Local action against fuel poverty in Austria

Karl-Michael Brunner

Institute for Sociology and Social Research Vienna University of Economics and Business Augasse 2-6 1090 Vienna Austria Karl-Michael.Brunner@wu.ac.at

Sylvia Mandl

Austrian Institute for Sustainable Development Lindengasse 2/12 1070 Vienna Austria Sylvia.Mandl@oin.at

Anja Christanell

Austrian Institute for Sustainable Development Lindengasse 2/12 1070 Vienna Austria Anja.Christanell@oin.at

Michaela Leitner

Austrian Institute for Sustainable Development Lindengasse 2/12 1070 Vienna Austria Michaela.Leitner@oin.at Katharina Kirsch-Soriano da Silva Caritas Vienna Albrechtskreithgasse 19–21 1160 Vienna Austria katharina.kirsch@caritas-wien.at

Keywords

fuel poverty, energy efficiency improvements, low income, user behaviour

Abstract

A growing awareness for the problem of fuel poverty can be observed in industrialized countries. Fuel poverty arises from the interaction of low incomes, high energy prices and energy inefficient homes or appliances. It is characterized by high expenditures for energy, energy debts, disconnections, restrictions on fuel consumption at the cost of health or by choice coercion whether disposable incomes are spent in food or for heating. Studies show that fuel poor households are characterized by a number of burdens and that the scope of action is limited in many cases. So the question arises which measures could be taken to counteract fuel poverty and how energy burdens of these households could be overcome by increasing the energy efficiency of the homes, amongst other measures.

In Austria, the number of research projects and the implementation of measures to tackle fuel poverty are increasing at local and national level. One of these studies ("Pilot Project against Fuel Poverty") was conducted by the authors between 2011 and 2014. The aim of this research project was to implement energy efficiency measures in 400 low-income households and to evaluate their outcomes. Three different projects served as examples of implementation. Measures were evaluated regarding their effectiveness and possibilities to improve advice services were identified. Based on the results of the study measures to tackle fuel poverty in Austria were developed and refined in dialogues with stakeholders (e.g. energy suppliers, social institutions, public administration). The paper presents selected results from this project, focusing on the local level.

Introduction

Fuel poverty in industrialised countries implies, for instance, an inability to heat or light the flat sufficiently; expenses above average for energy provision; health hazards caused by bad housing conditions and reduced thermal comfort; debts with energy suppliers; power cuts because of outstanding payments; cutbacks in other areas in order to pay for energy (Brunner et al. 2012a).

A combination of factors accounts for fuel poverty: high energy prices, low incomes and low energy efficiency of flats (Boardman 2010). Whether a household may be considered as fuel poor, however, depends on the definition of fuel poverty. Enormous differences can be observed between the nations of Europe concerning the perception, measurement and control of fuel poverty. It has been estimated that between 50 and 125 million people within the EU are living under conditions of fuel poverty, and these figures are predicted to rise further in the near future. Social and political awareness for this problem, however, is still relatively low or rather, varies considerably (Santillán Cabeza 2010). It has to be noted that, over the past years, there has been an increased recognition of these issues on an EU level, accompanied by respective policies intending to combat the problem (Bouzarovski et al. 2012). Even so, a common definition is still not in sight at the present moment.

Austria is one of the countries that still need to develop a more thorough understanding of the problem. Nevertheless, fuel poverty is increasingly being discussed in public by so-

3. LOCAL ACTION

cial organisations that are in touch with those affected by the problem and are trying to find solutions on the one hand, and by activists who take up the cause of fighting poverty in all its manifestations on the other. Having said this, it also has to be noted that on a political level, fuel poverty is still not being recognized, and none of the ministries assumes responsibility for this issue. A national definition of fuel poverty is still pending, therefore precise numbers are not available and it remains difficult to reliably estimate the frequency of fuel poverty. Although quantitative empirical reports are still under development, there are at least some preliminary qualitative insights about the causes, forms and consequences of fuel poverty in Austria (e.g. Brunner et al. 2012a).

