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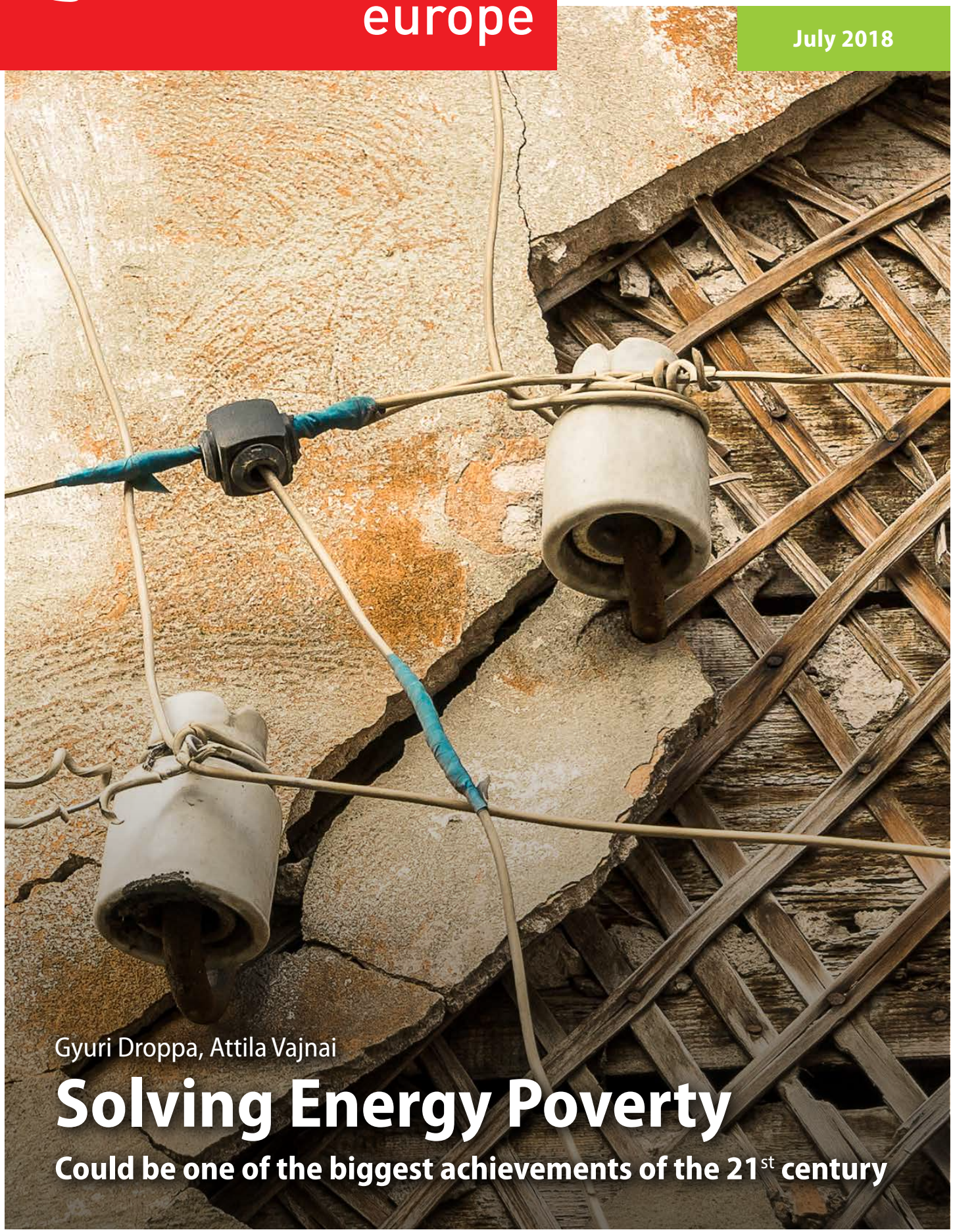

Gyuri Droppa, Attila Vajnai

Solving Energy Poverty

Could be one of the biggest achievements of the 21st century

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Could be one of the biggest achievements of the 21st century

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Cover illustration: extext/shutterstock.com; Electrical insulator on the wall of the old and purely insulated house.

1. PREFACE

Cornelia ERNST, Member of the European Parliament, GUE/NGL
Manuela KROPP, Policy Advisor to MEP Cornelia Ernst

Rising energy costs and falling household incomes make energy poverty a growing concern in the European Union. This means that approximately 11% of the population in the EU is not able to adequately heat or cool their homes at affordable costs.

The access to energy is a basic social right – nobody must be disconnected from the energy supply by their energy supplier! Disconnections of energy supply must be prohibited by European legislation – when the package for clean energy was negotiated in the European parliament at the beginning of 2018, the left group GUE/NGL tabled amendments to ban disconnections and to provide a certain amount of electricity to households for free. Furthermore, the GUE/NGL called for member states to collect and publish data on disconnections and to agree on a common European definition of energy poverty – because up until now the lack of data disguises the range of the problem of energy poverty.

Energetic building refurbishment is not a technical, but a political issue and it offers the opportunity to eradicate energy poverty. This is because 75% of the buildings in the EU are energy inefficient, with total building stock accounting for 36% of greenhouse gas emissions in the EU. But the crux is financing refurbishment and it is the most significant obstacle impeding refurbishment. In many member states, the costs for refurbishment are passed on to tenants through an increase in their rent. There is the threat of "green gentrification" and that tenants having an average income at their disposal will be pushed to neighbourhoods located on the outskirts of the cities. "Who does the city belong to?" This was DIE LINKE's slogan in Berlin in the successful election campaign at municipal level in 2016. *The city belongs to the people*. For this reason, refurbishment of buildings must not increase the rents of the tenants.

Tackling energy poverty requires transforming our energy systems. Increased energy efficiency, through massive renovation efforts across Europe, and switching to citizen- and community-owned renewable energy production has a key part to play in eradicating energy poverty. EU policies must ensure that people, in particular low-income households, can be part of and benefit from the transition to renewable energy, without being left to foot the bill. All citizens should have access to affordable and renewable energy, and energy-efficient housing.

In May 2017, the GUE/NGL, the Rosa-Luxemburg-Stiftung Brussels and transform! europe organised a workshop on energy poverty at the European Parliament.

Brussels, April 2018

HUMANISM MADE US HUMAN

"Humanity has always lived under the threat of energy poverty, but never had the knowledge and riches to solve the problem. By now, we are able to solve the problem, but are we humane enough?"

2. WHEN POVERTY TAKES EVERYTHING[1]

My car mechanic, Zoli, rented an uninsulated garage at the Újpest Shipyard. Like Zoli, it had seen better days – back before the change in the regime. Zoli fixes cars. I like going to Zoli's workshop: his prices are fair and he has practically no spare parts in stock, which means he makes repairs rather than simply buying new parts. My old car is running with mostly original parts thanks to Zoli.

"My fingers get stiff and bruised when I work in an unheated garage, so I need to turn on the heat," he explains. "I've got a noisy stove that rumbles and roars like an aircraft engine. Its exhaust smells like vomit."

Zoli's heating unit sucks the air out of the garage, warms it up and blows it back again. There's no chimney in the garage. "The owner won't let me cut a hole in the door or wall and, besides, the authorities wouldn't allow me to use that sort of machinery, anyway."

The shop has never really been clean. Tools lie around on the floor, and the space is so tight it would be hard to tidy up. Oily soot hangs on the cobwebs covering the walls, filling the corners. The sticky mess covers even the young lady who advertises brake pads on the wall calendar.

"What do you heat with Zoli?" I ask.
"Oil."
"Isn't that expensive?"
"It would be if I were to pay for it."
"But how do you get it?!"
"I'm heating with the used oil from oil changes. I save money where I can. I cannot raise prices, but if I can save some money, I'll go to Germany or Austria. I bought a book and I'm studying English at night."
"But they speak German."
"Sure, but you can get by with English in those countries. We can make a deal: If you teach me English, I'll take care of your car. I've got to do something. I fall asleep with the book at night."
"If you heat like this -- with used oil -- you'll absorb so much microscopic metal that you'll die before you reach the Hungarian border."

I leave the garage, heading out into the cold, but Zoli yells after me.
"Running away, eh?"
"When will you be ready?" I shout back. "Soon. I know it's a shit solution, but I can't work without my hands, so I need the heat."

Feeling sorry for Zoli, I take a few deep breaths to clean my lungs. I think about his plight. How many others are forced to choose an unhealthy solution for their winter heating? How many people heat with oiled sawdust stuffed into shoes? PET bottles filled with cloths? Old window frames encrusted with layers of thick oil paint? Tar-soaked railroad sleepers? In a word: with anything that burns?

I haven't seen Zoli since last winter. He made it to Vienna. He called me last year to wish me a Merry Christmas. The locals don't work during the holiday, so he was on duty. The boss pays double money on these days, even if there's no work. The garage in Vienna has Wi-Fi. Zoli calls me on Viber. We can see each other. He shows himself from top to bottom, highlighting how lightly he's dressed.
"Over here the workshops are all heated," he reports. He shows me around, revealing the hoists and the radiators. He takes me into the office. Yes, he's even allowed in there.
"In Hungary, I got up at dawn to get to my rented garage before the traffic started. I worked every weekend, but the money was never enough. I wasn't even able to finish plastering my house. I could never earn enough to get ahead – to get from A to B. My wife divorced me and went home to her mother. But now? Now, I've earned enough to plaster the house. My ex-wife is even interested in me again, but she made me hate her during the divorce. She wanted to take everything from me.
Ah, but my daughter – I miss her so much! I didn't go any farther away because of her. Vienna isn't too far. When she grows up and can understand how things are, I'll tell her how important it is to live in a normal country. That's the best advice anyone can give to their kids. I wish my parents had given me the same advice."

