to the second day.

1. Scientific content of the event

As an inspiration point, *Jean-Pierre Dewarrat*, an archaeologist and landscape architect working with collective memory in rural Switzerland, presented us a long-lasting landscape process, which has been recognized as a success of social construction: the **design process** of the public space in the village of Gruyère. A village which gave its name to the well-known cheese and stood as a major protected area. Jean-Pierre showed us how landscape issues might shift in a consensual way from protection to project, opening the way for physical and social recomposition. In order to convey the sense of what such a dynamics might achieve, he described the social recomposition which taken place with relation to some design aspects in this project.

Revisiting the notion and practice of landscape has been done with regards to contemporary renewable energy technologies, the development and appraisal of related policies.

“Planning” renewables currently is an important policy issue and has triggered an important body of academic literature. It also has been a strong focus for contributions to the workshop. What *Richard Cowell* calls the *“planning problem”* –i.e. the fact that land use planning system has been identified by UK government and industry as *“one of the biggest obstacles to new renewables”* – has received an interesting variety of treatments by other contributors.

Richard Cowell described a case of *meta-governance* in the Wales, trying to analyse the dialectical relationship between modes and objects of governance and to understand why certain states may be inclined towards more flexible arrangements for spatial planning, or strengthened national control over the siting of wind farms. In doing so, Richard argued for (quote) *“a change in perspective as regards to planning, which sees it not simply as an instrument for delivering unproblematic objectives, or as an ideal forum for pursuing consensus on social goals, but as a series of highly imperfect settings in which the construction of objects and modes of governance is contested”*.

Maarten Wolsink unpacked the planning failure of a near-shore wind farm development in the Netherlands (278MW). He pointed at a highly technocratic assessment process supporting top-down decision about the design whilst the landscape preferences held and expressed by the public, local and environmental NGOs were neglected.

Karin Hammarlund also advocated for an encompassing, open to participation, approach to landscape assessment. She built upon case studies concerning the planning process for wind developments over the past 17 years in Sweden in order to set the basis for what she called *“more sophisticated investigations of the social bases of perception of wind developments in our landscapes”*. She made the case for the development of investigation tools that would allow a departure from a formal and visual approach to landscape.

Charles Warren examined public attitudes to onshore wind farm developments in South-West Scotland. He explored the possible influences of different development models on attitudes to wind farms – i.e. community-owned versus privately developed wind farms. As we know, this dimension is highly relevant today as it is often related to the more general national policy framework and subject as such to important and crucial differences in renewable energy development among European countries.

Robin Tenant-Wood proposed an ethical approach to the planning problem, questioning whether the value of aesthetics and the ethical relationship between humans and landscape might be valid reasons for opposition to wind power development. Building upon two Australian case studies, she identified, through a discourse analysis, the value of landscape aesthetics and how this issue was being handled by local governments and developers in Australia.

Olivier Labussière took a different and more theoretical angle. Radically distinguishing between the notion of “planning” (i.e. which conceives the geographical space as a stable support for operational methods and expected result) and the notion of “siting” (i.e. referring to the place as a reserve of potentialities able to orientate the course of action), he reviewed the Anglo-Saxon theories of planning (i.e. “social mobilization”, “social learning”, “ecological planning” and “environmental planning”) and questioned whether available theories of planning provide us with notions helping us to conceptualize what might, as well, be called the “siting problem”. According to him, the issue is (quote) *“to define what would be a process of planning made up of control and un-control, regulating the spatial distribution of wind power projects without over-determining the singularity of the places from which landscape exploration starts.”*

This set of contributions already raised a number of key questions regarding the status and role of participation and opposition in planning.

Revisiting the notion and practice of landscape was also expected to be undertaken with regards to more **traditional energy generation** (e.g. hydro and other conventional electricity utilities ...), which was done on the third day of the workshop.

The contributions by Sophie Bonin and Marina Frolova addressed hydro and nuclear energy landscapes. They did so by analysing landscape representations in their relation to the way in which landscapes are experienced as well as to aspects of national politics.

