



Urban Governance for Sustainable Development - The implementation strategy for a sustainable development plan at the administration of the City of Ludwigsburg

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Climate change is the big challenge for sustainable urban development in the next decades. Especially in Germany after the exit of nuclear power, there are big programmes for energy saving and for new supply concepts of renewable energy. There are huge funding's for raising the standards of building insulation and improving the heating system. But beneath new technical solutions and individual projects it is necessary to focus more on spatial concepts for a comprehensive energy strategy.

EU Leipzig Charter for sustainable development

The goals of a sustainable urban development policy have been laid down by the European Union in the "Leipzig Charter on Sustainable European Cities" in 2007. This charter is being implemented within the framework of the German programme "National Urban Development Policy". Here, strategic guiding visions for urban development such as "the compact city", the "climate conscious city", "the City as a location for business" or "the socially balanced city" are formulated. It is a declared goal to prevent the European city from on-going urban sprawl and segregation and meet the challenges of demographic and climate change. Thus, the climate conscious and energy efficient city is part of a comprehensive integrated strategy for sustainability that - besides ecological themes - also accounts for social and economic aspects. (Bundesministerium fuer Verkehr, Bau und Stadtentwicklung 2007)

City-Climate-Plans

The Federal Government of Germany is supporting City-Climate-Plans, where the energy demand and the energy supply for the whole city is analysed and where on the basis of demand scenarios new projects are prepared. These Climate-Plans are connected with the individual funding of energy modernisation of buildings. Also there are new regulations that are forcing the landowners to a high standard of building insulation and new heating systems. These measures have crucial impact on the urban design, the composition of the façade and the planning system, and more and more they are dominating the other sectoral needs of a city.

In the point of view of urban planning, there is the question how to combine the City-Climate-Plans with the existing planning system. At the moment they are almost not integrated, sometimes the energy measures are against the current planning objectives. Individual energy projects could counteract to comprehensive supply strategies or objectives of city design. (Herrmann-Lobreyer; Kurth 2010)

Climate Development Planning

Sustainable development requires a renaissance of comprehensive urban development concepts. Germany has already a formalized planning system with the land-use-plan for the whole city (Flächennutzungsplan) and the zoning plan for a new building project (Bebauungsplan), in between there can be established citywide or district development plans. To achieve the objectives of energy turn it will be necessary to make an “climate development plan” for every city with analysis about energy demand and supply and which will be integrated as a sectoral plan in the city development plan. These city-wide plans should be concretized on the level of districts and/or quarters, where the energy demand can be analysed much more detailed, and integrated in district development plans or zonings plans. If the energy plans are integrated in the planning system, conflicts of objectives could be solved preventive, and there will be a framework for individual energy modernisations. (Mitschang 2012, Oberste Baubehörde Bayern 2011)

Sustainable development plan of Ludwigsburg

The city of Ludwigsburg (90.000 inhabitants) in the Region of Stuttgart in Southwest Germany has created a continuing urban development process with an intensive participation to strengthen sustainable development. The approach is to create a urban development plan which combines different strategies of prevention, empowerment, social renewal, urban renewal and energy measures. This plan is combined with indicators of sustainability to identify energy efficiently urban structures. With thematic masterplans and district development plans the measures had been detailed. One masterplan was the city-wide “Energy-Concept” about supply and demand of energy and traffic. For the Citywide Energy Strategy, a multitude of activities in the areas of climate policy, climate change adaption, energy, transport, industry and land use have been compiled. These activities show that a special

priority is given to energy policy in this community. Furthermore, outstanding energy efficiency standards have been realized in building and conversion projects in Ludwigsburg. (City of Ludwigsburg 2011)

Municipal energy supply company

An important stakeholder for the energy concept is the municipal energy supply company (Stadtwerke) Ludwigsburg-Kornwestheim GmbH (SWLB), founded in 1858, delivers gas and water and since 2006 electricity. The company supports concepts for energy efficiency measures in buildings together with the local energy agency LEA by offering infrared thermography of buildings. In November 2009 SWLB opened the largest wood chip fired ORC cogeneration plant in Baden Wuerttemberg. With an electric power of 2.1 MW it produces 10.000 MWh electricity and 48.000 MWh heat. This covers 70% of the district heating energy and supplies 3000 households. By using 42.000 tons of regionally produced wood chips annually, the plant saves 18.000 Tons of CO₂.