1 Droppa, G. (2017). Published by transform! hungary, 8 January 2017, shortened.

3. TOOLS TO CONQUER ENERGY POVERTY

25 reasons for action

1. Humanity has never produced as much energy on earth as it does today.
2. Power generation capacity has greatly increased.
3. Europe produces much more energy than it consumes.
4. There is much more energy to sell on the market than there is to buy.
5. Due to the price of energy and the competition, today the sector obtains less profit than it had done previously.
6. Imported energy in Hungary is cheaper than that produced in Hungary.
7. As a result of the spread of new technologies, the efficiency of power plants has improved.
8. Due to the spread of new technologies, people use relatively less energy, specifically, by reducing the energy demand of households and plants. (LED lamps, the spread of energy-efficient household appliances, etc.)
9. The introduction of locally generated, alternative energies reduces energy loss during power supply.
10. Drinking water shortages most often occur where energy poverty is present. The introduction of locally generated, cheap, alternative energies can radically reduce the price of locally produced drinking water.
11. Investments in energy poverty should be interpreted as a self-financed, unconditional, basic income project.
12. The energy produced on rooftops needs no fertile agricultural land.
13. The development of local power generation is not a monthly or annually returning subsidy. It solves the problem for at least a quarter of a century.
14. The spread of alternative energies reduces dependence on energy moguls.
15. Local energy can be achieved in the smallest, poorest, most disadvantaged settlements, and in fact, there they work with lower costs and fewer administrative burdens.
16. By eliminating energy poverty, the difference between the rich and the poor will become more tolerable, with fewer people dying of dehydration, becoming weaker and worsening because of the cold, and dying from various complicated diseases.
17. By eliminating energy poverty, human health will be improved, less spending on health will be needed, more money will remain for families and for social security systems, fewer energy subsidies will be needed, because of the reduced emissions, and the condition of the environment will be improved.
18. New building insulation and ventilation procedures are reducing the energy demands of buildings.
19. In the past few years, the prices of solar power panels have fallen considerably. By inventing backlit electricity meters, the total amount of energy produced by households can be utilised. Through the mass production of solar panels, LED lamps and windmills, further price reductions are to be expected.
20. Through the activities of countries that are open to the utilisation of alternative energies, it has clearly been shown that their practice is not an experiment, but an integrated energy production, which has become an integral part of life. The cost of energy poverty can be calculated precisely from region to region and from one country to another.
21. Construction standard classifications and local architectural laws are already integrated within the EU, and energy-saving, heating and isolation standards have also been integrated. The survey of older and non-standard building stock was carried out regardless of the problem of solving energy poverty. This is still an ongoing assignment. The development of technical conditions for the eradication of energy poverty should be set in line with the already existing steps.
22. As part of a humane lifestyle, housing right and at least one modernly heated and insulated room per building should be implemented at the top of political public life.
23. The technology of building insulation processes is merely skilled work. With the launch of such work, not only would energy poverty be eliminated, but new jobs would be created on a European level, at a time when there are millions of unemployed people in Europe. Most of the insulation and construction work would be needed in areas where the rate of unemployment is the highest. Local employment would be given a new chance.
24. By eliminating energy poverty, the proportion of people living on the streets would decrease, cities would become more liveable and more attractive to tourists, and property values would increase.
25. The necessary capital is available. The necessary amounts can be transferred from national and EU budgets.

If the above statements are true, then the question is not when to start implementation, but why we have not done so earlier.

DEFINITIONS AND COMPLEXITY OF THE MATTER

The complexity of energy poverty is related to the determination of the minimum energy needed. It must be defined in exact terms. In kWh of electricity, or in the needed amount of heating for a household per month, and in the amount of energy needed for domestic hot water. Due to the summers getting constantly warmer, more attention ought to be paid to the energy needed for cooling.

Presently, our main task is to define the minimum amount of energy a human needs for a dignified life. This depends on several factors. Mean average temperature is an indicator of energy poverty. This is a phenomenon where citizens cannot provide, for example, the right temperature in their homes, but they can reach the needed temperature in a way that might seriously impact or pollute their environment. Alternatively, due to expensive heating, other basic needs may be left out of the family budget, such as healthy food or the necessary health treatments. In countries where citizens are more exposed to the cold, heating is often the direct survival instinct, so it becomes the top spending priority with the available income.

Various factors can help to show the type and level of energy poverty in different regions. Such factors may include: housing condition and status, consumer habits, average income and energy costs for an average family.

HOW TO MAKE ENERGY POVERTY MEASURABLE

Since it is difficult to find a unified calculation system, which could indicate the weighting of the most important factors of energy poverty, we suggest a solution that demonstrates the most important elements of energy poverty. The system can indicate data from region to region, or country to country, visually, through the use of a graph.

Energy Poverty as a concept with capital letters is an abstract idea, a new notion, which is not easy to visualise with the help of old-fashioned diagrams. Since these are mostly useful to researchers, we want to demonstrate one or two. The use of vertical and horizontal axes, often demonstrating quantities on a timescale, is very easy to follow. In the event of more parameters, a pie chart can be used, but without the demonstration of transition details. In the case of energy poverty, the number of parameters have 3-5 individual elements. Just think about the difference in the:

- *number of days when heating is required* in a Mediterranean country, compared with a North European one,
- number of sunny days,
- number of days under -20 °C,
- number of days above 15 °C,
- number of days above 28 °C,
- income/person to be spent on heating,
- type of heating used,
- development level of alternative energy,
- insulation level of buildings, (% of houses A+, A, A-, B+, etc.)
- heated area/family member,
- energy costs as a % of income,
- price of energy used to heat 1 m^3,
- % of energy efficiency,
- average income % of EU income
- etc.

The list can vary depending on the research area, especially when, for example, the purpose of the research is to analyse the coherence between the investment in healthcare and the healing of respiratory diseases in comparison with the modernisation of heating.

Therefore, we suggest the use of a radar chart to visualise energy poverty (Figure 1). Such a radial diagram can provide a pattern for each country and region, and it can transparently demonstrate the magnitude of the relevant factors and their effects on each other.

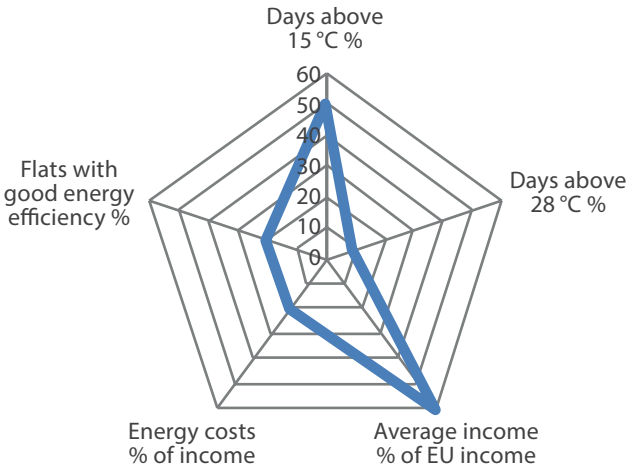

Figure 1 Radar Chart. Source: Attila Vajnai

The radar chart recommended examines several aspects simultaneously. To give an example, we are showing a possible version, but we would emphasise that the number of variants, the order and scales, and the number of factors can be modified. Through our recommended method, the most accurate and comprehensible diagrams can be created, and the results can be used as basic information for further analyses and studies. It is obvious that different charts can be used, depending on the depth of analysis of energy poverty and depending on the emphasis of various factors used in the study.

With the widespread use of radar charts in the field of Energy Poverty, viewers will easily get used to reading documents based on such charts. In this field of research, special polygons will be formed, which cannot be compared to anything else. New metrics will appear combined with those based on traditional indicators, like money, time and space.

We must state that it is essential to understand the dimensions of the problem. That is why we strongly recommend that the EU develops a general rule on how to collect data. Radar diagrams will be very useful in comparing "local overviews" and analysing the development of the situation.

ENERGY DEMOCRACY

Energy democracy walks hand in hand with the fight against energy poverty. "Energy democracy means that everybody has ensured access to sufficient energy. Energy production should minimize the level of pollution, in order not to harm people. More concretely, this means that fossil fuel resources must be left in the ground, and the means of production need to be socialized and democratized. This means that we must also rethink our overall attitude towards energy consumption."[2]

We must restructure the global energy system in order to massively scale up renewable and low-carbon energy, aggressively implement energy conservation, ensure job creation and local wealth creation, and assert community and democratic control over the energy sector[3]. It seems unlikely that the transition to energy democracy can take place on a local or municipal scale alone. There is also a need for large-scale coordination, redistribution and investment at present, as only the central states run the only set of institutions that can facilitate the entire process.

COMING TO TERMS WITH REALITY: LINKING ENERGY POVERTY TO ITS CAUSES[4]

In a 2014 research paper published in WIREs Energy and Environment[5], "Stefan Bouzarovski, who is the Director of the Centre for Urban Energy and Resilience at the University of Manchester, defined energy poverty as the inability to access materially – and socially – necessitated energy services in the home".

2 Büro für eine demokratische Energiewende. Available at www.energie-demokratie.de.

3 Sweeney, S. (2012). *Resist, Reclaim, Restructure.* New York: University of Cornell, Global Labor Institute, p. 31.

4 Simon, J.-C. (2016). *Notes on energy poverty* [contribution for group discussion], presented on 18 July 2016. Brussels: GUE/NGL and Rosa Luxemburg Foundation, p. 4.