By contrasting running and dead waters, lake and river literary figures, *Sophie Bonin's* contribution brought insights into the way in which landscapes might be experienced by inhabitants. She showed for instance that, in the Loire river basin, a nuclear landscape is experienced at a local scale like a monument without affecting river landscape, while at the same time the very heavy symbolic system of nuclear power affects the exogenous glance on that same landscape and its social acceptance.

Marina Frolova analysed the relations between the representations of water landscapes, hydro-electric energy and water policy in Spain. She did this by establishing some parallels in public attitudes to water and energy issues. While pointing at the difficulties involved in defining a "hydro energy" landscape, she argued that changes in public attitudes to hydro energy in Spain were not so much related to the evolution of the Spanish energy or environmental policy, but to the changes in its internal politics and water policy.

To some extent, *Kira Gee's* analysis proceeded in the same vein while being concerned with a different type of renewable energy, namely offshore wind power in Germany. She mapped the positions and arguments of a wide range of stakeholders (including institutions, organisations and local residents) involved in offshore wind farming on the West coast of Schleswig-Holstein. She pointed at differences between institutional stakeholders on the one hand and local residents on the other, with implications for future use of the sea as a significant source of wind energy. The comparison contrasted issues of technological/financial feasibility and unresolved spatial planning with concern for the future of intangible spiritual qualities of the sea perceived as a peaceful and uncharted territory by local inhabitants.

The **link to the broader political and social system** present in these analyses is somewhat reminiscent of existing approaches to landscape, such as for instance of Kenneth Olwig's "*Landscape and the Body Politic*"⁴, Barbara Bender's "*Stonehenge: making space*"⁵ or C. Mukerjii's "*Territorial ambitions and the gardens of Versailles*"⁶ which brought to the fore that landscape is at the same time instrument, place and media for the political power. Mukerjii showed us that Versailles was not only the place mirroring and symbolizing the power of Louis the 14th: It was the place *through which* this power was conceived and enacted. Versailles garden *was* France. Military innovations and the unification of the French territory *derived from* Versailles garden. Kenneth Olwig showed to us that landscape, first common place and polity, became through theatre the make-believe and scenery landscape, the backdrop against which the body politic was staged, paving the way to the imagined community of the nation state. By analyzing contestations about Stonehenge, Barbara Bender clearly shows the extent to which such a mythical landscape is a contemporary place of power. The current large scale European turn in Energy and its connexion to global policy processes and the global politics, makes landscape of energy into an object that is definitely relevant to such perspectives. *Kenneth Olwig's* and *Paul Selman's* contributions to the workshop will explore this direction in different ways.

Pointing at the "hybrid" nature of both *Power* and *Landscape* in the sense that both notions have natural and social acceptation (i.e. source of energy / driving force in the political and ideological landscape; "natural scenery / "political landscape"), somewhat converging in the aesthetic and emotional field under the notion of "sublime", *Kenneth Olwig* analyzed a tendency towards the "mono-elemental" favouring a singular perspective in landscape as well as in the way we conceive energy (i.e. pure electricity rather than multiple, embodied forms of energies). From there he advocated the necessity to (quote) "*tease out the ways in which the landscape of "energy," in the physical sense, has become intertwined with that of power, in the social sense, and that of the sublime, in the aesthetic sense.*" Concrete implications

⁴ Olwig K.2002, "Landscape Nature and the Body Politic",

⁵ Bender B., 1998, "Stonehenge : making space", Berg, Oxford, pp254.

⁶ Mukerji C. 1997 *Territorial ambitions and the gardens of Versailles*, Cambridge : Cambridge University Press 393 p

evidently relate, for instance, to the industrial and financial patterns by which wind power is currently developed, to the siting of energy infrastructures and the type of legibility such infrastructures provide as part of landscapes or even to the capacity of the “*mono-elemental*” to favour an energy mix having chances of reducing our dependence upon carbon based energies.

