



DIRK SIJMONS

**Landscape and energy.
Designing transition; kWh/m²,**

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The transition from fossil fuels to renewable energy is one of the greatest challenges of the 21st century. Its also a challenge where the design capability of spatial planners, architects and landscape architects could play a decisive roll. Landscape and Energy is a ground-breaking book about the effect of this transition on our environment. The book is of special interest because it gives insight in the competences and views of designers in helping forward the transition. It explains the driving forces behind the exponential growth of our use of energy and sketches the breath-taking task that lies ahead.

The design research project kWh/m², of which this book is the result, came about on the initiative of Dirk Sijmons and the firm H+N+S landscape architects he co-founded. Sijmons was appointed as the first State Landscape Architect of The Netherlands, a position he held between 2004 and 2008 and he was Chair of Landscape Architecture at Technical University Delft. Professor Sijmons has worked for several government ministries, the State Forestry Service and curated IABR-2014 with the theme Urban-by-Nature. His book publications in English are Landscape (1998), Greetings from Europe (2008) on the relation between tourism and landscape, and the book of this review, Landscape and Energy (2014).

Sijmons' landscape designers attitude is to not only look at spatial form but to look 'under the hood' of the landscape to see what pro-

cesses are steering all these forms and how these can be influenced, by singling them out and looking at the landscape expression that they could give. He observes that there are a lot of formative forces that only need the landscape architect's magic wand in order to make their contribution effective to sustainable and beautiful landscape formation. The design research project kWh/m² was another step in his curriculum where he, curious as always, dived into this energy transition topic together with his fellow travellers to conquer this area for spatial planners showing that their competences are needed. In general the energy infrastructure was a task for politicians, entrepreneurs and technical engineers. This project introduces the designerly way of thinking.

KWh/m² is the correct mathematical equation to indicate the self-imposed task, it concerns how much energy per m² can be developed and used. KWh (kiloWatt hours) is off course the amount of energy. Square metres indicate the amount of space needed. But in this task they had to think further then just space. Space loaded with cultural meanings is called Landscape. So Sijmons explains that may be the slash in the equation stands for the landscape, the mediator between energy and space.

In these above terms, the transition to a post-carbon society means that very dense energy sources such as coal and petroleum have to be replaced by thin energy sources such as wind, sun and water. These thin sources consume lots of space and produce new landscapes.

The impact on the landscape of these thin sources is bigger and is also closer than that of high-energy sources that usually come from far away and are often of subterranean nature. Because of this fact, the discussion about the "landing" of the energy transition in also is also and especially a landscape amenity discussion, often ending in a trench war between societal parties.

The book has a well thought off structure. It presents us its message in footprints, design studies and essays. It is the first to visually compare the spatial footprints of all relevant energy sources from carbon up to wind energy. The footprints of all of them have been mapped. In fact, this part of the project is a recompilation and actualisation of an earlier study commissioned by the Dutch Ministry of Housing and Spatial Planning into the demand for space for energy sources published under the name Small Energy Atlas already in 2009. These studies and representations help us to get a deeper understanding of the impact of the different sources, precisely because the atlas shows them comparatively in a Dutch polder. It is for every source separately shown how many m² are needed for 1 million households and how it would occupy the exemplary polder. Probably for non-Dutch readers is not as expressive as for natives.

The options and choices for an emerging 'post-fossil landscape' are elaborated in a wide variety of case study designs. After all, energy is relevant at every scale and all levels of abstraction, from global political strategies, European spatial strategies up to the solar panel on the roof and even the clothing you wear at home. Landscape architects and spatial planners are prepared to deliver this kind of work because they are used to think and plan through the scales.

In a way it was a self commissioned study which brought lessons to the designers community but only slightly was able to transform the Dutch policy on the relation between the energy transition and the necessary landscape policy. This project was followed up by others such as 'Energy and Space - a national perspective' commissioned by the Deltametropool Society and '2050 - An Energetic Odyssey' another public-private partnership, involving design research into the possibilities, opportunities and spatial implications for and of the realization of large-scale extraction, transport and storage of renewable energy on and around the North Sea. The project was shown to the European ministers of Energy and by then in 2015 finally the involvement of landscape planners in the energy transition got some recognition in the policy sphere.

The graphic design of the L & E book and the data it contains are striking. Behind all this is the Catalogtree design office. In recent years, they have specialized in the graphical representation of all kinds of (mainly spatial) data in an appealing way. On the one hand it is an asset to the content of the book, on the other hand the colour schemes are not very functional, very catchy and only for the enthusiast.

The enormous challenge of the energy transition receives further due attention in a series of essays on the energy market, the role of politics, the psychology of transition, and technical developments and constraints. An interesting notion presented is the concept of 'monster incantation' of techno philosopher Martijntje Smits, inspired by the work of Mary Douglas, which learns us four ways by which society receives 'monsters' like wind turbines or other technological intrusions in the environment. Ultimately, the transition from fossil fuels to renewable sources proves to be much more than a technical task for professionals. On closer consideration, the energy transition above all is a cultural task that affects everyone. The book helped us to come to this insight.

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