5 EU statistics on income and living conditions (EU-SILC).

Based on the EU-SILC[6] statistics discussed above, he proposed to focus on the (geographically variable) "realms of vulnerability" within the EU. His definition took into account all the data developed by SILC and added measures related to the level of domestic heating. After having created a composite fuel poverty indicator, he came up with the graph (next page) in the year 2010.

He then added further scholarship research in order to develop a broader definition of terms for the causes of energy poverty beyond the three accepted parameters of incomes, prices and energy efficiency. He did so by looking at the physical and institutional arrangements underlying built environment formations. His conclusion is that "allowing households to access energy at a materially and socially necessitated level is just as much a question of ensuring an adequate match between housing types, heating systems, and household needs, as it is about incomes and energy efficiency". In broader terms, therefore, we are witnessing a conceptual shift in the mainstream theorisation of domestic energy deprivation, away from the present narrow focus on poverty, access and energy efficiency, onto more complex and nuanced issues of household needs, built environment flexibility and social resilience.[7] It is useful to reaffirm these elements because we need to address the causes rather than just a few symptoms in an ad-hoc fashion. This will also give us the opportunity to assess what the newly created EU Energy Poverty Observatory is doing.

ALLEVIATING ENERGY POVERTY[8]

Energy subsidies and direct financial support for household heating cannot provide a long-term solution to the fuel poverty problem. Only vigorous energy renovation measures to fuel poor homes can give a long-term answer to fuel poverty. Energy efficiency measures have proven to be the most sustainable solution to fuel poverty problems, however they receive lower funding compared to income and fuel price support schemes.

Fuel poverty is a major problem for Europe, as millions of people are unable to afford proper indoor heating comfort (Figure 2). Despite the fact that there is no common European definition, the significance of the problem, as well as the severe health impacts caused by fuel poverty are widely recognised. Specifically, excess winter deaths, mental disability, respiratory and circulatory problems are adversely affected by fuel poverty.

In 2012, 10.8% of the total European population were unable to keep their homes adequately warm, increasing to 24.4% when referring to people with low incomes.

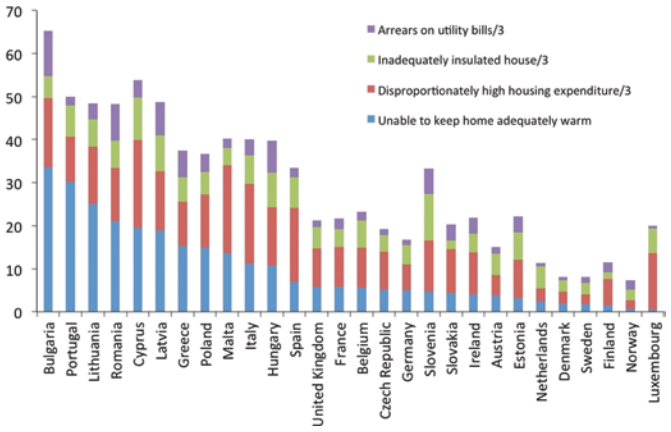

Figure 2 Fuel Poverty Indicator 2010. Source: EU-SILC

6 Bouzarovski, St. (2014). Energy poverty in the European Union: landscapes of vulnerability. *WIREs Energy Environ,*Vol. 3, p. 276–289. Available at: doi.org/10.1002/wene.89.

7 Bouzarovski, St. (2014). Energy poverty in the European Union: landscapes of vulnerability. *WIREs Energy Environ,*Vol. 3, p. 276–289. Available at: doi.org/10.1002/wene.89.

8 Bouzarovski, St. (2014). Energy poverty in the European Union: landscapes of vulnerability. *WIREs Energy Environ,* Vol. 3, p. 276–289. Available at: doi.org/10.1002/wene.89.

THE ENERGY COMMONS[9]

If the European Left accepts the definition of sources of energy as commons, our first call is to provide the fundamental social rights of access and use of those energy sources. Several political organisations are today calling for the inclusion in national constitutions of such "fundamental social rights" as food, drinking water, housing, heat, education and public transport, effectively calling for an end to hunger, homelessness, energy poverty, lack of education and lack of mobility means. The implementation of these fundamental rights requires either free access and use of these commons or regulation and stabilisation at affordable prices. Alternatively, there could be a transition period of regulation followed by free provision.

Advocates of free access are linking the issue to that of taxation and the co-management of public services by the state/regions and citizen assemblies during a period of transition from the present system. They are also calling for debates so that "users of the polis" determine their choices based on their use: Should car parks be free, or should it be public transport? Should access to water be free, or should we put a limit on the number of cubic metres? How about electricity or central heating? The Catalan Integral Cooperative in Barcelona is using a very broad definition of the commons that includes food, education, employment, health, housing, culture, energy, transport, means of information and communication, social security, and legal aid. The adjective "integral" indicates that the CIC intends to take charge of all fundamental aspects of the economy, including production, consumption, finance and currency.

9 Simon, J.-C. (2016). *Notes on energy poverty* [contribution for group discussion], presented on 18 July 2016. Brussels: GUE/NGL and Rosa Luxemburg Foundation, p. 7.

4. CONSEQUENCES OF ENERGY POVERTY

WHO ARE THE VICTIMS

Energy poverty has a greater impact on human health than we thought earlier. People are dying not only because of their cold homes, but because of the polluted air in their homes. This is the case in smaller villages and also in the big cities. Respiratory diseases are becoming a more and more common cause of death. Deaths in the event of respiratory illnesses are rising, especially during the winter months and due to the increase in unheated homes. We must realise that a particularly vulnerable social group has a weakened immune system, especially if they are old.

THE INVALID, SICK AND ELDERLY IN THE TARGETING CROSS

Energy poverty has an age-related dimension as well, when elderly people, due to their low pensions, poor health status, malaise and discomfort, become weak, neglected and uncared for. In cases where they were able to collect the adequate amount of firewood during the warm season but run out of fuel, or where winter is cooler or lasts longer than the previous ones, when smoke rises less often from the chimney, the building cools down together with the human body. This is the process which leads to the body's chills. In those moments the cooled down person can hardly move and their body freezes. This is a slow process, with long suffering, which elderly people are less and less able to withstand. Many people are frozen in their own homes. The deaths are declared by family doctors. In Hungary – in a country where the winter is much harsher – we have no official statistics on people dying in their cold homes. The cause of death is always complex. A person who dies from frostbite is usually already neglected, their bodies weakened and already suffering as a result of many diseases. In Hungary, NGO organisations can collect data, but their statistics only include people dying at home or on the streets.[10] They state that the cause of death was freezing. But those who freeze to death often suffer from many other, sometimes serious, diseases. Therefore, doctors often mention less awkward and less shameful causes of death.

WHETHER WE ARE RICH OR POOR, SOCIAL SOLIDARITY CANNOT BE IGNORED

While energy access has long been recognised as a key struggle for justice in the global south, recent years have left millions across Europe without access to the basic levels of energy necessary for a dignified life. Energy poverty is driven by a number of immediate causes, most obviously rising bills, falling incomes and poor-quality housing. The main impacts of the underpinning result of these direct factors are ones of market liberalisation and privatisation: a) on energy prices, which allow corporations to profit from soaring bills; and b) on the housing market, which leaves many at the mercy of profiteering landlords, uninterested in the tenants' health or welfare. Compounding this are the implications of austerity measures on wages and welfare provision.[11]

10 Vajnai, A. (2017). Presentation on Energy Poverty at the European Parliament, 29 May 2017.

11 Angel, J. (2016). *Strategies of Energy Democracy*. Brussels: Rosa Luxemburg Foundation Brussels Office, p. 20. Available at: http://www.rosalux.eu/fileadmin/media/user_upload/energydemocracy-uk.pdf

EVEN SUPPORTERS OF CAPITALISM PREDICT A SOCIAL ENERGY REVOLUTION

The economist Michel Aglietta also sees the emergence of a "green" capitalism based on renewable energies that will bring a new long-term growth cycle. According to him, during the 21st century, China could be the leader of this new cycle, like the U.S. which, in the first half of the 20th century, was the leader of the Fordist cycle. A European campaign was launched in 2015, planning "one million climate jobs". The plan promised a new social model in the field of renewable energies. Michel Aglietta[12] says that capitalism may be able to go beyond the free use of nature and fossil energy. But it would remain capitalism.[13]

SOCIAL COOPERATIVES

Energy cooperatives are rapidly multiplying across the globe, allowing millions of people to become active producers of the energy they use. One problem, though, is the accessibility of this model beyond privileged middle-class investors.[14]

TAKE DATA DUBIOUSLY

Not only do the data on the Internet have to be filtered, often data are intentionally false. Data concerning the percentage of alternative energy (e.g., in Hungary) are often untrue. The EU has 28 member states, but the way we collect data, which means coming up with statistical figures, is still different from country to country. In this field – on how to collect statistical data – we need strict, detailed regulations, especially for issues of healthcare (from birth to death), unemployment and social care, with special attention to education and school nutrition.

While statistical data show a significant growth in alternative energy, in fact, the reality is different. Rather than supporting alternative energies, which one may think is happening, there is in fact a special tax on all alternative energies in Hungary. The already existing and seemingly successful tenders and projects related to alternative energies were stopped, and a new tax on solar cells was introduced. This also meant a taxation on solar energy and, consequently, made the product more expensive. The reason for different obstructions against the alternative energy sector is that Hungary wants to take further steps towards the nuclear sector.

The main reason for false statistical data on alternative energy is that a large number of families used to use gas, but in recent years have changed to heating with wood. The government launched a highly populist overhead reduction programme, which successfully helped the middle classes, but not the ones in real need. We presume that the reason for false data collection is that the Hungarian authorities want to meet their EU directive duty (20% of energy should come from the alternative sector by the year 2020, while Hungary had excepted to reach 14.7% by the year 2020).