The turn towards post-carbon landscapes precisely was the focus of Paul Selman’s contribution. His historical overview showed that we ‘*learn to love*’ landscapes - meaning, we develop an ‘acquired aesthetic’ for them - , but we learn very slowly. Paul considered production, consumption and embodiment of energy as a driving force of future cultural landscapes. He turned to insidious and cumulative changes that might affect the ordinary countryside. He suggested that, while creating apparent conflicts with the treasured cultural landscapes of Europe, the pursuit of sustainable development in an informed and democratic way can produce landscapes that people learn to love because they endorse the underlying narrative. In other words, he advocated for consciously accelerating our understanding of what will constitute the ‘good landscape’, by emphasising its underlying story of sustainable development.

Charles Greer’s and *Dan van der Horst’s* papers could be regarded as attempts at raising consciousness as regards to the issue of the “*good landscape*”.

Charles Greer proposed an empirical modelling of what he called the “composite landscape”, which is landscape conceived as the composite of all features on the land surface, without *a priori* distinctions such as “human and non-human”. His model, inspired by concepts coming from the field of Landscape Ecology, provides us with both analytical concepts and a physical expression of the human—environment relationships. It enables us to count energy, matter and information embodied in or spent for maintaining the landscape, contributing to answering the question of what could be a sustainable landscape.

Dan van der Horst developed a somewhat related approach by drawing upon an industrial ecology framework. Based on a case study of a Yorkshire landscape long dominated by coal and recently converted to biomass, he explored the ways in which biomass was framed within the carbon debate, interrogating the trade-offs and conflicts surrounding the production of dedicated and subsidised energy crops like coppiced willow and *Miscanthus*. His analysis followed the crop through the structural sequence of lifecycle analysis (i.e. production, transport, conversion to energy, waste disposal), which allowed him to discuss some of the difficulties involved with applying the language of carbon cycling to biomass. This covered dynamic issues such as: time scale frame, counterfactual uncertainties, lock-in and path dependency.

Alain Nadai’s contribution might also be included, albeit for different reasons, in the pool of papers attempting to answer the question of the “*good landscape*”. Taking the case of Aude in South France, he analysed wind power projects development and local planning, focusing on the role of birds and bird-watching organizations in the making of wind power landscape. He showed how wind power enticed bird-watching organizations to develop new bird-watching methods providing birds with a renewed and intensified presence, while contributing to a siting of turbines that allowed wind to be shared between developers and birds. The case pointed to an instance of rather positive planning and made explicit, through project making, a dimension of the underlying narrative of wind power landscapes –i.e. that they might be a relational and political landscape, relational as they embody a way of sharing energy (i.e. wind) with birds; political as they embody a way of balancing our energy needs with our will to preserve patrimonial values.

The tracing of the assemblies underlying the making and the evolution of windy landscape was shared by *Werner Krauss* in his contribution about the coastal landscape of the Wadden Sea in Northern Germany.. Yet, Werner put the work of assemblies, characteristic of the Nordic landscape tradition, in a broader historical perspective. He traced these assemblies and their capacity to adapt to new discursive regimes and changes such as global warming. In doing so, he discussed concepts such as political ecology, systems of knowledge, network, stakeholder and participation, Realpolitik and others.

Overall, the contributions covered a broad range of issues related to energy landscape. They range from empirical to theoretical approaches and came from fields such as cultural geography (including planning theories), political sciences, anthropology of landscape, science and technology studies and landscape design. They dealt with the development of renewable energies (e.g. wind power, biomass) and more conventional types of energies (e.g. hydro, nuclear ...) and covered a range of different European countries. Planning issues and the underlying narrative and connections of energy landscapes to the cultural and political context were tackled, which provided us with room for very stimulating exchanges.

2. Assessment of the results

21. Contribution to the future direction of the field

Discussions have revolved around a set of questions, which appeared to be key questions for future European research programs on the theme.

