

Paper Submission for Special Session:

Technology and Degrowth Part 2: Practical Cases

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Energy technologies and their impact on a degrowth society

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Energy as the basis for daily activities on an individual level and for economic activities on a societal level gives fundamental importance to our lives. Therefore, individual decisions on the consumption of goods and services not only determine the energy use but also have impacts on the overall performance of economic structures. As economists point out that energy use and economic growth are mutually connected any change in energy consumption patterns influences the economic system of a society. The paper wants to draw the attention on individual innovations in the daily energy practice. More concrete, two examples of the field are further explored: one deals with practices related to space by analyzing possibilities that multifunctional settlements offer in the organisation of less energy intensive practices such as food cooperatives etc. The other example focuses on the demand side of energy by analyzing do-it-yourself examples of individual energy production such as self-made windmills.

Setting up more potential meeting places for citizens than in mono-structured settlements makes them a starting point for interaction on the one hand. On the other hand, contact nodes are a valuable basis for the creation of a sense of community where personal contacts can be made and established. These interpersonal relationships are the basis for finding common interests and common needs that could be fulfilled on a mutual basis. These community based services can include child care and care of the elderly, dog-walking, car pools, bike repair shops, food cooperatives or community gardening. Community based services and activities apply at least to one of the pillars of sustainable degrowth: the need for income from wage work could be reduced substantially if available infrastructure of services was provided on a non-monetary basis, which complies fully with the claim to less wage-paid working hours (Spangenberg, 2010). Moreover, these activities can be organized in a self-esteemed and democratic way, so the citizens themselves can make decisions over resources and services. The objectives are to take some of the power from the markets and the state into the hands of people from the community and to increase the community's self-reliance. This practice also provides a step towards more societal cooperation instead of ongoing individualization (Wächter et al., 2012) and contributes to a rise of social capital.

Another effect is the positive impact and stimulant to regional economic circles. The creation of local employment opportunities in the form of worker co-operatives, community development corporations or even community land trusts could be supported and strengthened by spatial planning institutions in the form of multifunctional settlements. This provides a chance to strengthen the regional economy which does not necessarily mean a rise in regional GDP but gives room to new concepts of employment frames and conditions that contribute to a degrowing community. That includes reduced working hours or the legal and societal recognition of unpaid work. Multifunctional settlements provide a chance to increased self-sustaining economic networks reducing the social dependence on economic growth. The challenge for spatial planning institutions is to enable structures so that community based activities can be established and maintained.

Positive examples describe the potential of self-organized cooperative help in construction issues, which is also oriented on ecological criteria (Knorr-Siedow, 1998). Self-organized cooperatives as well as squatting projects in Germany were able to convince their opponents of the importance of ecological criteria and social improvement, e.g., by denying all attributes of luxurious settlements. With the support of spatial planning institutions as intermediates, it was possible to successfully initiate a process between the self-organized projects and governmental institutions. The projects were legalized and therefore had access to public subsidies to implement their plans. Years later, the results show that the living environment of these projects has a positive impact on employment, education and new self-organized

socio-cultural infrastructure (Knorr-Siedow, 1998). Spatial planning institutions, therefore, have shown to be a valuable factor for the enhancement of more sustainable living structures.

In many self organized or DIY-projects it can be observed that people are not only concerned about their consumption habits but also engage with self-esteemed energy production. The primer goal is to produce energy in way that does imply not any harm to the environment and second the independence from any commercial energy provider. Moreover people tend not to waste energy if they were responsible for its production. In that sense, communities provide knowledge e.g. about self-construction of windmills or wind generators as it could be shown in a squatting project near Barcelona (Cattaneo and Gavalda, 2010). But also larger projects regarding electricity production show success in communities in Great Britain.

These two examples show that daily organisation of lives as well as the independence of a large energy infrastructure has large potentials for the shaping of energy transitions. The paper concludes that changes in behaviour towards a more sustainable energy use could be in opposition to the overall economic goal of economic growth and that they could be an incentive for continuative societal changes.

References

Cattaneo, C.; Gavalda, M. (2010): The experience of urban squats in Collserola, Barcelona: What kind of degrowth? *Journal of Cleaner Production* 18 (6), 581–589.

Knorr-Siedow, T. (1998): Handlungsfähigkeit durch Selbstorganisation und Selbsthilfe. In: *Planungskultur und Nachhaltigkeit—neue Steuerungs- und Planungsmodelle für eine nachhaltige Stadt- und Regionalentwicklung*; Kühn, M., Moss, T. (Eds.); VWF Verlag für Wissenschaft und Forschung: Berlin, Germany: 213–229.

Spangenberg, J.H. (2010): The growth discourse, growth policy and sustainable development: Two thought experiments. *Journal of Cleaner Production* 18 (6), 561–566.

Wächter, P.; Ornetzeder, M.; Rohrer, H.; Schreuer, A. Knoflacher, M. (2012): Towards a Sustainable Spatial Organization of the Energy System: Backcasting Experiences from Austria. *Sustainability*, 4 (2), 193-209.