According to the statistical data collection method, heating with wood belongs to the alternative energy sector. However, to be aware of the truth, the sector has to be analysed carefully with regard to environmental and health responsibility. The burning of wood can only be accepted as a source of alternative energy if the burning takes place in high-ef-

12 French economist, currently Professor of Economics at the University of Paris X: Nanterre. Scientific counsellor at CEPII, a member of the University Institute of France and a consultant to Groupama. An alumnus of the École Polytechnique, from 1998 to 2006, member of the Circle of economists. From 1997 to 2003, he was a member of the Council of Economic Analysis for the French Prime Minister. Author of A Theory of Capitalist Regulation monograph. He is a teacher at HEC Paris. He is a specialist in international monetary economy, known for his work on the functions of financial markets.

13 Keucheyan, R. *Le Monde diplomatique* [Hungarian edition], 29 August 2017. Available at: magyardiplo.hu.

14 Angel, J. (2016). *Strategies of Energy Democracy*. Brussels: Rosa Luxemburg Foundation Brussels Office, p. 13. Available at: http://www.rosalux.eu/fileadmin/media/user_upload/energydemocracy-uk.pdf

ficiency boilers. With such a power plant, the type of wood burned has to be carefully analysed. Where backwoods are cut the process is extremely damaging, while in the case of energy forests, the power plant is useful and the process should be supported. But as with anything, the devil lies in the detail. The usual business spirit cannot be enforced here, as energy plantations start with a 15- to 20-year pre-investment. The maturing of energy forests only takes 15-20-25 years, while forests grow over 60-80-100-150 years. The environmental values of natural forests, due to their biodiversity, cannot be compared with energy forests. When the fuel of a power plant is wood, then such a company calculates the continuous supply of wood to be burned.

Citizens abandoning the use of already established gas boilers in their homes are further damaging their health and the environment, as they burn all possible types of waste which provide heat besides wood. While the reduction of gas consumption is easy to measure, only the legal part of wood use can be defined. The part driven by the black market, resulting from people's needs, can only be estimated. To solve the problem, there are two types of solutions. One is to raise the price of wood by taxing, which is not only inhuman but will lead to the frequency of tree thefts. The other is to start taking serious action and eliminating the inhuman and shameful facts of energy poverty.

AIR QUALITY AND HEALTH CONSEQUENCES

We should fight poverty, air pollution and pulmonary diseases at the same time, by phasing out poverty-based polluting heating. To solve the problem, the government is planning to prohibit the use of mixed heating from 2020. But the problem is not that simple. The cold is not afraid of prohibition, and the poor have no other option. What will happen to the poor who cannot afford gas heating?

According to the highest circulating printed and online medical paper, Home Pharmacy (Házi Patika): Our country is in trouble due to heating.[15] The biggest environmental health problem in Hungary results from the air pollution caused by combustion heating.

The Office of the Commissioner for Fundamental Rights launched an investigation: "By now the major cause of air pollution is that a large segment of the population is heating with wood, lignite, brown coal, and waste. The proportion of these has increased significantly in recent years".

In Hungary, nearly as many people die as a result of air pollutants and ozone as in China, with notoriously polluted air.[16] Most of the illnesses and deaths are caused by small particles known as flying dust, yet the government has not done anything to solve the problem over the past years.[17]

In previous years, there was still 54 million HUF (€ 177,050) in the national budget to reduce PM10 (pollutant) pollution, but this ridiculously low amount has been reduced by 40% to 30 million HUF (€ 98,360). The move clearly indicates the government's non-existent commitment to addressing the problem. The expert Gergely Simon believes that the OECD data published by Forbes Magazine (approximately 10,000 deaths per year in Hungary caused by air pollution (Figure 2)) is underestimated, since, according to the European Environment Agency's November 2015 report, 12,800 people die each year as a result of dust pollution in Hungary.[18]

According to a report by the European Environment Agency (EEA)[19], 430,000 people in Europe and 12,800 people in Hungary die prematurely each year due to particle pollution (Figure 3).[20] However, this is only the tip of the iceberg, as the number of air pollution-related illnesses is two to three times higher than that of deaths.

15 Házi Patika. 23 November 2016, 14:23. Available at: www.hazipatika.com.

16 Forbes Magazine. (1966). Proportion of diseases per million people.

17 Hargitai, M. Published by Népszabadság Online (NOL), 6 May 2016.

18 Simon, G. *Egyenes Beszéd* ("Straight Talk"): ATV.

19 EEA. *Air quality in Europe – 2015 report. No. 5*/2015. Available at http://www.eea.europa.eu/publications/air-quality-in-europe-2015/at_download/file.

20 Levegő Munkacsoport [Hungarian Environmental NGO]. Clean Air Group. (2016). *Illatos út a Kályhákban*.

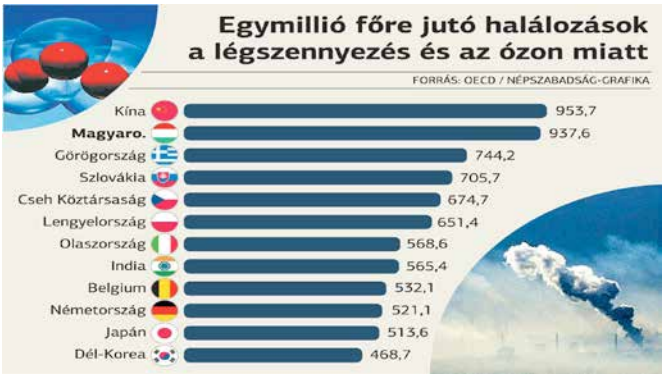

Figure 3 Deaths per million people per air pollution and ozone.
Source: OECD/Népszabadság – Graphics

In some areas of the country, the population burns at least one third of its communal waste. This "chemical cocktail" flowing into the air can cause cardiovascular diseases, tumour lesions, developmental disorders in foetuses, etc.. To solve the problem, Clean Air Group[21] and Greenpeace Hungary made a 6-points proposal package: 1. surveillance, information to the population; 2. authority involvement; 3. effective sanctioning; 4. prohibition of the use of lignite; 5. prohibition of the selling of wet wood; 6. provision of sustainable fuel to the needy.[22]

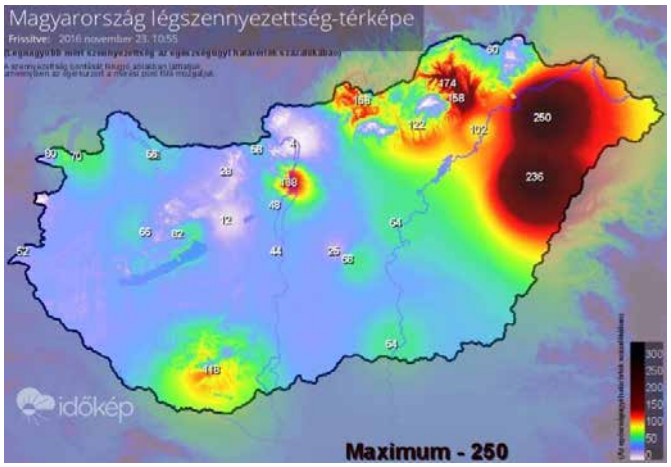

Figure 4 Air pollution in Hungary on a calm, lull day.
Source: www.időkép.hu, 23 November 2016, 10:55

Measurement results would be even worse in the villages, where the truly poor people live, as the measuring stations are in the towns. The harmful particle of emission systems (PM – particulate matter 10) produced by residential heating was 24% of the total emissions in 2000, and by 2013, this proportion had increased to 45%. In particular, the health issue was the biggest threat, as the tiniest particles (PM 2.5) are responsible for 74% of retail firing. These tiny particles cause respiratory and cardiovascular cancer, as well as other diseases, since different fuels are burnt in outdated equipment using inadequate combustion technology.

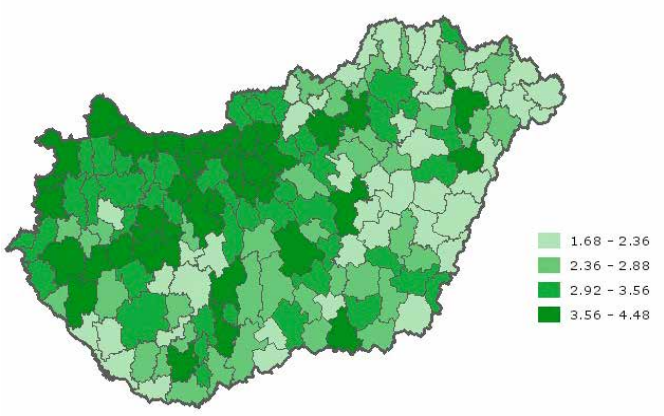

Figure 5 The poorest and the richest districts in Hungary.
Source: Hungarian Central Statistical Office (KSH)
Explanation: dark green colour indicates rich, light green colour indicates poor

We had become accustomed to thinking that transportation and industry are the biggest polluters. If one did not know Hungary in detail, one would think, after looking at the graph showing Hungary's air pollution (Figure 4), that the most industrialised zone, or the capital with its traffic jams, is located in the north-eastern part of the country. On the contrary, the truth is, as we can see on the map showing the poorest and richest districts in Hungary (Figure 5), the north-east is actually the poorest and most marginal region, with small villages and homesteads, and with the highest rate of unemployment, mainly among the Roma population.

The Hungarian government launched a so-called rescission price reduction program. With the price of natural gas higher than in most European countries, that political product lowered the price of natural gas by 15%. But practically, the measure only helped the middle class. The poorest one third of the population don't use natural gas. They either had to abandon the use of natural gas or had always heated with cheap wood. The map showing the poorest and the richest districts, almost clearly shows the areas where people heat with wood and waste.