Point 1. Landscape, power /energy: clarifying basic analytical concepts

- *What do we want to look at when analysing the “energy turn” in Europe through landscape?*

Landscape is visual, it gives appearance to socio-technical links, it reflects different dimensions of our societies: technical, cultural, social, political ... As such, it has for long been cast in the terms of Power with the tendency to the mono-elemental (e.g. stage, perspective garden, central energy systems,).

Landscape is also a region, a habitus, a multi dimensional place to live in, which reflects on functions, cultures, on the social (e.g. producing food, producing energy, protecting natural species...) and on multiple powers.

Both landscape and power are hybrid notion, having natural and social acceptations.

Historically, Landscapes have evolved under major drivers such agriculture, industry and railway development. Energy has been a driver for landscape change. Yet, the current Energy Turn might seem paradoxical in the sense that “Power” (e.g. Europe, the Kyoto protocol, the “CO2 mitigation” rationale) is calling for “powers” (i.e. renewable energies).

Historically, Power (e.g. the Leviathan) has been opposed to the multiplicity of the political passions (i.e. the body politic).

Landscape as a hybrid notion and a multiple reality endorses an analytical force when it comes to understand changes in and issues related to the notion of Power. Changing landscapes (e.g. the emergence and recent evolution of wind power landscapes) give appearance to changing powers (e.g. the emergence and the industrialization of wind power), while reflecting on the changing Power (e.g. the global wind power industry).

- *What do we want to look at, when we look at landscapes in terms of energies?*

Different energies should be taken into consideration, including at least the production of energies, the consumption of energies, the energies embodied in the landscapes.

Looking at landscape in terms of energies is to some extent a way of departing from the “mono-elemental” tendency of the Power and considering the multiple energies related to existing and emerging landscapes: the multiple powers. Wind, sun or other renewable energies are suddenly giving importance to certain regions in Europe, certain landscapes. The changing energy map of Europe can be an interesting changing map of powers.

Taking account of the multiple energies produced / consumed / embodied in the landscapes is also a way to take the energy turn at its word and explore landscape of energies in the literal sense. It leads us to identify, to count the energy (-ies) embedded in the landscape, to look at landscape and energy trajectories in a dynamic way, considering the material and social process of making energy landscapes.

In turn, looking at these dimensions of the landscape process ultimately points at underlying real-world lock in and path dependencies. Case studies suggest that it is unrealistic, for instance, to consider the carbon argument (i.e. “low carbon” landscape) of a given energy in isolation to other factors that drive the development of this energy. ‘Systems boundaries’ that scientists draw around their lifecycle analysis present an explicit social framing. They are policy-dependent. Alternative options explored for the different materials, the land on which they grow, or for the fuels which they are supposed to displace, are dependent on future policies when policies that decide on these underlying scenarios are likely to be much more short term than their productive implications. In other words, carbon-accounting might back a definition of a “sustainable landscape” but it cannot decide on it as it is ultimately cast in the ray of Power. It is one underlying narrative for such a landscape. As do other narratives, it should thus be “assembled” to be validated and become part of the social.

Issues of diversity, scaling, planning, assembling etc... necessarily come into the picture when looking at landscape in terms of energies. This provides us with analytical pathways into the making of the energy turn and calls for empirical and evidence based case studies.

Point 2. Setting the stage: accounting for the variety of emerging energy landscapes

Landscape of energies is an emerging theme. Case studies show that different policy schemes impact differently on the way renewable energies are developed, which is a source of differences in landscape processes across the various regions of Europe. This calls for description and characterization of the ways in which the new European energy policy impacts on the different regional landscapes.