During the last few years the number of research projects and the implementation of measures to tackle fuel poverty in Austria have been increasing both on the local and the national level. On the national level, single measures for the protection of vulnerable consumers have been taken in conjunction with the implementation of the Third Single Energy Market Package (policy 2009/72 EG) and through the new Federal Law on Energy Efficiency (resolution issued by the National Assembly of Austria on July 9, 2014). For example, the Third Single Energy Market Package levels the costs for disconnection and reactivation of the service in the case of a power cut to 30 Euros, prohibits surcharges on the rates for customers with a low degree of creditworthiness or accumulated debts, and secures the right to make the payment in ten annual partial amounts. The new Austrian Federal Law on Energy Efficiency binds energy suppliers to the annual implementation of energy efficiency measures for themselves as well as for their end customers or other final energy users from 2015 until 2020. Measures taken in low-income households receive a weight of 1.5. In addition, larger energy suppliers are now obliged to install a customer information and advisory centre for questions on energy efficiency, energy costs and fuel poverty. Although these first measures on the national level are to be welcomed, it was the local level initiatives that implemented and (partially) evaluated concrete support actions for households hit by fuel poverty in Austria.¹ The range of foundational and implementation projects in the provinces of Austria spans everything from 1) research and evaluation projects to 2) projects focusing on energy counselling and/or community work and 3) a set of cross-sectional initiatives at the communal level. The "Pilot Project against Fuel Poverty", the largest Austrian research and evaluation project on fuel poverty to date, which will be discussed in more detail in this paper, accompanied both local and nationwide implementation projects, supporting new initiatives at the communal level through up-to-date scientific insights and long-standing practical experience.

Pilot project against fuel poverty

The "Pilot Project against Fuel Poverty" was conducted by a research team, comprising the authors of this paper, between 2011 and 2014 and funded by the Austrian Climate and Energy Fund. The project, especially the local examples described later

in this paper, aimed to overcome some weaknesses of previous energy related programmes targeting behavioural change (e.g. no solid prior analysis of the situation and no tailoring of activities to specific segments of a target group; Dahlborn et al. 2009) by building on the findings from a previous project (Brunner et al. 2012a; Brunner et al. 2012b). These findings concern the particular characteristics of fuel poor households, as well as specific forms of being affected by and ways of dealing with fuel poverty. Households affected by fuel poverty are often characterized by bearing multiple strains that sometimes aggravate each other (Brunner et al. 2011). The multidimensional characteristics of fuel poverty require advisory services that open up different communication channels in order to reach the targeted households. In addition, the advisory services themselves have to be adjusted to the individual situation of those concerned. The "Pilot Project against Fuel Poverty" presented here starts exactly from an awareness of these findings.

In particular, the "Pilot Project against Fuel Poverty" was directed towards two main goals:

- 1. In about 400 Austrian households, target-group-oriented energy efficiency measures have been implemented. The project was realised by scientific institutions in cooperation with three energy counselling projects for low-income households of the welfare organisation Caritas: 1) "VER-BUND-sponsored Caritas Electricity Assistance Fund"; 2) "Energy Savings Check"; 3) "Neighbourhood Parents". This no-cost program provides individual counselling sessions to households in need. Importantly, the counselling services have been developed to relate to the specific challenges, constraints, opportunities, and experiences of the households in question. At the same time, the program takes advantage of the opportunity of working with these households to gather quantitative data about the respective situation of fuel poverty and thereby evaluating the accuracy of the counselling programmes. A two-part questionnaire formed the basis for data collection. The first part captured basic socio-demographic data on the client, the household constellation and the composition and amount of household income and expenses. The second part collected data about the building substance, the stock of appliances, heating and ventilation behaviour, energy consumption including possible cutbacks, and strains of the situation. One year after the first counselling sessions, the households were visited again in order to evaluate the effectiveness of the counselling service (CO₂ reduction, energy savings, reduction of strains) and the program offerings (e.g. satisfaction of the clients, needs of the energy consultants and social workers, logistics).
- 2. Based on the results of the evaluation and an analysis of international programmes and projects, 20 recommendations for fighting fuel poverty suitable for an implementation in the Austrian context were developed. The selection of recommendations was guided by the main causes of fuel poverty low income, high energy prices and energy inefficiency of the buildings and appliances (Boardman 2010) and by already existing or potentially integrated (that is, targeting several causes at the same time) solutions. The 20 measures suggested were discussed in a dialogue between stakeholders (energy suppliers, administration, social organizations, just to name a few). The stakeholders evaluated the meas-

An excellent overview of current projects and scientific publications on this topic can be found on the website created by the authors of this article, www. energiearmut.com.

ures in terms of their meaningfulness, effectiveness and practicality in an online consultation and a workshop. Compared to previous surveys among the stakeholders, this was the largest number of people to date in Austria that voiced an opinion on measures against fuel poverty. In the paper at hand, this second aim of the project will only be dealt with very selectively.