21 Levegő Munkacsoport [Hungarian Environmental NGO]. Clean Air Group. (2016). *Illatos út a Kályhákban*.

22 Levegő Munkacsoport [Hungarian Environmental NGO]. Clean Air Group. (2016). *Illatos út a Kályhákban*.

THE PRICE OF GAS MATTERS

The world economic crisis had a strong impact on the consumption of gas. This indicated a drop in gas consumption between 2012 and 2014 (Figure 6).[23] The economy's weakness coincided with the decline in household consumption. In that period, poor people, having other types of heating equipment (wood and multiple wood stoves), changed their heating from gas to wood. Since then, the household consumption of the middle-class has increased slightly, while those in need are still heating with wood or other burnable materials. Other reasons were: energy saving, insulation in apartments, loss of financially vulnerable consumers and implementation of energy efficiency projects.[24] The closure of several fossil power plants also played a role in the increase in consumption over the last two years, with corporate consumers shifting to gas at the same time (Figure 6).

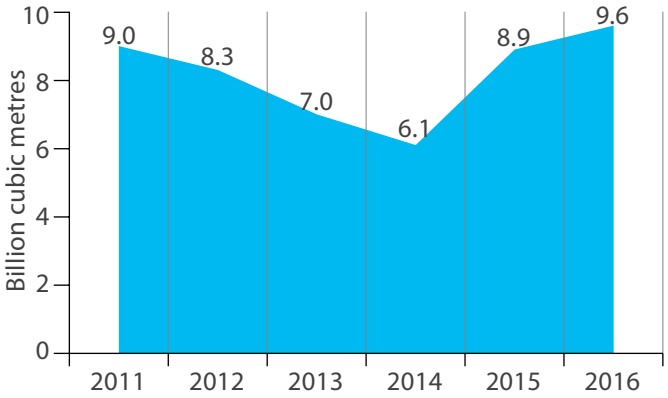

Figure 6 Overview of gas consumption in Hungary from 2011-2016. Source: Hungarian Energy and Public Utility Regulatory Auhority (MEKH)

Until 2016, the Hungarian Central Statistical Office – HCSO (Központi Statisztikai Hivatal – KSH) regularly reported the amount of people living below the subsistence level. They reported that more than 40% of the population is living below the subsistence level. The matter became a main issue in the then still existing opposition press. In response, HCSO stopped making its subsistence calculations. In this case, with the absence of HCSO, we are working with the data collected by an analytical company called Policy Agenda. According to the updated data belonging to the few Hungarian Energy and Public Utility Regulatory Authorities (MEKH), the quantity of overall gas used in the country was continuously declining (Figure 7).

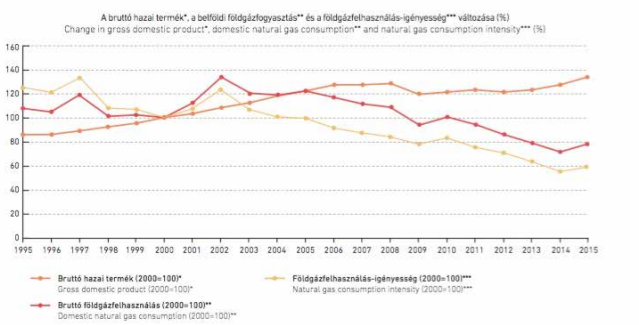

Figure 7 Red line – domestic natural gas consumption shows the continuous decline in natural gas consumption. Source: Hungarian Energy and Public Utility Regulatory Authority (MEKH)

Despite the fact that across Europe many coal, lignite and other high-emission unmanufactured power plants have been shut down to be replaced mainly by gas-powered plants, the global price of gas has dropped significantly. The reason for this was the appearance of a significant surplus of shale gas.

According to the Hungarian Statistical Institute in 2010: 332, 2011: 230, 2012: 225, 2013: 210, 2014: 142 and 2015: 168 people froze. In 2016, according to the World Economy Weekly (HVG) the data had been encrypted. The measurement was taken by a cartel, which means that there was no authority providing data for the extremely cold 2016 winter, from the ministry to the hospitals and rescue services.

Because of the above facts, the European Commission started an infringement procedure[25] against Hungary. This way, the following questions must be answered: Will the Hungarian government be able to come up with a solution process, which can also be used by small private customers suffering from energy poverty? Are they really working on a solution for how to minimise people freezing to death in their homes?

23 In comparison, in 2005 natural gas consumption was 14.4 billion m^3.

24 *Napi.hu*. Published on 22 February 2017. Available at: napi.hu.

25 According to the EU treaties, the Commission may take legal action – an infringement procedure – against an EU country that fails to implement EU law. The Commission may refer the issue to the Court of Justice, which in certain cases, can impose financial penalties.

NUCLEAR PLANS INSTEAD OF ALTERNATIVE PLANS

The present Hungarian government is strictly committed to building two nuclear reactors using Russian credit. Presently 38% of Hungarian energy production comes from the four reactors at the Paks Nuclear Power Plant[26], whose operation has recently been extended by 20 years. In addition to the four already existing 500 MW nuclear reactors, the government plans to build two additional 1200 reactors. The reason for the various obstructions against the alternative energy sector is that the government wants to build an entire nuclear sector, where alternative energy is not needed. The agreement with the Russian, Rosatom State Atomic Energy Corporation is encrypted. It is strongly assumed that the investment is a hotbed of corruption. Technically, there is still no answer as to how the two gigantic reactors will fit into the relatively small Hungarian energy system, as the capacity of the planned blocks is more than twice that of the biggest ones currently in operation.

26 The decision to build the nuclear power station was made in 1966, with construction between 1969 and 1987. The first reactor started to operate on 28 December 1982. Then, the total capacity was 1760 MW. The four reactors are VVER-440 V-213, each working together with two 220 MW steam turbines. Nowadays, following life extension, capacity is 2000 MW. Wikipedia says: in 2014, 53.6% of Hungarian energy production came from the four abovementioned reactors.

5. NATIONAL CASES

In order to discover the truth, we must compare national and regional figures, and we must demonstrate good and bad examples.[27] Without funds available to invest in energy efficiency in their homes, to improve their heating systems or to buy new household appliances, poor households are forced to give up on aspects of their basic living standards, decreasing living space in winter, turning down the thermostat, and using inadequate heating, washing, cooking and lighting. Many of those affected by energy poverty are forced to deal with the "heat or eat" dilemma, often economising on much needed energy to provide food or, in harsh winter conditions, to provide heating.[28]

ALBANIA[29]

After transport, the building sector in Albania has the highest energy consumption. The total energy consumption for the 2005-2012 period in Albania's residential sector shows that, for households, the main energy source is electricity (45%), followed by biomass (38%). Albania has a high unemployment rate of 19%, which has been continuously growing. Inadequate access to energy services is a common issue in Albania, where just above 40% of households have cooking appliances, water heating and other electric appliances. 11.2% of connected households are late with paying their bills and 20.7% have inadequate heating. It is also important to note that 12.5% of households have damp walls, floors or basements, and 7.7% have leaking roofs. All those numbers highlight the severity and prevalence of inadequate access to energy services in Albania.

BOSNIA AND HERZEGOVINA[30]

Residential buildings are the largest single consumers of energy and a major source of greenhouse gases. Current construction standards are lagging behind EU levels, and old building stock is inefficient and deteriorated. More than 83% of the population live in family buildings with an average of 3.1 family members. Although most households (93%) are equipped with washing machines, they are mostly (65%) more than 6 years old, with 27% being more than 10 years old. The situation is even worse with freezers, which are commonly more than 10 years old (42.5%) and fridges, 32.3% of which are more than 10 years old. Statistics indicate that household appliances are old and inefficient, while heating systems, especially in rural areas, rely on individual stoves, commonly heating just one room. The BiH administration has undertaken some action to protect vulnerable groups. However, the complex administrative constitution, coupled with economic difficulties, has led to a slow adaptation of national legislation in many segments, and is far behind schedule. Nevertheless, some progress has been made regarding the protection of vulnerable energy consumers.

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27 Rosa Luxemburg Foundation. (2014). *Energy democracy in Europe.* And Robic, S. (2016). *Energy poverty in South East Europe: South East Europe Sustainable Energy Policy* (SEE SEP). Available at http://www.buildup.eu/en/node/55141.

28 Rosa Luxemburg Foundation. (2014). *Energy democracy in Europe.* And Robic, S. (2016). *Energy poverty in South East Europe: South East Europe Sustainable Energy Policy* (SEE SEP). Available at http://www.buildup.eu/en/node/55141.

29 Rosa Luxemburg Foundation. (2014). *Energy democracy in Europe.* And Robic, S. (2016). *Energy poverty in South East Europe: South East Europe Sustainable Energy Policy* (SEE SEP). Available at http://www.buildup.eu/en/node/55141.

30 Rosa Luxemburg Foundation. (2014). *Energy democracy in Europe.* And Robic, S. (2016). *Energy poverty in South East Europe: South East Europe Sustainable Energy Policy* (SEE SEP). Available at http://www.buildup.eu/en/node/55141.

BULGARIA[31]

Bulgaria has one of the highest rates of poverty in Europe.[32] While there is no legally agreed definition of energy poverty in Bulgaria, a recent government study estimated that around 61% of households are affected. [33] Bills have soared since privatisation, with commonplace disconnections, exacerbating already high levels of poverty in Bulgaria.[34] A stop must be made to housing evictions and to the indiscriminate cutting off of basic services, with the onus on the utility company to prove that the person is not able to pay.