- *How do newly emerging energies **change** landscapes in the different regions of Europe? How should we reflect on these changes and on the **resulting landscapes**?*
- . Are “renewable energies” a source of “landscape renewal”? Why, how and to what extent?
- . How do they impact on the physical landscape, the visual landscape, the political landscape, the cultural landscape ...?
- . What are the similarities in newly emerging energy landscapes in Europe and what (and why) are the differences in the different regions of Europe?
- . How should we characterize these emerging “landscapes of energy”?
- . What could be a characterization accounting for the various type of energies embedded in these landscapes?
- . What would be the different / competing / complementary rationales for characterizing energy landscapes (e.g. CO2 rationale, life-cycle approach, different ecologies ...)?
- . What are the reach and limits of each of these rationales?
- . How should we formulate a multi-sited ethnographic approach for studying the development of diverse renewable energies and the making of energy landscapes in the different European regions?
- *How are emerging energy landscapes **perceived** in the different regions/ countries of Europe?*
- . What is the role of the visual and of other dimensions of energy landscape in the perception / acceptance of these landscapes? How do these vary across European regions?
- . What is the role of ownership and other institutional dimensions (e.g. policy framework, planning process...) in shaping the perception / acceptance of energy landscapes?

Point 3. Power, network and (re-) connexion: Which future, which governance, which assemblies and which aesthetics for the emerging energy landscapes?

As well as landscape and power, “network” and “connexion” are hybrid notions having both a social and material understanding. Developing a EU wide renewable energy policy implies options as regards to the way in which people and power infrastructures connect to the grid. The new network of power results in empowering groups, actors, regions as well as in re-connecting people to/with the new networks of power and to the new energy sources. The issue raises questions as regards to what should / could be the governance of the energy turn, the aesthetics of emerging energy landscapes and the new assemblies corresponding to them. A Europe wide approach with options, views and possibilities should be part of the exploration.

- *What could be the **future of energy landscapes** in Europe: **options and visions**?*
- . At a moment where the EU is in a process of development of its renewable energies policy and of implementation of an EU wide electricity market, could we translate policy options into policy scenarios? Could we translate policy scenarios into renewable energies scenarios? Could we translate renewable energies scenarios into energy landscape scenarios? If this is the case, could we then formulate options, visions for the future?
- *What about the relationship(s) between emerging energy landscapes and the **institutions** underlying the development of renewable energies?*

- . Are emerging energies renewing the social control over landscape in the different regions and countries in Europe?
- . How can we reflect on issues related to the connexion between national situations and trans-national grid as regards to the emergence of energy landscapes?
- . How does the economic market frame underlying liberalized energy sector in the EU interact with /connect to landscape values?
- . Does this connexion translate into local landscapes, making it legible, perceptible? How? To what extent?
- . What are the types of ownership and institutions (e.g. property rights, incentives, norms, certification and authorization procedures ...) underlying the development of energy landscapes in the different countries or regions in Europe?
- . How do these institutions compare with the one underlying conventional energies (e.g. water, hydro, nuclear ...) and traditional landscapes?
- . If there are differences, how can we explain them and what are their consequences as regards to the development of energy landscapes?
- . Do these institutions generate specific types of connectedness with renewable energies and energy landscapes, such as a “sense of ownership” for instance? Are there consequences for the acceptance of renewable energies and energy landscapes?
- . Accounting for differences in national energy policies, do different types of policies (e.g. fixed tariff, quotas, development zones, meta-governance...) generate different types of energy landscapes? Why and how? What are the implications?

- *Which **governance** for the emerging energy landscapes in Europe?*

The emergence of new energies is providing a golden opportunity to explore myths and accepted evidence as regards to decision processes. Evidence based case studies in different European regions are needed to answer a set of question related to the potentialities of various governance types for handling the energy turn.