As already noted, the project was realised in cooperation with three energy counselling projects for low-income households of the welfare organisation Caritas: While one of the three initiatives ("VERBUND-sponsored Caritas Electricity Assistance Fund") carries out energy counselling nationwide and another one offers its advisory services only within one province of Austria ("Energy Savings Check"), the third one has a local focus on specific areas of Vienna ("Neighbourhood Parents"). These three subprojects are presented in the following paragraphs. The description includes information about which households can be reached overall by the various different approaches and by the local approach of the "Neighbourhood Parents" in particular.

SUBPROJECT 1: VERBUND-SPONSORED CARITAS ELECTRICITY ASSISTANCE FUND

The "VERBUND-sponsored Caritas Electricity Assistance Fund" registers Austria-wide urban, suburban and rural households. The project is a collaboration between the Austrian energy supplier VERBUND and the welfare organization Caritas. It offers three support services to those concerned:

- Energy counselling: Energy counsellors all throughout Austria individually advise clients in their own households. Their tasks comprise identifying 'energy traps' and giving recommendations for saving energy. At the same time, they gather data about the need for new electric appliances that consume less energy, thus initiating the execution of the second pillar of the fund's contribution, the replacement of appliances.
- 2. The no-cost replacement of appliances: the fund provides the free replacement of old and inefficient electric appliances such as refrigerators, stoves, washing machines and boilers.
- Interim financial aid for electricity bills: independently of the energy provider, the fund supports the one-time-only payment of energy bills under certain conditions, facilitating the payment of installments and avoiding power cuts.

SUBPROJECT 2: ENERGY SAVINGS CHECK (FOR HOUSEHOLDS WITH A LOW INCOME)

While the "VERBUND-sponsored Caritas Electricity Assistance Fund" offers geographically widespread counselling services, the "Energy Savings Check" part of the program caters to the suburbs and rural areas of the Austrian province of Vorarlberg. The Energy Savings Check is an EU-funded regional project in the areas of Austria, Germany and Switzerland around Lake Constance.

On site, volunteers called "electricity saving assistants" and energy counsellors give advice on energy saving measures with the aim of reducing energy consumption, relieving strains on the household budget and thus contributing to a better quality of life. The households concerned also receive low-cost energy saving technologies such as energy saving light bulbs, water boilers, water saving shower heads, and smart strips as an additional support measure. The project specifically aims at bringing about a relevant behavioral change in the target groups. Through participation of the volunteers mentioned above, it is possible to provide information on other social programs and opportunities that go beyond energy topics in case of need.

SUBPROJECT 3: "NEIGHBOURHOOD PARENTS"

The project "Grätzeleltern"² ("Neighbourhood Parents") was initiated in 2012 by the Caritas Vienna and the urban renewal office of Vienna ("Gebietsbetreuung Stadterneuerung"). Of the three projects with form part of the "Pilot Project against Fuel Poverty", this one is the most local in its composition and it specifically targets structurally disadvantaged residential areas. In most of these areas, almost 100 year old residential buildings dominate which allows the program to address one of the root problems of fuel poverty, which is, energy inefficient flats. Following the principle of capacity building, selected residents of these areas receive training on the topics of energy, housing and community life, and then pass on the recently gained knowledge as multipliers (so-called "Neighbourhood Parents") in the course of home visits in their communities and social networks within the neighbourhood. By doing so, they assume a bridging function between households in difficult situations regarding energy and housing on the one hand, and professional service centres and offers on the other. This program is both innovative and unique due to its dual focus: 1) to strengthen the competencies of the residents and support their empowerment, and 2) to contribute to the fight against fuel poverty, and to promote health initiatives and the improvement of housing conditions.

The project focuses on two boroughs of Vienna with a high proportion of residents confronted with significant housingrelated challenges and difficult living conditions associated with construction-related problems and social issues. The effectiveness in improving energy efficiency of the so-called "area-based approach", which forms the core of the project, is being advocated by many voices (e.g. Boardman 2007; Darby 1999; RAND Europe 2012). It is widely known that people tend to follow the advice of their social network in their consumption decisions rather than advice of external persons (McMichael 2007). Neighbourhood structures and social networks are therefore crucial starting points for the successful realisation of the project. Two target groups are in focus here: people in difficult housing conditions who do not have easy access to already existing counselling services or are outside the reach of these services; and Austrians and people with an immigrant background ready to act as "Neighbourhood Parents" and prepared to convey knowledge and competences on energy, housing and community life to their acquaintances and their communities within the district area. Counselling sessions which directly relate to the situation of the respective households might achieve a higher degree of efficiency in stimulating behavioural changes (Abrahamse et al. 2007). What is especially relevant for the target group here is the low-threshold, outreach approach pro-

[&]quot;Grätzel" is a Viennese expression denominating a neighbourhood or part of the city; the term "parents" was chosen because the people involved work in teams of two.

vided in different languages. The neighbourhood parents are familiar with the lived-in world of those affected and act as neighbours rather than professionals. This follows experiences from already existing energy counselling services which consider trust in the counsellor a crucial element for the success of the intervention (Darby 1999).