CROATIA[35]

The fact that more than a quarter of Croatian households pay their energy bills late is significant. There has also been a worrying rise in the share of people with arrears in utility bills (28% in 2010, 30.4% in 2013, compared with 10.1% in the EU-28). Additionally, 29.9% of Croatian households are at risk of poverty or social exclusion (in comparison with 24.5% in the EU-28 in 2013). 13.3% of the population live in households with leaky roofs, damp walls, doors and foundations, or with rotten window frames and doors. The largest portions of household expenditure are related to food and non-alcoholic drinks, 31.7%, with housing and energy expenditures standing at 15.7%. Of that, 9.9% was spent on electricity, natural gas or other types of fuel. Overall, according to the results of the survey on household expenditure:

- 9.9% of people lived in households which were unable to maintain adequate warmth during the coldest months,
- 30.4% of people lived in households which were unable to pay bills for communal services on time during the previous 12 months,
- 68.4% of people lived in households in which the total housing expenses represented a large financial burden, while only 2.1% of people lived in households in which the total housing expenses did not represent a burden of any kind.

GREECE

Power no longer operates primarily at the traditional level of the nation state, but rather, on the international stage. When Syriza introduced capital controls in a bid to reassert national sovereignty, Greece's social institutions began to collapse. Our globalised capitalist economy places the basic necessities of life – from food, to energy and money – in the hands of unaccountable and unelected supranational bodies.[36]

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31 Rosa Luxemburg Foundation. (2014). *Energy democracy in Europe.*

32 Cf. http://ec.europa.eu/eurostat/statistics-explained/index.php/File:At-risk-of_poverty_or_social_exclusion_rate,_2012_and_2013.png.

33 Kornazheva, J. (2015). Ivan Ivanov: Energy Exchange in Bulgaria must be no later than the beginning of 2016. Available at: http://bnr.bg/post/100549034/ivan-ivanov-energiina-borsa-v-balgaria-trabva-da-ima-nai-kasno-do-nachaloto-na-2016-godina.

34 Rosa Luxemburg Foundation. (2014). *Energy democracy in Europe.*

35 Angel, J. (2016). *Strategies of Energy Democracy.* Brussels: Rosa Luxemburg Foundation Brussels Office, p. 26. Available at: *http://www.rosalux.eu/fileadmin/media/user_upload/energydemocracy-uk.pdf*

36 Angel, J. (2016). *Strategies of Energy Democracy.* Brussels: Rosa Luxemburg Foundation Brussels Office, p. 26. Available at: *http://www.rosalux.eu/fileadmin/media/user_upload/energydemocracy-uk.pdf*

MACEDONIA[37]

According to the results of the state Survey on Income and Living Conditions for 2014, the percentage of the population at risk of poverty decreased from 26.2% in 2012 to 24.2% in 2013 and to 22.1% in 2014. However, the percentage of households which had issues with leaking roofs, damp walls, doors, foundations or rot in window frames and doors rose from 14.1% in 2012 to 15.3% in 2014. In addition, the number of those who felt that their homes were too dark actually increased from 4.2% in 2012 to 4.5% in 2014. The same survey also found that 9.8% of all employed people are poor, 40.4% of all people are unemployed, and 8.4% of all pensioners and 26.1% of other inactive people are poor.

Macedonia has an unemployment rate of 24.4%, and it is important to note that only 39.9% of able-bodied women are employed compared with 60.1% of the male workforce. This is important as women are more likely to suffer from the adverse impacts of energy poverty, as they spend more time in inadequate conditions at home.

MONTENEGRO[38]

Montenegro has a high level of electrical heating (68%) with the other main source of heating being fuelwood (25%). Both are typically inefficient and costly. The cost of electricity-based heating and fuelwood heating during the winter is similarly significant, leaving many with limited options for fuel switching to reduce energy costs. As a result of high energy costs, many households (70.5%) are unable to pay their utility bills on time. On a yearly basis, the average electricity debt per household is 400 EUR. According to the household budget survey, 74% of all households still have a solid fuel stove in use, while almost 98% also have electrical stoves. Additionally, approximately 17% of households have various electricity fuel heating devices and more than 96% use electricity for heating domestic hot water (electrical boilers).

KOSOVO

Most households use either wood or electricity for heating. Coupled with inefficient housing stock, Kosovars are faced with high levels of energy related costs. Electricity supply is unreliable, and both use and production are inefficient. Combined with high rates of poverty and unemployment, this leaves many in harsh living conditions unable to meet their basic energy needs. According to the Kosovo Agency of Statistics, approximately 38% of family costs are spent on food, while approximately 31% go on accommodation costs, where the energy bill is one of the main cost components. Kosovo also has high rates of electricity theft, tampering with meters, delays in meter installation and false readings of electricity meters. This results in high commercial losses and questionable data on actual electricity consumption. Energy efficiency and renewable energy can help to mitigate projected power shortfalls while enhancing Kosovo's energy security and environmental sustainability.

37 Robic, S. (2016). *Energy poverty in South East Europe: South East Europe Sustainable Energy Policy* (SEE SEP). Available at http://www.buildup.eu/en/node/55141.

38 Robic, S. (2016). *Energy poverty in South East Europe: South East Europe Sustainable Energy Policy* (SEE SEP). Available at http://www.buildup.eu/en/node/55141.

SERBIA

Political landscape alteration often changes the organically developed relations. Just to get hold of land, the Serbian government is giving up its jurisdiction of a huge part of Belgrade to give free rein to capital coming from the UAE.[39] It is not difficult to see that such interventions do not only have winners.

More than 50% of electricity use in Serbia can be attributed to the household sector, and most households rely on electricity for domestic hot water. The average Serbian household uses over 4,700 kWh of electricity annually, which is in line with the situation in other SEE countries and higher than the European average. There is a high rate of non-payment of energy utilities, and arrears on utility bills are common. Households in Serbia spend a monthly average of 11.3% of their total disposable income on household energy expenditure. The relatively high costs of energy, when compared with available income, undeveloped and inefficient heating systems, and inefficient building stock are culprits for the likely high prevalence of energy poverty in Serbia.

By making progress in aligning its legislation with the EU acquis, Serbia has gone furthest in the region in its attempts to create a protection scheme for people who are vulnerable to energy-related costs.[40]

SOUTH ASIA

Eco-Village Development (EVD) activities in South Asia have reached new, higher levels in 2017 and will continue with activities to boost the EVD even more in 2017-18. One outcome of such activities is a 60-page joint publication: "Eco-Village Development as Climate Solution – Proposals from South Asia".[41]

SPAIN AND CATALONIA

17% of people in Spain now struggle to pay for basic services: electricity, gas and water.[42] In 2012, power companies cut off energy access to 1.4 million Spanish households.[43] In Catalonia, the price of electricity is 27.6% of the EU average, with prices doubling over the last decade.[44] Over 50% of people's bills in Catalonia have nothing to do with consumption: energy companies have passed on the costs of compensation for earthquakes caused by natural gas storage to consumers, who are also footing the bill for the recent privatisation of the region's water.[45]

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39 European Action for the right to housing and to the city. (2016). *Resisting evictions across Europe.* Brussels: Rosa Luxemburg Foundation Brussels Office, p. 13. Available at: http://www.rosalux.eu/fileadmin/user_upload/resisting_evictions_across_europe.pdf

40 Robic, S. (2016). *Energy poverty in South East Europe: South East Europe Sustainable Energy Policy* (SEE SEP). Available at http://www.buildup.eu/en/node/55141.

41 INFORSE – Asia. (2016). Theme: Eco-Village Development in South Asia. Nepal, India, Sri Lanka, Bangladesh. *Sustainable Energy News.* No.79.

42 Asociación de Ciencias Ambientales. (2014). *7 millones de ciudadanos tienen dificultades para pagar las facturas de energía*. Available at: https://www.cienciasambientales.org.es/index.php/comunicacion/noticias/331-7-millones-de-ciudadanos-tienen-dificultades-para-pagar-las-facturas-de-energia.

43 Vidales, R. (2013). *Las eléctricas cortaron la luz de 1,4 millones de viviendas en 2012.* Available at: http://sociedad.elpais.com/sociedad/2013/11/25/actualidad/1385413127_290093.html.

44 La asociación de los consumidores de energia. (2014). *Precios Europeos de la Energia.* Available at: http://www.rankia.com/foros/economia/temas/2277825-comparativa-europea-precios-energia-espanoles-no-merecemos-esto.

45 Aigua es vida (n.d.) *El Que El Rebut De L'aigua No Explica.* Available at: https://plataformaaiguaesvida.files.wordpress.com/2013/11/rebut_aigua_a4.jpg.

UK

Around 10,000 people die every winter due to cold homes. Meanwhile, the Big Six energy companies who have a 90% monopoly over the UK energy sector, increased their profits tenfold between 2007 and 2013.[46] 4 million UK households are in debt to their energy suppliers[47], and 4.7 million people have their electricity supplies cut off every few months.[48] To get round their obligation not to disconnect "vulnerable" people, UK energy companies forced around 600,000 customers onto prepayment meters in 2013;[49] 100,000 UK households had their homes broken into last year by their energy suppliers to install a meter.[50] Once on a prepayment meter, if you cannot afford to top up, you are cut off.

46 Competition and Markets Authority. (2015). *Energy Market Investigation.* Available at: https://assets.digital.cabinet-office.gov.uk/media/55070c2040f0b613e6000015/Profitability_of_retail_energy_supply.pdf.

47 Christie, S. (2014). *Four million households in debt to energy suppliers.* London: The Telegraph. Available at: www.telegraph.co.uk.

48 Anonymous. (2015). *Fuel poverty leaves millions without energy.* Available at: http://moneyfacts.co.uk/news/gas-and-electricity/fuel-poverty-leaves-millions-without-energy/.

