zur Blog Übersicht

Urban Skills in times of the Energy Transition

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Today, I would like to give an idea of the soft-skills that are necessary for someone like me, who founded a business model for Smart Technology which is built on a complex structure of the Energy Transition. By soft skills I mean strategic planning, that aims to market the future use of technology and services.

First of all, I want to start with a short definition from **Marian Bichler** of the Energy Transition, which is comprised of five subsystems.

ENERGY TRANSITION

1. „Environmental Technology“
1. „Electrical infrastructure“
1. „Energy autonomy“
1. „Information and telecommunication“
1. „Energy efficiency“

To plan this Transition strategically, every subsystem has to be considered within the context of the others. These subsystems are interrelated and form a complex structure upon which Smart Technology in general is based.

Because Smart Technology delivers its full benefits in the future, the way of thinking connected with it is not immediately appreciated by everyone…for example people with an ‘analogue or classic’ market perspective. Often the reason behind this unwillingness to embrace Smart Technology is a delayed social change and ‘fossilised’ cultural thinking. The development of new technology and its products usually moves at a far greater speed than the social and cultural transition it requires for acceptance and adoption.

I view these soft skills from the professional perspective as a consultant in real estate at Atum, in which I need to convince property managers and owners of the benefits of energy-efficient refurbishments.

In order to assess the energy requirement of a building it must be planned strategically for the next 30 years. What used to be just a technical analysis of a house as a passive consumer of energy, will now change dramatically and expand into a dynamic system that uses, produces and exchanges different kinds of energy with other technical systems (such as power plants, cars and other buildings) through digital communication.

This mobility through digital communication has implications for the social and cultural sphere of society. For example, it changes the organisation-model of a firm by having virtual power-plants that organize energy distribution in the cloud, instead of leaving it to the physical headquarters of a

company. The fact that thousands of households with Smart-Meters supply information on available energy to the cloud is part of a cultural revolution and cannot be seen just as a technical one.

In order to find good reasons for my clients to invest into energy-efficiency, there are a number of difficulties on various levels to overcome.

STRATEGIC CHALLENGE

1. Planning under future premises
2. Complexity of the Energy Transition (on an individual, social and cultural level)
3. Interrelations of Technology and Stakeholder
4. Drivers of Know-How need intense translation work

First of all, I have to convince the clients with strategic planning assumptions that are built on a future reality and have little to do with today's understanding. Nothing is harder to overcome in marketing, than to change habits and the existing perception of the target audience.

Secondly, I have to consider the complexity of the Energy Transition. Through this complexity, energy-efficiency is connected to other subsystems, which have barely anything to do with just the practical use of the technology in the house (such as a heating system).

For example, an energy-efficient heating system is connected with **energy-autonomy**, a fact that demands a different personal understanding as a real-estate owner. The Transition changes the behavior of a consumer who may have a heating system which burns hundreds of liters of oil and gas per year in the cellar, to one that is producing electricity and heat on the roof, which supplies not only the total energy needs of the house, but the car outside in the garage too.

The connection of energy-efficient heating-systems with the future **electrical infrastructure** of the Smart Grid has an impact also on the architecture and the interior design of the house. Through the growing number of renewables in the grid, which do not deliver energy consistently, 'Demand-Side-Management' is becoming more and more important for house owners.

This has an immediate effect on the design of any heating-system in the house. In former times of 'Supply-Side-Management' and fossil energy production, there were radiators that heated rooms rapidly and with high temperatures. Through the equal delivery of energy, there was no need for energy storage. Therefore, heaters were small and fast to regulate.

However in times of the Smart Grid, we need technology that produces heat when the Grid delivers electricity, and releases the heat slowly over a longer period of time. Such a system can be built through heat-pumps which are connected with large-scale walls, ceilings or floors with a good capacity to store heat. The house functions therefore as a storage device for the Smart-Grid, like the electric car in the garage. This in turn changes the design and construction requirements of the house.

In addition to a technical understanding, the Energy Transition needs to be considered from a social point of view. The virtual power-plants of the Smart-Grid are built on social connections, that are interrelated and can´t simply be described as a one-way distribution system. Through this interrelation there is an interdependency not only between 'Smart-Technologies', but between many different stakeholders in the Grid. The neighbor with solar panels on the roof for example, is producing the electricity for the heat-pump that my client wants to use in his house.

The future Smart Grid can only work inter-relatedly through the internet! Or to borrow the words of Klaus Töpfer, our former minister for environment and urban planning: "Das Netz ist der Speicher" (the Network is the place of storage).

Of the three core challenges that I see in order to market my service, the biggest one is probably the translation of the Energy Transition and its various technologies and stakeholders, into a language that clients can understand and clearly shows how they can profit with Smart Technology in the future.

In order to achieve this, I translate economic, ecological, technical, physical and legal Know-How from the present and the future into strategic planning, that I call ‘Post-fossil Denken & Lenken’ (green energy which leads thinking and guidance).

To convince my clients, I prove that the investment in energy-efficient refurbishment is profitable under the premise of future development in the next 30 years, like accelerating climate change, scarcity of resources and a high degree of multimedia steering technical systems.

The benefit for the client is a guided transition of the building into a sustainable, dynamic and self-sufficient system, connected to others in the Smart Grid.

Thank you for listenning.

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Kommentare

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