Previous studies have shown that the share of migrants among the people concerned is considerable. This is why the project also focuses on a strong intercultural cooperation: Like the residents of the project area, the "Neighbourhood Parents" come from a variety of backgrounds, work in inter-culturally composed tandems and therefore also contribute step-by-step to an ethnical opening of the communities. A similar project with and for migrants in Germany has recorded good results following this strategy (Hesse et al. 2006). Within this target group, counselling services are especially well-accepted when they are provided free of charge (CAG Consultants 2010), which is also why the services of the Neighbourhood Parents are free for the residents. Project goals include increasing energy efficiency and enhancing healthy living conditions - measures that target crucial characteristics of fuel poverty. Additional goals include a low-threshold knowledge transfer and promotion of existing offers, strengthening neighbourhood structures, developing competences of the residents and stimulating an active participation in society through capacity building. Results from a previous project (Brunner et al. 2011; Brunner et al. 2012a) have shown that people are better able to deal with fuel poverty when they are empowered across multiple dimensions.

Selected results

The analysis of the data collected through the counselling services, revealed two important insights: First, the majority of all households that were reached by the three subprojects face precarious housing and energy conditions. Second, a comparison of the people who used the counselling services between the subprojects showed which groups may be reached specifically through the local access of "Neighbourhood Parents". In the next section, similarities and differences between the programs will be presented in greater detail, followed by a discussion of the opportunities and constraints of the local approach used by the "Neighbourhood Parents".

HOUSEHOLD INCOME

Household incomes for roughly two thirds of the households that took part in the survey were less than 60 percent of the median Austrian household income. Given that low income is acknowledged as one of the main causes of fuel poverty (Boardman 2010), the three subprojects included here have the potential to target households with a higher risk of fuel poverty. Within the three subprojects, no significant differences concerning household incomes could be identified. The "Neighbourhood Parents" subproject, however, was found to more frequently address unemployed people in comparison to the other two projects.

CITIZENSHIP

Information on the citizenship of the people contacted in the households indicated that a large number of people with diverse migration histories or points of origin were reached by the program. Altogether 31 different nationalities were counted in the sample. Notably, however, it was the locally focused subproject "Neighbourhood Parents", in which counselling in different languages (altogether 23) was offered, that was most successful at reaching people without Austrian citizenship.

RENT PRICES

Although most people who took part in the survey live on a very low net household income, their expenses for rent including operating costs are above the average Austrian expenditure (Statistik Austria 2014). Compared to the other projects, people interviewed by the "Neighbourhood Parents" program pay a relatively high rental price of $\notin 9/m^2$, including operating costs. Moreover, this amount lies significantly above the average expenditure per m² for head lease in Vienna ($\notin 7/m^2$; Statistik Austria 2014). At the same time, these people tend to live in smaller apartments, which is why the monthly rent does not differ from that registered in the other two subprojects.

ENERGY COSTS/CONSUMPTION

Compared to the Austrian average (93.5 m²), an average flat size of 70 m² total indicates that households in the sample dispose of a smaller usable floor space. Despite the fact that the usable floor space of these households is below average, their monthly energy costs (€140 according to their own accounts) are close to the Austrian average of €138/month (Austrian Energy Agency, 2012). This means that nearly half of the households examined spend more than 10 per cent of their income on energy. However, it may not necessarily be the high energy consumption that is responsible for the relatively high energy expenses compared to the total income. The average energy consumption for heating of the households surveyed is below the Austrian average, and this also holds true for heating expenditures. According to energy bills, the average heating energy costs of the households in the project average €831 a year, the Austrian average is €900, however. Also regarding electricity consumption the households lie (marginally) below the Austrian average. Considering only those interviewed within the "Neighbourhood Parents" project, lower values can be observed both for heating energy and electricity consumption, as well as for the respective expenses. These findings are consistent with those in many other studies, showing that lowincome and fuel poor households often consume less energy than would be necessary for health reasons (Boardman 2010; Brunner/Mandl 2014).