49 Vyas, D. (2015). *Prepayment meter customers should not be charged a premium.* Utility Week. Available at: http://utilityweek.co.uk/news/prepayment-meter-customers-should-not-be-charged-a-premium/1131082#.ViZt7X6rSUk.

50 Read, S. (2014). *Households are being left in the cold by prepayment meters.* London: The Independent. Available at: www.independent.co.uk.

6. WHERE TO TAKE ACTION?

Should action be taken on a local, regional, national, EU, individual or cooperative level? If the question is how to turn old-fashioned, polluting energy power stations into locally produced, alternative energy plants, all solutions are good for the middle and upper middle classes. But, if the question is how to apply energy from the sun, which shines upon all of us in the most democratic way, then the intervention of the member states and of the EU cannot be excluded.

Local action often leads to faster success. A concrete understanding of how municipal energy governance could be transformed along the lines of sustainability must be created in order to reach social justice and radical democracy.[51]

Strong social power is necessary to rewrite the rules of the game. Otherwise, the abundant rich will grow and the poorer citizens will be out of the game once again. Firstly, we must develop a coherent and viable vision for work to reach the transitional steps.[52]

This can only go hand in hand with building the power to realise the growing disruption of society. Social insensitivity should be taken over by solidarity. We can only help ourselves if we help others. Some of the power must be passed over to sensitive grassroots and movements which already have experience in overcoming xenophobia and nationalism. Our internationalism and our work with marginalised communities, and with migrants, will help build bridges within society, but also in fighting energy poverty, reducing poverty-related issues and reducing air pollution at the same time.

We want new public housing, new models of common housing, rent control and protection of our homes from the volatile nature of the markets. Whichever model or solution we advocate, the message is clear: our homes are not a commodity; we want to give housing its social function back.[53]

According to our approach, it would be good if some EU structural funding were combined with actions carried out by various local, democratic, decision-making bodies. The solutions must be local, but it is also clear, for example, that new urban policies are needed. In that way, Europe would be facing the same challenges throughout.

We have so much to learn from one another. As with modern technology, when it became much easier to share our skills and knowledge, we can motivate ourselves once again, given that people are resisting evictions all over Europe. We can put transnational solidarity into practice. Together we can speak louder, demanding the social function of housing and the right to the city with our common power.[54]

OPPOSED GROUPS, AND POTENTIAL ALLIES[55]

International speculation in national housing markets detonated the 2008 global financial crisis and the consequent wave of evictions and repossessions.

It must be stated that on the road to fighting energy poverty, the evicted victims are our potential allies. Eviction is one of the most radical interventions in human life. It is an

51 Angel, J. (2016). *Strategies of Energy Democracy*. Brussels: Rosa Luxemburg Foundation Brussels Office, p. 27. Available at: http://www.rosalux.eu/fileadmin/media/user_upload/energydemocracy-uk.pdf

52 Angel, J. (2016). *Strategies of Energy Democracy*. Brussels: Rosa Luxemburg Foundation Brussels Office, p. 28. Available at: http://www.rosalux.eu/fileadmin/media/user_upload/energydemocracy-uk.pdf

53 European Action for the right to housing and to the city. (2016). *Resisting evictions across Europe*. Brussels: Rosa Luxemburg Foundation Brussels Office, p. 14. Available at: http://www.rosalux.eu/fileadmin/user_upload/resisting_evictions_across_europe.pdf

54 European Action for the right to housing and to the city. (2016). *Resisting evictions across Europe*. Brussels: Rosa Luxemburg Foundation Brussels Office, p. 14. Available at: http://www.rosalux.eu/fileadmin/user_upload/resisting_evictions_across_europe.pdf

55 European Action for the right to housing and to the city. (2016). *Resisting evictions across Europe*. Brussels: Rosa Luxemburg Foundation Brussels Office, pp. 7, 13, 14, 18, 24, 42. Available at: http://www.rosalux.eu/fileadmin/user_upload/resisting_evictions_across_europe.pdf..

"enforceable right to housing and an end to forced evictions". An eviction represents a violent type of displacement. Hundreds of thousands of households are losing their homes because of mortgage defaults.

Poor quality housing also means very low energy efficiency. This, along with rapidly increasing utility costs in the 1990s and 2000s, has led to severe household indebtedness due to arrears in utility bills. In Hungary for example, this affects one quarter of the population, making energy-related indebtedness, one of the main causes of eviction. Everyone has the right to live a decent life. When riot police are kicking people out of their homes, it is made very clear: the right to housing is violated by state force in order to impose the right to property.

A TOOL TO FIGHT THE PEACE BATTLE

Marketisation has got us in a corner in our fight for decent housing. Despite the bold efforts of those who have come before us, the housing crisis is getting worse for the inhabitants of Europe.[56] The goal of phasing out energy poverty goes hand in hand with energy transition in democratic societies. During the same period of time, while renewable energy sources, such as sun, wind, water and biomass, will take over from fossil oil and coal, energy poverty must also be eliminated, or in other words, solved. Nuclear energy, just like oil and coal, have been part of a power game ever since wars were fought to possess energy. As renewable energy can be produced all over the globe, it can be produced locally, even in places where the land is not fertile, or in densely inhabited areas such as towns. Renewable energy is available to almost all the world's citizens. It produces no danger, unlike nuclear reactors, and no peril of war, like gas or oil fields. Alternative energy can help the world to become a safer place.

If the overwhelming majority of energy is produced locally, there will be no need to protect and fight wars for pipelines and energy fields. Such a transition will be a question of mentality, of human values, using modern technical solutions. Making alliances with people with energy needs can create a social energy revolution. In order to win that revolution, we must eliminate energy poverty. And in order to achieve a clean energy supply, the banking system must be revolutionised.

AS USUAL, BUSINESS MUST FACE A CHANGE

When banks fight against their governments for their consolidation, which occurs through public money, they also often create a hotbed of corruption. Instead of this discredited method, governments, together with the financial sector, should create such social conditions as to help people suffering most from energy poverty.

Trading with energy resources is one of the decisive elements of the world economy. Changes in the price of oil can significantly influence the amount of income, and profit. It can reallocate the proportion of revenue between the countries concerned. As the amount of money is huge, such transfers can lead to serious political conflicts. All scientific and technological developments reducing energy needs and the price of energy raise a new demand. When a technological success turns out to also be a financial success, at the expense of another demand, by giving a market advantage to the disadvantages, a new and more economical solution will support the beneficiaries.

Through a concrete example, we are showing the seriousness of the problem. Tax revenues from fuel taxes represent a significant amount of income in all industrialised countries. Thus, for example, the increase of the share of electric-powered vehicles can significantly reduce the sales of hydrocarbon-based fuels, which can seriously reduce the tax income of countries. This way, the fuel trade, the production sector and the state budget will be equally

56 European Action for the right to housing and to the city. (2016). *Resisting evictions across Europe.* Brussels: Rosa Luxemburg Foundation Brussels Office, p. 42. Available at: http://www.rosalux.eu/fileadmin/user_upload/resisting_evictions_across_europe.pdf.

affected. In this case, the lost revenue should be compensated, leading to the imposition of new taxes, where new counterparty groups can turn up. Here, we must declare that our basic aim is to reduce the costs of energy for the population, which leads to a reduction of the weight of the energy sector within the economy. In that desirable case, cheap energy will come together with a lower tax and profit rate in the national budget. This is where we must have an overview on the construction of the national budget. Following that reasoning, the reduction of energy poverty may, in the short term, be against the interests of capitalist companies, which have very serious economic weight and political influence. To achieve our goals, it is therefore essential to acquire and maintain the attention and support of the social majority.

The pledge of success must be backed by well-designed information activities to maintain the supporting social activity. It is also obvious that while maintaining social support, we need to look for allies in the economy. We can count on representatives from businesses and sectors that can increase their production and revenue through the impacts of energy efficiency measures. Companies involved in solar and wind energy production systems can create more jobs than the industries that produce energy from oil and gas. At the same time, attention must again be drawn to the power of the opposing economic groups. Here it must be mentioned that the American coal and steel enterprises played a negative role in influencing the U.S. in the Paris Climate Convention.

7. POWER TO THE PEOPLE – POWER AGAINST POVERTY

WHY HOUSES MUST BE WELL-INSULATED

The most energy-efficient and environmentally friendly energy is the one that does not have to be produced. The insulation of buildings is a low-cost and long-term investment, which protects us from wasting energy as almost 40% of energy costs can be saved through insulation projects. The insulation of buildings needs a low-skilled and unskilled workforce. Moreover, procuring the insulation projects will potentially create the new low-skilled jobs and can, therefore, improve the situation in places with high unemployment rates, as well as helping the poorest people in need.

Energy Poverty with capital letters is nothing more than solving a moral problem, to help our fellow citizens out of painful moments, not to feel the cold, to be able to eat warm food and not to feel miserable in a dark home in heavily polluted cities and villages. One cannot freeze because of darkness and self-abandonment. This is why the biggest and most difficult problem to solve in a house or flat is the fight against the cold, not only because it needs several times more energy, but because the energy used should not be wasted. Those who are truly poor have no reserves. Their houses, their "precious stones", are of poor quality. Their homes are not insulated. The wind wanders under their doors and windows. So, it is not enough to provide them with modern and efficient stoves, nor is it enough to give them cheap, alternative energy before insulating their homes. On the contrary, it is pointless. We need to be aware of the limits of our possibilities.

