World-wide energy demand will grow by 1.1.% p.a. until 2035, when fossil energy still provides 83% of total supply. Largest and most dynamic consumers are now and in future transport and private households.



Germany is no exception to the rule: Today, 88.5% of our energy comes from fossile –mostly foreign – sources. Renewables have various sources. On a local level our Dept. of Geography analyzes, by empirical methods, how and where their share can be increased

Three approaches in our University project "Energy Consumption in Private Households and Public Transport of Würzburg Region":

1. Field - Households: Approx. 40% of primary energy is transformed into electricity, half of which goes to private households – with potential for savings and for installation of photovoltaic devices. The Heuchelhof quarter in Würzburg is a fair example, with more than 40 installations. This is shown using satellite images and ground cartography.



SOURCE: RUPP, C. & K. SCHLIEPHAKE (2008): Energien auf lokaler Ebene: Die Stadt Würzburg und ihr Stadtteil Heuchelhof, in: Würzburger Geographische Manuskripte Vol. 73.



According to empirical findings, photovoltaic plants in the Heuchelhof quarter only provide 2% of locally consumed energy, the reminder coming from natural gas (for heating) and electricity produced elsewhere (of which 30% come from alternative sources) However, with a continuation of public support, this figure should further increase (data from WVV, used in Rupp & Schliephake

2. Field - Monitoring Daily Mobility Behaviour and Potential for Public Transport

According to previous figures, transport is the biggest and most dynamic energy consumer worldwide, with 30% of total in Germany– nearly exclusively from fossile sources. The promotion of public

transport is a must. Within Würzburg, trams and busses already carry 40% of daily motorized movements, but additional projects should increase their attraction. We monitor personal transport behaviour and modal choice by personalized and automatic traffic counts as well as household surveys. (see case study by SCHLIEPHAKE,K. (2014): Demand Evaluation and Modal Choices..., in: Würzburger Geographische Manuskripte Vol. 82).

3. Field – Transfer to Partners: Changes in behaviour come slowly and need cooperation of citizens, scientists and institutions. Photovoltaics are a good solution for de-centralized production of alternative energy. What seems to be a minor element in Würzburg could be the major solution in sunny Eastern Africa.

Saving energy for the World and its future generations goes step by step – sometimes too slowly. Our partners in Mwanza show us that, with patience and good practice the solution is in our bands. Here, the Dept, of Ge

our hands. Here, the Dept. of Geography of Würzburg University and the Municipalities join hands. (see HEYMANN, Fabian (2015): Renewable Energies in Mwanza (Tanzania), and SCHMITT, B: Environmental Action in Mwanza, in: Würzburger Geographische Manuskripte Vol. 83.

The young generation waits for optimal solutions... (public transport planning in Kürnach village center, County of Würzburg), see SCHLIEPHAKE, K. (2012): Public Awareness towards Traffic Problems and Public Transport ...in Northern Bavaria, in: The Journal of Logistics and Sustainable Transport (Maribor University, Slovenia), Vol. 3 No. 1