ENERGY EFFICIENCY OF THE BUILDINGS

With regard to the energy efficiency of the buildings data show that in comparison to the Austrian average, the people interviewed frequently live in (partly unremediated) houses built before 1980 – although significant differences between the subprojects should be noted. For example, the majority of those households interviewed by the "Neighbourhood Parents" project live in houses built before 1919. This can partly be explained by the fact that Vienna has a larger share of apartments that are the main place of residence and are located in houses built before 1919, compared to the other provinces of Austria. On the other hand, it also reflects the focus of the "Neighbourhood Parents" project on areas that are characterized by an older building structure, or the observation that economically disadvantaged people frequently live in older buildings.

As these numbers suggest, many interviewees gave accounts of their buildings that point out low energy efficiency. One third of them reported living in flats with leaking windows, and almost half of them in flats with leaking main doors. Additionally, half of the interviewees reported cold walls and floors. Households interviewed by the "Neighbourhood Parents" project (those who frequently live in energy inefficient buildings) also frequently complained about cold walls and floors. It may be the case that living in these buildings and in unremediated flats helps saving on the rent, but it also notably lowers the standard of living. What is more, due to the bad state of the building structure, energy costs are higher than usual for the respective consumer behaviour.

Furthermore, construction defects, insufficient insulation and dampness, (all of which are likely to result from a lack of building renovations), and improper heating and ventilation behaviour favour the growth of mould. Not surprisingly, a third of the people interviewed reported mould inside their living space, which is far above the Austrian average for mould/dampness of 12 per cent (Statistik Austria 2013a). The figures are even more dramatic for the subgroup of those interviewed by the "Neighbourhood Parents" project: more than half of these households are confronted with mould which represents a health hazard, as its spores enter the respiratory system and may cause allergies and asthma. A considerable part of asthma attacks of children can be traced back to them having been exposed to dampness and mould (Braubach et al. 2011).

ENERGY EFFICIENCY OF APPLIANCES AND LIGHTING

In general, the households that received counselling were observed to be rather below average in terms of appliances. With regard to the age (and, related to this, energy efficiency) of the appliances, data collected through household counselling documented that the refrigerators/freezers owned by interviewees were markedly older than average and the stoves and ovens slightly older than the average.

Similar issues were found for lighting equipment. While an average household of those surveyed has 11 light fixtures on average, with a number of only 8.6 considering exclusively those interviewed by the "Neighbourhood Parents", the average across Austria is 40.9 light fixtures. Notably, these discrepancies did not extend to energy efficient light bulbs. Among participant households, roughly 25 percent of lamps were found to contain energy saving bulbs/LEDs which is consistent with the average saturation rate for the nation as a whole. And no differences were observed between the subprojects. The fact that 57 per cent of the interviewees stated to be limiting illumination for financial reasons underlines these results. In order to cut down on energy consumption and, consequently, energy costs, people reduce illumination on one hand, and use energy saving bulbs on the other.

STRAINS CAUSED BY FUEL POVERTY

The ability of households to adequately heat their living area was limited for some of the people interviewed: 17 per cent of the total claim to have experienced a heating blackout for more than three days during the past 2 years. If we consider only the subgroup interviewed by the "Neighbourhood Parents" project, the number rises up to a third.

Like the limited financial scope of the majority of the households in the survey, the low energy efficiency of the buildings also hinders the attainment of individual standards of warmth. For example, one third of the people interviewed reported being unable to keep their living area warm enough in winter to feel comfortable, and 42 per cent of all interviewees indicated that they were able to heat fewer rooms than they would like to. These results are considerably different from those collected through the EU-SILC survey which found that only 3 per cent of all Austrians can't afford to adequately heat their living area (Statistik Austria 2013b).

Considering only the group of the "Neighbourhood Parents" project, these limitations affect even larger numbers of people. Fifty-nine per cent reported that they were unable to keep their living area warm enough to feel comfortable and 61 percent felt that their wellbeing was limited by the cold in their flats. Such results provide both objective and subjective measures that clearly indicate that the households interviewed by the "Neighbourhood Parents" project are more severely affected by fuel poverty.

People whose living space is too cold are exposed to risks of cardiac, circulatory or respiratory diseases (Marmot Review Team 2011). Apart from these physical strains, low living area temperatures can also cause psychological stress. Cold rooms favour illness and isolation, which in turn cause the inhabitants to feel less capable of coping with their daily lives, thus potentially aggravating depressions (Anderson et al. 2012).

Psychological stress is also caused by the financial pressure associated with energy bills. Eighty-three per cent of the people interviewed indicated that they were worried about paying their energy bills. The psychological burden of looming payments therefore affects more households than only those who reported direct difficulties in paying their energy bills (71 per cent), had received an arrears letter from their energy suppliers during the past two years (47 per cent) or had been affected by a power cut (13 per cent).

