

ENERGY EFFICIENCY – A CHALLENGE FOR LOCAL AUTHORITIES

Abstract

Localities are at the basis of any nation. Among the most important public service that citizens of these localities have the right to be provided with is energy service, especially district heating. Security of energy supply, mitigation of energy impact on environment, and energy service affordability are the main challenges for all national and local authorities. Present paper tries to discuss the role of energy efficiency at local level in the effort to solve these issues and proposes to introduce and promote proper long term policies where energy efficiency would have a top position. The importance of such an approach in Romania is clearer in the perspective of energy market complete liberalization that will be finished at the end of 2017 for all residential customers and – consequently - the danger of energy poverty increase will be highest. Local authorities have to cope with this situation and react properly.

Keywords: local policies, energy efficiency, energy poverty.

JEL CODES: H76, I32, L97, M10

EFICIENȚA ENERGETICĂ – O PROVOCARE PENTRU AUTORITĂȚILE LOCALE

MUȘATESCU Virgil

Professor Ph.D., Councilor, National Romanian Committee of World Energy Council
E-mail: virgilmusatescu@gmail.com

COMĂNESCU Mihaela

Lecturer Ph.D., Faculty of Administration and Public Management, Bucharest University of Economic Studies
E-mail: mihaela.s.comanescu@gmail.com

Rezumat

Localitățile stau la baza oricărei națiuni, iar cetățenii acestora sunt îndreptățiți să aibă acces la toate serviciile publice, printre cele mai importante numărându-se serviciile energetice, în special referitoare la încălzire. Securitatea aprovizionării cu energie, atenuarea impactului energiei asupra mediului și accesibilitatea serviciilor energetice sunt principalele provocări pentru toate autoritățile naționale și locale. Prezenta lucrare încearcă să abordeze rolul eficienței energetice la nivel local, în efortul de a rezolva aceste probleme și propune introducerea și promovarea de politici adecvate pe termen lung, în care eficiența energetică să aibă o poziție de top. Importanța unei astfel de abordări în România este mai clară în perspectiva liberalizării complete a pieței de energie, proces care va fi finalizat la sfârșitul anului 2017 pentru toți consumatorii rezidențiali și - în consecință - pericolul de creștere a sărăciei energetice va fi mai mare. Autoritățile locale trebuie să facă față acestei situații și să reacționeze în mod corespunzător.

Cuvinte cheie: politici locale, eficiență energetică, sărăcie energetică



1. WHY LOCALITIES ARE SO IMPORTANT

Localities are the basis for any nation's development. According to a World Bank Group document, "always they have been the most complex artifacts in any civilization" (Moffatt et al., 2012). Nowadays, the challenges that they have to cope increase because of the dimensions magnitude, connection to the global economy, poor local resources, population needs, but also because appearance of transnational problems, like climate change.

Unfortunately, the plans to solve all these issues face difficulties related to time horizons imposed by electoral cycles and – sometimes – group interests and this impedes to have an integrated thinking on long term, following correct development goals. Additionally, competition existing among neighboring localities – sometimes generated by the different parties that their leaders belong – can jeopardize a common approach for the same problems or an integrated planning inside the county or region that through coordination and collaboration could have an increased efficiency.

That is why, it is so important to develop public policies that are trans- and over- political parties and these is desirable to be integrated into sustainable and long term development strategies, areas where localities can cooperate and ways how the proposed measures are implemented. Typical for such common public policies are energy services and mitigation of impact on environment.

In this paper, we want to underline the importance of energy efficiency in solving these issues. Through energy efficiency a number of localities achieved "more with less", at the same time enjoying a healthier environment and prospering in national and global economy.

It is known that energy efficiency represents the first of the solutions to address for better energy services to the citizens. At the same time, it represents the primordial reply to the "energy trilemma" challenges, how they have been identified by World Energy Council: security of supply, sustainable development, and energy services affordability (World Energy Council, 2014).

In this context, it is essential to understand that in the localities governance is mandatory to properly deal with these issues in a sustainable way with benefits for the citizens. In many recent studies, the challenges mentioned above become tangible and urgent, especially in cities. Concerning this, documents of Covenant of Mayors (CoM) draw two important conclusions (Covenant of Mayors, 2013):

- Fight against climate change will be won or lost in urban areas;
- Majority of European population live and work in cities (three of four European citizens), consuming about 80% of energy used in EU, so even if measures to improve the situation are

taken at local level, effects of this improvement of cities' economic and social life have impact at national and even at European Union's level.

On the other hand, as is specified in CoM's objective: "local administrations, as a governance level closest to the citizens, are the best placed to approach issues connected to climate in an integrated way" (Covenant of Mayors, 2013).