- . Given that there is scepticism about whether global warming is happening or not, does the proposition “that we need renewable energies” meet a consensus, or even a qualified majority support?
- . If the answer supports a development of renewable energies, then how should we proceed in “negotiating” the future of our landscapes?
- . Are there barriers for implementing the institutional landscape designed by Europe? Which ones? Why did they appear? What are their impacts and how could they be overcome?
- . Who could handle the national-local divide, and how, so as to translate local initiatives into more ambitious and supportive policies or to create policy frameworks that tend to foster local project initiatives?
- . Are successful planning regulations in some countries transferable to other national contexts? To what extent and under which conditions?
- . Starting from the assumption that governance of all types is prone to failure, to what context do some forms or acts of governance succeed, and in which contexts do they fail /succeed?
- . How does this connect with the “acceptance” issue by local communities, market actors (e.g. energy producers, investors, intra-firm acceptance in big energy intensive companies ...) and policy makers?
- What are, for instance, the crucial factors in acceptance of PV-modules, solar power plants, off-shore wind power, biogas installations, biomass power plants and biofuel production facilities?
- . Could we suggest a methodological framework allowing for the comparison of case studies on governance types across different European regions?

- *As regards to the emergence of **new assemblies** in relation to the new energies, who is empowered by the **new powers** and by which **processes**?*

The development of new energies goes along with a re-composition of socio-technical links. For instance, wind energy brings attention and new power to windy regions, to specific groups of land owners, to specific groups of opponents or supporters of the technology, to birds and bird protection organization, to unknown bat species, to fish populations and submarine milieus (offshore wind energy), etc. The development of biomass energy changes the fate of areas or regions long dominated by coal. It connects Europe with non-European countries through the import of biomass, making it a clean energy here but not necessarily there. The (un)certain ecologies of new energy crops have significant political effects. These changes do re-compose identities, powers and social relations in a broad sense, including human and non-human beings. It re-connects us and touches upon the nature / landscape divide by recomposing frontiers and identities. This calls for evidence based research to look at the processes by which such re-connexions operate.

. How might we describe the processes by which renewable energies re-compose the socio technical links?

. Does the materiality of landscape or that of the different renewable energies influence the ways in which such a re-composition operates?

. Provided that new energies bring new powers to new regions, what is the changing energy/power map of Europe? How might this interact with ongoing political processes in the EU?

. How does this changing map of Europe connect to non European countries through supply/demand of renewable energies, affecting landscapes in non-European countries? How does this compare for the different energies?

. Are international learning processes between opponents or proponents of renewable energies from different countries taking place? How? What are the consequences?

. How does this connect with global issues such as climate change?

. How does political ecology and green groups adapt to the large-scale development of new energies and the emergence of new energy landscapes? Does this affect their traditional alliances and identities?

. Does the emergence of energy landscapes renew the nature/landscape divide? Could we trace this by analysing concrete processes of emergence of energy landscapes?

. Does the emergence of energy landscapes impact on our conception of ecologies or on the way we envisage humans' place in the ecosystems? Could we trace this by analysing concrete processes of emergence of energy landscapes?

. How do references to and perceptions of energy landscape overlap with the public's idea about nature? What are the consequences for the acceptability of renewable energies?

. Do institutions generate asymmetries in people's ability to defend / impact on "nature" versus to defend / impact on "landscape"? If that is the case, what are the consequences for energy landscapes and for the development of the different renewable energies?

. Are "landscape" or "nature" sources of 'lock-in' for renewable energy development? How?

. How does this compare across the different European regions and /or for the different energies?

- *Which **aesthetics** for the emerging landscapes of energies?*

Assuming that things appear on other things, landscapes on other landscapes and that there is no "ground zero", "aesthetics" deals with the capacity to make the word appear and/or enable us to perceive the complexities involved in new emergences. The acceptance, the appreciation of new landscapes of energies comes with the development of an acquired taste for them, a new way of looking at landscapes. As the new energy landscapes, such as wind power landscapes, create apparent conflicts with the traditional landscapes of Europe, a new aesthetics is called for, as well as research which can help to identify its emergence. In order to do so, research approaches are called for, which do not rely on existing landscape types or on the sole visual aesthetics, but enable us to track, describe and characterize the emergence of unknown landscape types.