HOW TO TARGET HOUSEHOLDS IN DEEP FUEL POVERTY

As shown by the comparison of the results of the survey across the subprojects, the specific approach of the "Neighbourhood Parents" project reached a larger number of immigrant households who are confronted with a variety of obstacles and barriers which often limit their scope of action. Furthermore, the "Neighbourhood Parents" approach allowed better access to people living in flats with lower energy efficiency and high rent and whose everyday lives are often impacted by their limited consumption of heating and electricity. Stresses and health issues associated with mould and cold in the living space (sometimes caused by heating blackouts) are frequently concomitant with these circumstances.

Through the efforts of motivated residents who became active participants (serving as multipliers), target groups who are often difficult for existing institutions to access could be reached. Through the social networks, neighbourhoods and communities of the "Neighbourhood Parents" project, as well as their low-threshold outreach approach, provided partly in the mother tongue of the people in question, they found ways of accessing groups that are both socially disadvantaged and difficult to reach and therefore often disappear from the field of view of society. The "Neighbourhood Parents" project was able to support these people in developing opportunities for action and building bridges to a number of professional centres. At the same time, other households that had already tried to get help from different insitutions and were in need of additional support due to the complexity of their situations also showed interest in the project.

While accessing the households in question through social counselling centres (as in the "VERBUND-sponsored Caritas Electricity Assistance Fund" subproject) was successful in facilitating the expansion of counselling services on the one hand, this approach also maintained a barrier, as the people seeking support have to address official institutions. In the case of the offers by the "Energy Savings Check" project, participation was limited to one province, but the counselling services were also promoted through other institutions. This strategy was successful in reaching a greater number of affected households and making them aware of the counselling services, however they were less successful in reaching those households that faced multiple strains as compared to the community approach of the "Neighbourhood Parents" project.

Despite the successes of the "Neighbourhood Parents" project, it is important to assess the expansion of such an approach. Is the success of this project dependent on its spatially limited focus and could it be expanded to offer the support measures across a larger area (e.g. nationwide)? It seems possible to suppose that the most suitable approach is exactly this combination between counselling projects with a broader design and support measures that include more intensive projects that are spatially focused on particularly affected areas in order to reach as many people from the target group as possible.

The evaluation showed that with all three counselling projects, an estimated 350,000 kWh of final energy consumption could be saved each year. Furthermore, the comprehensive "Neighbourhood Parents" approach could offer help in addressing other difficult questions regarding housing and living together, catering to the needs of the people affected in situations with multiple strains.

The "Neighbourhood Parents" project fills a gap by reaching people who are difficult to reach and professional institutions, but it did not replace the latter. The project rather made clear that some of the problems may be traced back to structural roots and can neither be solved by the people affected by simply relying on their own initiative, nor by support through the "Neighbourhood Parents" project. These difficult circumstances especially include access to affordable living spaces and access to employment, income and social security (Stoik 2013).

Many programmes focused on fuel poverty point out that in order for the measures to be effective, they must acknowledge that fuel poverty carries different risks for different groups (Hirsch et al. 2011), which means that a 'one-sizefits-all strategy' probably won't have the desired effects for all people concerned. The ways of dealing with fuel poverty and energy inefficiency vary greatly between different households. This is why measures that counter fuel poverty should be target-specific. Considering different contexts and scopes of action could increase the efficiency of the measures. Here, detailed targeting of the households affected by fuel poverty is crucial, so scarce resources can be used with the greatest effect (Dubois 2012). For example, groups in deep fuel poverty would have to be addressed specifically (Radcliffe 2010). The subproject "Neighbourhood Parents" tried to achieve this by focusing on structurally disadvantaged residential areas of Vienna with a large share of buildings that date before WWI and a large proportion of immigrant households. For this target group, which often struggles with multiple burdens, offering a low-threshold approach in different languages is crucial if access is to be facilitated and social stigma to be avoided. Experiences from international energy counselling projects for low income households have shown that building trust is key to a successful intervention (Darby 1999). In the present project, this low-threshold approach was found to yield a high level of accuracy in identifying and addressing households in deep fuel poverty.

Conclusion: Eradicating fuel poverty by (local) energy counselling?

Although the approach of the "Neighbourhood Parents" project turned out to be successful in many ways, alongside individual measures at the household level, measures that tackle the structural reasons of the issue are needed. Generally, three main policies for fighting fuel poverty may be distinguished in accordance with the three main causes for this problem: Measures to increase incomes, measures related to energy prices, and measures designed to increase the energy efficiency of flats/buildings. These points are complemented by measures aimed at consumer protection (e.g. prohibition of power cuts in winter) and measures to increase energy consciousness and transform energy behaviour, e.g. improving "energy literacy" in order to broaden the basis of knowledge concerning energy saving in the household (Hernández/Bird 2010). Ultimately, energy efficiency always is a question of consumer behaviour, too (Ryan/Campbell 2012).