This is the reason why the measures to efficiently use energy in cities must be not only the part of energy services solutions but also to be firstly approached. We consider that these measures are a type of a socio – economic – ecologic system that has to be approached in its integrality, and any action to develop this system has to be considered in this integrality. In this way, the potential of the efficient measures is amplified and because the interaction of the results of these measures with national level could impact on country's development.

2. ENERGY "TRILEMMA" AND HOW ENERGY EFFICIENCY IS THE KEY TO SOLVING IT

Improvement in approaching any of the challenges of "energy trilemma" inevitably has effects on the other two and – because of it – we have to find ways to obtain an acceptable compromise to the entire trilemma's ensemble and – even more – can provide sustainable energy services. According with World Energy Council studies the core of the trilemma solution is establishment of proper national and local policies (Mușatescu, 2015).

Among the main conclusions proposed by these reports reveal are the following:

- National and local authorities will face major challenges for the next 20 years concerning energy and financial sectors to extend access to energy services, to develop new technologies, to cope with increased needs for energy investments in order to replace the old infrastructure and make it more robust.
- For energy sector is essential to be sure that public policies are attractive and business friendly by involving these sectors in the process of decision making and information distribution in order to overcome the informational asymmetry.
- It is essential for the leadership (we consider both central or local) to establish targets, to develop strategies and to create policies and regulations that can provide such an business environment to give energy and financial sectors certitude that their investments can bring profit, covering – at the same time – citizens needs and developing the whole economy in its integrality.

Energy efficiency is an important tool to solve the three challenges. By increasing efficiency, the energy consumption is lowered and the energy supply is more secure. At the same time, by using less fossil fuels a lower quantity of greenhouse gases emissions are recorded. Finally, through a more efficient use of energy, the energy bills will be more affordable. So, promoting energy efficiency and using it in appropriate public policies both at central and local level can provide adequate answer to energy trilemma and can engulf it into authorities' integrated decisions.

Because electricity and gas markets are countrywide, regional, and even at European level, the most important local public energy service is that related to district heating and this is the highest challenge that local authorities face, especially in Romania. The problem is complex and has implications on the citizens, on the City's budget, on the central budget, and even on the health system budget, because to sustain this service has implications on citizens financial resources, on the magnitude of central and local subsidies, and the lack of this service has negative implications on citizens health and on health sector's budget. Unfortunately, if this specific public service is not properly delivered we encounter a consumer category that is not desired to appear in any city: „vulnerable consumers”.

3. FUEL POVERTY

There is known that a share of Romania population is not capable – in general and in normal conditions – to enjoy a decent level of thermal comfort in their dwellings, because of the high cost of thermal bills in comparison with their income. In principle, this impossibility to ensure thermal comfort was identified in many countries and was studied especially in Great Britain under the name of “fuel poverty” (as part of a more general “energy poverty), and the consumers found in this position are considered to be “vulnerable thermal consumers”.

As it is treated in social aid system in Romania, fuel poverty is considered to be intrinsic to poverty in general, being encountered in economies less developed. However, in studies made in other countries (again, especially in Great Britain) fuel poverty is considered to be a special problem, somehow linked to population's poverty but which has to be treated separately. This is very encouraging indeed, because if fuel poverty would be a part of poverty in general, it would be solved only when poverty in general would be solved. Consequently, those inequalities that can be avoided are – fundamentally – unfair and fuel poverty is considered to be evitable (Friends of the Earth, 2011).

In this respect, there is a resolution of European Parliament, preceded by a resolution of the European Council that requests to European Commission and to Member States to cooperate for adoption of a legislative strategy and of coherent policies in order to solve the consumers' vulnerability. These

strategies and public policies have to properly integrate local policies to protect and reduce the number of such consumers.

As was showed, fuel poverty is caused by an interaction between expensive energy bills, low incomes, combined with additional elements like home maintenance and energy supply. The consequences are (Mușatescu and Dumitrescu, 2015):

- Low level of living comfort;
- Increased risk of heart diseases and viruses induced diseases;
- Reduced number of school and job activities;
- Increased appeal to the health system;
- Less food, on the principle: "heat or food";
- Dangerous strategies to approach vulnerability situation by disconnecting from the heating sources.

Local authorities have – in this respect – an essential role to mitigate the risks of such consequences. And to better underline the importance of adequate policies on heating as public service it is worth mentioning that there is an interesting initiative proposed in Great Britain. In this initiative, it is proposed a connection between fuel energy and the human rights under the idea that „ all of us have the right to access sustainable energy to ensure the basic necessities” (Christman, 2014).