Climate Governance

A unique feature of the City of Ludwigsburg is the strategy of the mayor and his administration to use the comprehensive administrative reform for establishing sustainable structures that advance the subjects of urban development, energy and climate protection. Many other cities promote climate protection in campaigns with doubtful success. In Ludwigsburg, the administration makes well-directed use of the instruments it already has at hand while trying to achieve a balanced municipal household that contributes to fairness among generations. The mayor established a new head office at the city administration called “Sustainable Urban Development” with special departments for energy and urban regeneration. This office is located directly at the mayor and can check every sectoral project from other divisions concerning the indicators for sustainable development. (Herrmann-Lobreyer; Kurth 2011)

Integrated sustainability management

As part of the climate governance and to secure continuous advancement of the urban development process, a distinct management system was developed for the administration. It safeguards the implementation and allows for modification of strategic objectives. It is a recurrent cycle that should be undergone every four years. The cycle comprises of five steps:

1. Assessment of the local situation: In the sense of an inventory, the present urban situation is reviewed by the help of neighbourhood walks, talks with citizens and experts or thematic workshops.
2. Further development of strategic goals: The existing goals are examined and, if necessary, redefined. Every three years there are future conferences.
3. Adoption of the guiding principles and objectives for the main themes. The

guiding principles and objectives are stipulated in a council resolution, so that the municipal action is politically legitimated.

4. Implementation via master plans: For each area of action, a master plan is drawn up that specifies the guiding principles and strategic objectives by assigning measures, time schedules and responsibilities. By linking the master plan to municipal budget and financial planning, a new and transparent steering tool is generated.
5. Reporting and evaluation (indicators): For each thematic field in the Urban Development Strategy, several indicators have been defined. In this way, the process can be checked against pre-set goals (evaluation). With these indicators, time series are generated that allow for early recognition of trends and comparison with other cities. (City of Ludwigsburg 2011)

Conclusion

With the sustainable Urban Development Strategy, the Citywide Energy Strategy and the consequent restructuring of administration, the City of Ludwigsburg chose an exceptionally comprehensive and integrated approach, especially when compared to other German medium-sized cities. The concept builds on experiences from municipal energy efficiency projects and national and international exchange programmes and takes them further in a consistent way. Participation in European research projects such as “Managing Urban Europe 25” (MUE) asserted wide influence on further conceptual development.

Energy efficient urban development already gained momentum during the 1990s, for example in Local Agenda 21 groups, urban regeneration (Social City) and housing development. This process has continuously been cultivated. It has particularly been stimulated by the introduction of the Urban Development Strategy in 2004 and the resulting Citywide Energy Strategy. In Ludwigsburg, the “concept of an energy efficient city” is part of an overall sustainability strategy. Aspects of settlement structure, infrastructure and traffic strongly influence the energy consumption of a community – be it in a direct or indirect way. A new integrated structure of administration and a comprehensive implementation strategy were developed in parallel. The effectiveness of measures is evaluated by a set of indicators in a regular management cycle.

Finally, energy efficiency and climate protection as parts of an integrated urban development approach contribute to safeguarding competitiveness and promoting economic development. In the long run, citizens and enterprises benefit from security of energy supply and low energy prices. The City of Ludwigsburg has realized that only energy efficient cities remain attractive for their citizens and can maintain their cultural and social offers and public services. In 2012 the city of Ludwigsburg won the prize of “climate neutral city” of the state of Baden-Wuerttemberg.

The approach of energy efficient city and sustainable governance was already evaluated by the University of Applied Sciences Stuttgart as a case study for the International Energy Agency: (http://www.ludwigsburg.de/servlet/PB/menu/1290113_11/index.html). A similar research projects is on process about energy development plans for the city of Munich: http://www.nationale-stadtentwicklungspolitik.de/cln_032/nn_251538/Content/Projekte/energiegerechte__stadtentwicklung__muenchen.html

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