Importantly, however, single, isolated measures against fuel poverty are likely to have only limited effects in the face of the multifaceted roots of fuel poverty and the range of household coping strategies. Various counselling projects, like the three subprojects that were evaluated in this paper, have the potential of changing the situation of those concerned for the better (e.g. regarding the savings achieved or the reduction of strains). Often, however, measures aimed at increasing energy literacy and transforming energy consumption behaviour towards increased energy efficiency have little influence on the root causes (e.g. energy efficiency in flats and buildings). Some of the stakeholders' feedbacks about certain suggested measures reflect this: "Fuel poverty cannot be counselled away"!

Certain single measures could be sensible and effective. Comprehensively fighting fuel poverty requires coordinated actions and a consistent strategy. In the context of fuel poverty, this applies to a set of integrated measures aimed at all causes and manifestations of fuel poverty with different time horizons and depths of the effects. As public and political discussions on the topic are still less developed, it does not seem sensible to exclusively give priority to the measures with a long-term aim (e.g. raising the quota for redevelopment of buildings) and leave aside the direct and short-term predicaments of those affected. In combination with nationwide measures, local actions like the "Neighbourhood Parents" are still needed!

In connection to the development of measures it has to be highlighted that the fight against fuel poverty is a multi-dimensional and cross-sectional venture (Bouzarovski et al. 2012). Fuel poverty is situated between the conflicting priorities of different areas of politics (energy and housing, environment, health, social affairs), which is why cooperation between the respective ministries would be urgently called for (Ryan/ Campbell 2012). Here, also non-energy co-benefits of certain measures (e.g. increase in the value of buildings, creation of employment, improved health status, reduced emissions) should be more thoroughly taken into account.

References

- Abrahamse, W., Steg, L., Vlek, Ch., Rothengatter, T., 2007. The effect of tailored information, goal setting, and tailored feedback on household energy use, energy-related behaviors, and behavioral antecedents. Journal of Environmental Psychology 27, 265–276.
- Anderson, W., White, V., Finney, A., 2012. Coping with low incomes and cold homes. Energy Policy 49, 40–52.
- Austrian Energy Agency, 2012. Energiepreise für private Haushalte – Jahresrückblick 2011. http://www.energyagency.at/fileadmin/dam/pdf/energie_in_zahlen/jahresberichte_epi/epi-2011.pdf [Accessed: 17 December 2014].
- Boardman, B., 2010. Fixing Fuel Poverty. Challenges and Solutions. Earthscan, London.
- Boardman B., 2007. Home Truths: A low-carbon strategy to reduce UK housing emissions by 80 % by 2050. Oxford: A research report for The Co-operative Bank and Friends of the Earth.
- Bouzarovski, S., Petrova, S., Sarlamanov, R., 2012. Energy Poverty policies in the EU: A critical perspective. Energy Policy 49, 76–82.
- Braubach, M., Jacobs, D. E., Ormandy, D. (eds.), 2011. Environmental burden of disease associated with inadequate housing. A method guide to the quantification of health effects of selected housing risks in the WHO European Region. Copenhagen: World Health Organization.
- Brunner, K.-M., Mandl, S., 2014. Energy Consumption and Social Inequality: Fuel Poverty in Europe. In: Reiter, Sigrid (ed.), Energy Consumption. Impacts of Human Activity, Current and Future Challenges, Environmental and Socio-economic Effects. New York: Nova Science Publishers, 167–184.
- Brunner, K.-M., Spitzer, M., Christanell, A., 2012a. Experiencing fuel poverty. Coping strategies of lowincome households in Vienna/Austria. Energy Policy 49, 53–59.
- Brunner, K.-M., Christanell, A., Spitzer, M., 2012b. Energy Consumption Practices and Social Inequality. The Case of Low-Income Households. In: Möllers, N., Zachmann, K. (eds.), Past and Present Energy Societies. How Energy Connects Politics, Technologies and Cultures. Bielefeld: transcript, 195–219.
- Brunner, K.-M., Spitzer, M., Christanell, A., 2011. NELA. Nachhaltiger Energieverbrauch und Lebensstile in armen

und armutsgefährdeten Haushalten. Endbericht. Wien: ÖIN.