Through a parallelism with The Bill of Rights from 1689, a campaign named Fuel Poverty Action (2014) launched in GB Parliament a declaration with the title: Energy Bill of Rights that has the purpose to „reaffirm that all must have standard basic rights to accessing clean, affordable, and controlled in a democratic way”. The most powerful motivation for such approach is that this allows passing from „goodwill” to „mandatory”, and rapid eradication of fuel poverty is imposed, becoming the only way of action.

4. FUEL POVERTY IN ROMANIA. ROLE OF LOCAL AUTHORITIES

In Romania, it is considered that fuel poverty (as part of energy poverty) appears when the normal conditions of comfort are not met (temperatures inside the apartment/house) either because the lack of access to energy, or because – if this access exists – the family is not able to buy this service in quantity and quality requested.

According to a recent study (Zamfir et al, 2015) „the policy to reduce it must include a complex of actions: together with the support to persons that do not have the minimum income needed to obtain appropriate energy services”, including to establish measures to make energy consumption more efficient, to use competition for energy price reduction at the final consumers level, improvement of energy characteristics for living environment, especially at the level of buildings and a better access to all forms of energy, plus the “power of choice” for a better informed consumer.

The same study considers that “energy poverty” in nowadays Romania represents combination of four factors: low level of population income, increase of energy prices, access to energy sources, and energy related characteristics of the buildings and of supply with energy system.

To protect such vulnerable consumers, authorities have differentiated approaches. Central authorities can consider specific blocks of tariffs („social tariffs”) cheaper than the energy prices existing on the liberalized markets or simply through direct subsidies to families with low income („social aid”). One other way is to consider subsidies only for the fuel used to provide district heating.

Local authorities can provide direct subsidies to reduce the local price for heat produced by cogeneration and delivered through centralized pipelines systems. But they have also a very important tool: energy efficiency specific policies focused on buildings.

Thermal improvement of buildings’ envelops is the most common tool to reduce heat losses, but also measures like rehabilitation of transport and distribution district heating pipes and awareness campaigns to promote energy efficient behavior and to spread information on general policies like labeling and use of new smart technologies are more and more parts of local authorities public policies.

Concerning the direct support to the vulnerable consumers in Romania, the present philosophy recognizes the fact that fuel poverty appears when it is not possible to ensure the normal conditions of comfort (apartment temperatures), either because the lack of access to energy sources (thermal energy, fuel, etc.), or – when this access exists - because family is not able to purchase this service in quantity and quality requested.

For vulnerable consumers who encounter such situations, central authorities (Government) provide social aids which cover a part of the energy bills. Unfortunately, the present methodology (established each year through an Emergency Government Ordinance for the heating season) bases on a series of criteria that – in our opinion – are not adapted to heating systems reality.

We consider that there are a few criteria which are not taken into account in the present legislative framework (UNDP Project, 2013):

- a) Nowadays, the main indicator for social aid need for a dwelling is income on family member. This can be relevant for some expenses (food, clothes, etc.), but that is not correct for heating.
- b) The present legislation allows payment of some part of the energy bill without knowing if this consumption is justify or is because of consumer's behavior and building's thermal conditions. In other words the social aid bases on the value of energy bill, not a properly calculated necessary.
- c) The risk of such approach is a bad expenditure of public money: vulnerable consumer living in a building with big heat losses is financially helped, but will remain in a poorly heated dwelling.
- d) A series of essential factors are not taken into account in assessment of the heat necessary consumption, like: building type, envelop properties, climate zone, etc.
- e) In general, „the present policy expresses the effect of this simplistic reduction of energy poverty to the financial deficit of the present income. That is why „the deficit of financial resources has to be extended: not only to procure needed energy, but also to improve the energy characteristics of consumer's life environment: to improve his dwelling, to connect to energy system, etc.” (Zamfir et al, 2015).

As a natural conclusion is the need to adjust the present methodology in such a way to take into account all these facts. In this new approach, a key element is energy efficiency that can help not only to reduce the energy bill, but can diminish also the appeal to social aid budget, and has a lower impact on the environment.

Concerning fuel poverty, energy efficiency needed measures have to be chosen and implemented under a local strategy of development. So, the local authorities are confronted with this new challenge and have to integrate it in a larger concept of sustainable development of the locality. Acting in this manner, the local authorities can solve a complex of economic, social, health related, and environmental problems. Because of it, the thermal rehabilitation programs for buildings are so important at local level, but also at the central level (Mușatescu and Comănescu, 2009).

The effects of these policies are larger: on health budget, labor productivity, and at the macroeconomic level for instance, countries dependence on imported fuels, balance of import-export trade, reaching of country's targets of the 20-20-20 program, etc.