- . Are aesthetic issues taken account of in planning processes of renewable energies in different countries / regions in Europe? How? Which are the corresponding landscape representations? What are the implications of deriving planning decisions from such representations?
- . Assuming that aesthetics is about perceiving the complexities and richness of energy landscapes, might we understand the “aesthetics of energy landscapes” by looking at their underlying narrative such as their making, their function, their social and sustainable development dimension?
- . Are new ideas of progress and continuity creating ‘new aesthetics’? If this is the case with the development of renewable energies and energy landscapes, what are the corresponding ideas of progress / continuity?
- . May the conceptual divide between “politics of forms” and “politics of affects” proposed by cultural geographers be useful in characterizing the aesthetics of new energy landscapes?
- . Provided there is a consensus on developing renewable energies, which types of learning processes might we need in order to foster the emergence of an acquired aesthetics for the landscapes of energies?

Point 4. Dealing with scale: global/national policies, local processes, planning/ siting

Scale is an important issue for planners and cultural geographers. This is especially the case when dealing with environmental and social processes, for these involve contingencies, unexpected emergences and non-linearities when zooming in / out of spatial representations. Due to their multi-dimensionality, the developments of renewable energies and energy landscapes raise crucial scale issues. Global or multi-national regulations, such as the EU energy policy, can hardly reflect on issues raised at the local by the development of new energies. What might appear as a legitimate delegation under the subsidiarity rationale - for instance, conceiving energy policy in the sole term of quota / price alternative and leaving the territorial/landscape impact of energy developments in care of national/regional authorities - might very well be questioned if the final landscape impact hampers quota or price systems to actually work through. Different from this, but in the same vein, meta-governance – that is, the act of national authorities to set sub-national targets and delegate their implementation to the regions - is not neutral as to the final energy landscapes. Arbitrage at the national scale involves a choice algorithm that is dependent on the available nation-wide landscape representations. This common denominator might very well obliterate landscapes’ intangible potentials and reinforce existing/codified landscape types, raising environmental justice issues –i.e. always protecting the same areas. This appears all the more crucial an issue as: i) Siting processes prove to be innovative, allowing local actors to re-compose landscape types; ii) Visible, large scale energy infrastructures such as the current wind turbines connect scales by raising a “green on green” issue (i.e. they are globally green and generate local environmental impact).

This calls for theoretical work and evidence-based case studies in order to understand the ways in which successful or non-successful policies and processes are dealing with the scale issue, succeeding or not in setting multi-scalar processes.

- . How is the articulation between EU policies, the national renewable energy policies and the local processes of development of these energies currently structured? What is dealt with at which level? Why? What are the implications?
- . How does that “scaling” of the policy process compare with (what could be prescribed by) the “subsidiarity” principle?
- . Would the “Green on green” dimension of some renewable energies, such as wind power, prescribe another type of “scaling” of the policy process? How might scales be differently “re-connected” in the policy process?
- . How do issues related to the European energy network and the EU energy policy compare with those involved in the development of new energies at the local level, at which people experience the landscape (visual but also leisure ...)?
- . What are the landscape representations underlying renewable energies planning decisions in different countries / regions in Europe? How do they compare across scale or institutions?
- . Is there a relation between types and uses of landscape representations in these processes and the multi-scalar potential of these processes?

- . How can frameworks and practices be developed that help to include the creation of new landscapes in the siting and planning process for renewable energies?
- . Does the divide “planning” / “siting” reflect on processes which are different in nature? Might this conceptual distinction boil down to the difference between “planning of” and “planning for”? Is it just a difference in scale for two similar processes? What are the implications of this conceptual issue for the planning of renewable energies?
- . How are and how should the national policy objectives be translated into locally accepted policies (and finally siting decisions)?
- . Are there scale/size thresholds (and for whom) related to the acceptability of energy infrastructure?

22. Outcome

221. Three great days and a strong desire to collaborate further: the EEEL Network

The first outcome of the workshop has been to allow the participants to meet and have time for a three-day long intensive scientific exchange. We got to know one another. Everybody enjoyed the social and scientific dimensions of the event, which results, today, in a strong desire to co-operate further.

The EEEL (Emerging Energy Emerging Landscapes) network is born. A website is under construction to follow up with its future activities.