POLITICAL DECISIONS MUST COME FIRST

Now that we want to solve one of mankind's oldest battles, it is very important that we are not seen as dreamers. We do not want to increase social tension, but we want to reduce it. To do so, we also need to win the sympathy of the middle classes. We need to see their struggles, feel their experiences and their difficulties. They have to feel and know that we do not want to take anything away from them, but we want to give them something new. We are not the people coming with magic words, bringing new reforms in one hand and new taxes in the other. Our plans and actions are transparent, and are strictly based on the law. Our ambitions are to be incorporated into the constitution, because we believe that the right to housing is a constitutional right. This law is already included in the constitution of several countries around the world. We are working to broaden this right. We want to make homes and apartments more comfortable and residential.

And here comes the question: Can we finance that now? There are two answers to this question. One answer is to eliminate neoliberalism, to stop arming and to force the richest one million citizens on our planet to renounce their privileges to a reasonable extent. The other answer is modest and faces less conflict. It does not ask for anything more than people to realise that today's practice should be replaced by a more humane one. But where is the border, who should help and which groups do not need our help. If we split the members of society into three parts, we get the following: A. those living in insulated houses; B. those who live in homes that are not insulated; C. those who live in homes which do not quite fit the concept of a house.

THE USE OF ADVANCED TECHNOLOGY

A dramatic technological revolution changed the building industry over recent years. New materials have appeared in the market, which are not only more up-to-date and better insulated, but often cheaper than traditional ones.

It is obvious that people living in insulated houses do not need our help. But, to what extent should we help the members of the other two groups mentioned above. It is clear that the houses of the members of group B cannot be completely insulated by the state or EU sources. But what would the meaning of the constitutional right to housing be, without going into detail, without explaining the interpretation of the concept of a house. In current practice, the constructs are not very detailed. So, it is enough to add an addendum to the Constitution's text: i.e., a house must be suitable for human life. The interpretation of this text would be a parliamentary task.

The writers of this document live in Europe's poorer countries, so we may see the financial realities better, and we are ready to put forwards a modest and humble suggestion.

In Hungary, according to the requirements of the construction authority, a space within a house is classified to be a room only if its area reaches at least 18 m^2, while air volume per capita should be at least 15 m^3 per person. Counting a 2.50 m height, it makes up a 45 m^3 air volume, hosting three people. This is the help that should be given to all families within group B. In the case of group C, the task is to repair the building's consistency or even to create a new room within the building.

LOCAL PRODUCTION – ROOF-MOUNTED SOLAR SYSTEMS, SMALLER WIND TURBINES, BATTERIES

The issue of how we heat our room is of key importance. The one-on-one, campaign-like tools are slipping away, so we must look for a sustainable source of heating. Dissemination and use of alternative energies, building energy-saving houses with the use of local resources, is needed. To start, we must make it clear that the nice topic above is an easy-to-learn job, which can create mass employment, long-lasting energy saving and better living conditions at the same time.

The fight against energy poverty and energy transition is a journey that cannot be completed in one year, as energy production affects everybody. It must be regulated in a collective form, as it is strongly affecting human health. Therefore, energy production has to be deeply politicised. Decision-making in the field of energy production should not reflect the decisions of influential energy giants and their political allies. We must be aware of the fact that profitable and polluting industries, like coal, oil, shale gas and nuclear power, will not give up their strong fortifications just because people will have more benefit. People must understand that the production of energy should neither harm them, nor pollute the environment. These industries will stay profit-oriented until the end of time if we are not able to convince the masses to recognise their fundamental rights and needs. In order to accelerate this process, we need to set deadlines and target dates. We must organise and democratise this issue with public hearings and expert meetings to find a feasible target date. We must demonstrate and ask: "How many more people have to freeze, feel cold and get sick because of the cold?" and before we fulfil our duty to eliminate energy poverty? We must start a campaign on how to apply cheap and clean heating systems, especially in lagging areas. We strongly support the local generation of energy (rooftop solar systems and small wind turbines, with the option of local energy storage). We believe that this is the best way to provide poor people with cheap energy. But it is not enough to give energy to people; our task is also to manage to keep the energy within houses by securing proper insulation for example. Our plans are not excessive, so we must make target dates. Now is the time to begin reasonable research on European target dates. We have almost 12 years until 2030. That could be the date to eliminate energy poverty within the European Union.

Alternative energy is a local energy supply that has a global effect. Locally produced energy practically does not need energy transportation. This way, we also do not have to count the power lines together with the loss of energy.

Social tariffs are helpful, but they are weak solutions to solve energy poverty, simply because the poorest people are out of the game, especially when we talk about heating energy.

A new sort of state, municipal and collective ownership must overcome the current property system. Individual ownership, home generating methods must also be welcomed. In this fight, we must find allies. We must explain to

people that our energy consumption must be rethought. We must explain to people working in the energy sector as well that, first, we will only fight against the biggest polluters. During the transition period, the gas power plants should still be operating.

TRANSPORTATION AND THE CAR INDUSTRY

In many parts of Europe, transport is no longer the major source of air pollution, but reducing car pollution is a must. Electric and hybrid cars are already on the market. Governments are helping the car industry to come up with new and convincing models. Local governments are also trying to help car owners to change vehicles from gas to electric ones. Currently, electric car owners receive tax benefits, parking facilities and other minor aids. These intentions are good, but execution stands on weak legs because only the rich and upper middle classes are able to buy these cars. Government aid and tax benefits should only be given to car manufacturers developing fully electronic cars for ordinary people. These cars should not cost more than their polluting relatives. Such a process would give a strong background support to the spreading and popularity of local energy systems and local energy storage.[57]

Climate justice, energy democracy and the fight against energy poverty have many common concepts. Through the production of fair energy, day after day, we will get closer to energy justice. Energy justice will mean the right to use the benefits of the shining sun, the blowing wind and all other alternative sources, to the advantage of our European citizens.

NOT ONLY GOLD GLITTERS

Various alternative energies can complement each other. By relying on one another their adaptability increases.

Within this sector, hydroelectricity is highly controllable and can also be used to produce peak power energy.

In the case of hydro dams, the drop conditions – elevation – must be taken strictly into account, as plain water barrage systems are highly ineffective and do a lot of harm to the environment. They cost much more, their maintenance cost is much higher, the probability of their failure is greater, they need a much larger area and they produce less energy.

In the case of additional, pumped storage energy plants, the location of the water reservoir is extremely important. If the storage area is a nature protection area, or a tourist attraction area, the cost and damage are greater than the benefit.

BANKING IS NOT JUST THE DEVIL'S BUSINESS

The spreading of alternative energy is what we are fighting for, both in households and in the industry. In order to help this process, we recommend the selection of a specialised bank, or the establishment of a social-minded green bank. The bank should establish direct contacts with potential consumers, because currently, such EU projects are landing with local – mainly political – interest groups, and not with potential users and consumers.

57 Vajnai, A. (2017). Presentation on Energy Poverty at the European Parliament, 29 May 2017.

8. PROGRESSIVE PUBLIC MANAGEMENT

Neoliberalism has penetrated all aspects of our societies, shaping our social institutions, our individual and collective behaviours, and our identities, while promising dreamy interest rates and capitals. The system works in some cases, but the masses are not only left out, they are the losers of the system.

Our public institutions are increasingly run as businesses, staffed and managed by people trained as corporate leaders.[58] Accumulation by dispossession lies at the heart of the housing story under neoliberalism.[59]

In order to change the present, undemocratic system, energy transition must be politicised, and energy poverty must become proof of a problem to be solved. Perhaps the most important questions to be asked, at this point, are ones of organisation, strategy and power.[60] To demand and plan our next steps, a more detailed EU study must be carried out on how to apply the same rules to all member states. A strategy on an EU level regarding how to apply cheap and clean heating systems, especially in underdeveloped areas, should be developed and implemented.

We also strongly support locally generated energy, rooftop solar systems and small wind turbines together with the option of local energy storage. Moreover, the insulation of buildings is a low-cost and long-term investment, and the strongest argument against wasting energy. You only have to invest in insulation once and it will save energy for decades, for generations. This is the biggest difference to subsidies given during the cold seasons. Through the insulation of buildings, almost 40% of energy can be saved. The process needs a low-skilled and unskilled workforce, which gives new jobs to people and helps the poorest in need.

SUGGESTION

To organise an information campaign about energy poverty on social media. With infographics, pictures and short videos.

SLOGANS FOR THE CAMPAIGN

- Less bureaucracy and corruption = more and cheaper clean energy!
- Eat or heat. It is not our choice.
- Every European family should have the right to at least one 18 m^2 heated room during the winter.
- 1 million rooftops to stop energy poverty! – 5-year campaign.
- The most energy-efficient and environmentally friendly energy is the one that doesn't have to be produced
- Power to the people POWER AGAINST POVERTY

58 Angel, J. (2016). *Strategies of Energy Democracy*. Brussels: Rosa Luxemburg Foundation Brussels Office, p. 18. Available at: http://www.rosalux.eu/fileadmin/media/user_upload/energydemocracy-uk.pdf

59 European Action for the right to housing and to the city. (2016). *Resisting evictions across Europe*. Brussels: Rosa Luxemburg Foundation Brussels Office, p. 17. Available at: http://www.rosalux.eu/fileadmin/user_upload/resisting_evictions_across_europe.pdf

60 Angel, J. *Strategies of Energy Democracy*, February 2016, Brussels: Rosa Luxemburg Foundation Brussels Office, p. 26. Available at: http://www.rosalux.eu/fileadmin/media/user_upload/energydemocracy-uk.pdf

9. SHORT CONCLUSION

Energy Poverty is becoming an ever more important topic to deal with. When the required energy is already produced within the EU, when the breaking up of society is becoming an increasingly accepted fact, and when the treatment of energy-related social tensions is at hand, it is the responsibility of all political actors to react as soon as possible. Now is the time to work out the details.

LIST OF FIGURES, GRAPHS AND TABLES

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