The problem is augmented in the context of the two important events that will happen at the end of 2017: complete liberalization of electricity and gas markets (in the horizon of European energy internal markets integration) and the re-introduction of a number of green certificates (that have been withdrawn

in 2013 to reduce their pressure on electricity prices). This will be the major challenge not only for central authorities but especially for the local ones who are closer to the citizens and can better „absorb” citizens’ satisfaction or discontent. It is clear that energy efficiency measures will be the single way to solve such a problem, so the local authorities have to act now.

CONCLUSIONS

Taking all these into account, we consider that energy poverty is a strategic issue related to any country’s security and central and local authorities have specific roles in coping with such a problem. In such context, the main conclusions of this paper are:

- The energy (thermal energy, in special) public service is important in such a measure that some experts dare to express their view that this service is essential and its delivery could be considered as a basic right similar to the other human rights. At the same time, studies made by Romanian Academy (2015) consider that protection of energy consumer is part of country security. That shows the huge responsibility of the providers of the legal and regulatory framework and of the implementors of such services.
- The scarcity or even lack of needed energy service defines the vulnerable consumers and the „depth” of energy poverty. Now, in Romania, it is considered that a comparison between consumers’ financial resources and the value of energy bill can define this energy poverty depth. But, recent studies demonstrated that a simple financial approach to provide social aid/ subsidies to these vulnerable consumers (the present approach in Romania) is not enough because there is a need to improve the energy characteristics of consumer’s life environment: thermal modernization of the buildings, extension of connections to energy system, etc.
- Energy bill has as basic element a multiplication of energy quantity and the price. That shows that the energy poverty could be reduced not only by providing financial aid to increase income for vulnerable consumers, but also by reducing the need by using better that energy. In this respect, energy efficiency is an essential tool. If we discuss about electricity, gas, and other fuels, the markets are countrywide, but thermal energy provided through central district heating is local and usually transport, distribution, and supply are done by local authorities owned entities.
- In this context, local authorities have an essential role, not only in providing this public service, but also integrating energy efficiency programs in their policies and implementing them

adequately. Good energy efficiency programs will augment good effects at the central level. This will solve a lot of existing problems at the economic, social, and environmental levels.

REFERENCES

- Christman, B. (2014). *The energy bill of rights – too little, too much or just about right? Fuel Poverty Action*. Retrieved May 23, 2015 from: <http://www.fuelpovertyaction.org.uk/energy-bill-of-rights-2/>
- Covenant of Mayors (2013). *Covenant of Mayors – What's in store for 2013?*, Retrieved June 26, 2015 from: http://www.conventiaprimarylor.eu/index_ro.html.
- Friends of the Earth and Marmot Review Team (2011). *The Health Impacts of Cold Homes and Fuel Poverty*, Published by Friends of Earth, England, Wales, and North Ireland, London.
- Fuel Poverty Action (2014). *Energy Bill of Rights*, Retrieved May 23, 2015 from: <http://www.fuelpovertyaction.org.uk/>
- Moffatt, S., Suzuki, H., Iizuka, R. (2012). *ECO2 Cities' Guide*, The World Bank.
- Mușatescu, V. (2015). "Launching Energy Trilemma 2014 Report", *Mesagerul Energetic*, no.160, martie 2015, pp. 39-42, https://issuu.com/cnr-cme/docs/mesagerul_energetic_160_martie_2015
- Mușatescu, V., Comănescu, M. (2009). "Energy – climate change Package impact on Romanian urban areas", *Theoretical and Empirical Researches in Urban Management*, vol. 4, no. 4(13), pp. 194-213.
- Mușatescu, V., Dumitrescu, I.S. (2015). "Accesibilitatea, componentă a "trilemei" energiei în România", *EMERG*, no. 1, pp 11-38, Editura AGIR, ISSN 2457-5011.
- Romanian Academy (2015). *Strategia de dezvoltare a României, 2016-2035. Faza 1*. Retrieved June 26, 2015 from: <http://www.academiaromana.ro/bdar/strategiaAR/doc11/Strategia.pdf>
- UNDP Project "Improving Energy Efficiency in Low-Income Households and Communities in Romania", 2012-2013.
- World Energy Council (2012-2014). *Energy Trilemma Reports 2012, 2013, 2014*. Retrieved May 23, 2015 from: <https://www.worldenergy.org/publications/>
- Zamfir, C. (coord.) (2015). *Eficiența energetică – prioritate națională pentru reducerea sărăciei energetice, creșterea calității vieții și siguranța consumatorilor de energie*, Academia Română, Institutul de Cercetare a Calității Vieții.