222. Publications

The workshop has opened three perspectives for group publications, which would allow, if successful to publish 14 contributions out of the 19 contributions presented at the workshop

. A Special Issue on “Landscapes of Energies” for the journal Landscape Research (Routledge / Taylor and Francis)

The first project, which has received a preliminary approval⁷ from the editor, is a Special Issue on “*Landscape of energies*” for the journal *Landscape Research*. This issue would develop the notion of “landscape of energies” and the issues related to it, such as: the relation between landscape and power; the aesthetics issue raised by the emergence of landscapes of energy; the possible rationale for characterizing these landscapes and the social dimension of these landscapes (assemblies related to these landscapes).

This would make 6 papers (in the order):

- . Olwig Kenneth: Energy and the Sublimity of Power in the Landscape
- . Selman Paul: Learning to Love the Low-Carbon Landscape
- . Greer Charles: Landscape as Embodied Energy: Ecosystem Perspectives on the Human-Environment Relationship
- . Van den Horst Dan / Evans James: Carbon claims and cycles: The ecologies of bioenergy landscapes
- . Krauss Werner: Tracing Assemblies in a Windy Landscape
- . Nadaï Alain & Labussière Olivier: Birds, wind and the making of wind-power landscapes in South-France (Aude)

. A Routledge book on the “Landscapes of Energies”

In some cases, Routledge publishes a book out of a special issue of its journals. This possibility has been discussed with the European editor, who thought the subject matter could allow us to apply for this. While it is still too early to seek the approval of the editor, our intention is to pursue this line once the special issue has been sufficiently advanced..

⁷ Meaning that they agreed, on the basis of the first project we submitted, to review a first manuscript of the Special Issue when it will be ready.

. A Special Issue on “Planning renewables, framing the landscape” for another journal

The second project, which is under discussion with editors, is a Special Issue on “Planning renewables, framing the landscape”. This issue would include about 8 case studies spanning seven different national contexts, wind and hydro electricity, land and sea scapes. The final list of papers is still under discussion. Papers would explore either one or both of two strongly interlocking themes; (i) the ways in which publics and stakeholders frame renewable energy in specific landscape contexts, and (ii) the tensions that can arise from these different framings when state or private sector initiatives are planned at the strategic (national) or practical (site) level.

224. Developing a European research program

Another perspective that we are considering, is to apply for European funding in order to develop a European research program on the theme. Following the ESF representative’s advice at the workshop, we have been considering ESF EUROCORES. However, as EUROCORES would allow us, in the best case, to only start the actual work in 2010, this orientation has to be discussed further with the members of the network.

4. Definitive list of participants

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 University of St. Gallen
 Switzerland

5. Statistical information on participants

(age bracket, countries of origin, etc.)

Total number of participants	25	Country of origin	
		Australia	1
Sex		France	5
Male	16	Germany	2
Female	9	Portugal	1
		Slovakia	1
Age bracket		Spain	2
-, 30[	2	Sweden	2
[30, 40[	6	Switzerland	2
[40, 50[	7	The Netherlands	1
[50, 60[	6	United Kingdom	5
[60, -	1	United States	2

Day	Time	Content	Person
June 8 th	9.00 AM ->	Ethics, aesthetics and landscape: a socio-environmental philosophy of wind farm siting	Robin Tennant-Wood (Australia)
	Landscape planning and the siting of energies	Three Dancing Ladies Case study (UK)	Charles Warren (UK)
		Coffee pause (10.30-11.00)	
	Comparing energies	New attitudes to the impact of energy generation on Spanish landscapes: from hydroelectric power stations to new energy landscapes - Case study (S)	Marina Frolova (Spain)
		Hydro dams and landscape representation in the Loire river basin - Case study (F)	Sophie Bonin (France)
	Lunch (12.30-14.00)		
	Conclusion: synthesis of the discussions/ perspectives	Paul Selman (UK)	
	-> 3.00PM	Farewell coffee (15.00 – 15.30)	