- Buhr, P., 2005. Ausgrenzung, Entgrenzung, Aktivierung: Armut und Armutspolitik in Deutschland. In: Anhorn, R., Bettinger, F. (Hrsg.), Sozialer Ausschluss und Soziale Arbeit. Positionsbestimmungen einer kritischen Theorie und Praxis Sozialer Arbeit. Wiesbaden: VS Verlag für Sozialwissenschaften, 185–202.
- CAG Consultants, 2010. Power to our neighbourhoods: towards integrated local sustainable energy solutions. Learning from success. Report for the Ashden Awards for Sustainable Energy. Available at: http://www.ashden. org/files/pdfs/reports/Full_Report_Power_to_our_neighbourhoods.pdf [Accessed: 19 December 2014].
- Dahlborn, B., Greer, H., Egmond, C., Jonkers, R., 2009. Changing Energy Behaviour. Guidelines for Behavioural Change Programmes. Madrid: IDEA.
- Darby, S., 1999. Energy advice what is it worth? Proceedings of the European Council for an Energy-Efficient Economy, Panel 3.
- Dubois, U., 2012. From targeting to implementation: The role of identification of fuel poor households. Energy Policy 49, 107–115.
- Hernández, D., Bird, S., 2010. Energy Burden and the Need for Integrated Low-Income Housing and Energy Policy. Poverty & Public Policy 2, 5–25.
- Hesse, S., Danner, M., Dorokhova, N., Kleinhückelkotten, S., 2006. Dokumentation zum Projekt "Klimaschutzberatung für Migranten von Migranten" – Eine Beratungskampagne für Klimaschutz, Wohnqualität und Nebenkostensenkung. Kooperationsprojekt von: Landeshauptstadt Hannover Agenda 21-Büro, Kommunikation für Mensch+Umwelt, Migranten für Agenda 21 Hannover e.V., Wissenschaftsladen Hannover e.V. AG 'Umwelt & Beratung'. Hannover.
- Hirsch, D., Preston, I., White, V., 2011. Understanding fuel expenditure: Fuel poverty and spending on fuel. Bristol: Centre for Sustainable Energy.
- Marmot Review Team, 2011. The Health Impacts of Cold Homes and Fuel Poverty. London: Friends of the Earth and Marmot Review Team.
- Radcliffe, J., 2010. Coping with Cold: Responses to Fuel Poverty in Wales. Ebbw Vale: The Bevan Foundation.
- RAND Europe, 2012. What Works in Changing Energy-Using Behaviours in the Home? A Rapid Evidence Assessment. Available at: http://www.decc.gov.uk/assets/decc/11/ tackling-climate-change/saving-energy-co2/6921-whatworks-in-changing-energyusing-behaviours-in-.pdf [Accessed: 19 December 2014].
- Ryan, L., Campbell, N., 2012. Spreading the net: The multiple benefits of energy efficiency improvements. Paris: IEA.
- Santillán Cabeza, S. E., 2010. Opinion of the European Economic and Social Committee on Energy poverty in the context of liberalisation and the economic crisis. Brussels.
- Statistik Austria, 2014. Hauptmietwohnungen und Wohnungsaufwand nach Bundesland. http://www.stat.at/web_de/ statistiken/wohnen_und_gebaeude/wohnungsaufwand/ mietwohnungen/023048.html [Accessed: 17 December 2014].

- Statistik Austria, 2013a. Tabellenband EU SILC 2012.
 Einkommen, Armut und Lebensbedingungen. Wien:
 Statistik Austria. Tabelle 3.2a: Wohnprobleme nach soziodemographischen Merkmalen, 54.
- Statistik Austria, 2013b. Tabellenband EU SILC 2012. Einkommen, Armut und Lebensbedingungen. Wien: Statistik Austria. Tabelle 10.1b: Lebensbedingungen und Erwerbsstatus von niedrigen, mittleren und hohen Einkommensgruppen 2012, 106.
- Stoik, C., 2013. Endbericht zur Begleitforschung des Pilotprojekts Grätzeleltern. Wien: Kompetenzzentrum für Soziale Arbeit, FH Campus Wien.

Acknowledgements

This paper could not be written to its fullest without Caroline Nwafor, Andrea Jamek, Gerhard Schmid – our further project partners – and all energy advisors and volunteers who supported households affected by fuel poverty, not only in energy matters but also in other precarious life situations. Furthermore we gratefully acknowledge the full funding of our cited project by the Austrian Climate and Energy Fund and the received support from the grant of the Cultural Department of the City of Vienna, Funding of Science and Research, awarded to the second author for her co-authorship of this paper.