Relationship between CSR activity of Hungarian energy companies and Hungarian customers' behavior¹

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The study tries to identify the relationship between the CSR of Hungarian energy companies and the households' traditional and alternative energy consumption. Beside ethics the corporate social responsibility is typically influenced by three main actors: companies, government and customers. The major actor of CSR is of course the corporate sector, but other influential factors also should be taken into account. If customers are really responsible, then real CSR can appear, but if customers are self-conscious. only shallow CSR actions will spread. The results show that in the energy sector the real, "deep" CSR could not spread because of the gap between the consumers' positive attitude and their effective or real behavior. The results also imply that the implementation of shallow CSR is enough for the consumers.

Keywords: CSR, responsibility, energy sector, renewable energy, consumer behavior, energy consumption

INTRODUCTION: DESCRIPTION OF THE HUNGARIAN ENERGY MARKET

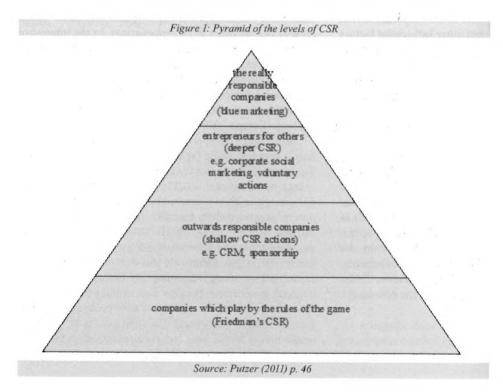
To understand the position of Hungarian energy market we briefly summarize the main characteristics of the energy industry and today's energy consumption. Our global daily oil consumption is 2 liters per capita (IEA 2012) - if we assume that the population of Earth is 7 billion. 80 percent of the global primer energy needs is covered by fossil energy sources; compared to the oil, the proportion of renewable and nuclear energy resources is infinitesimal (National Energy Strategy 2030), In Hungary the proportion of the renewable energy in primer energy consumption was 7 percent; its proportion in the gross final energy consumption was 8.7 percent in 2010. It lags notably behind other EU member states. In the interest of sustainable energy supply it is necessary to improve the proportion of renewable resources from 7 percent to 20 percent. (Eurostat 2012, National Energy Strategy 2030, II. National Action Plan 2020). This 20% of energy from renewable is one of the 5 targets for the EU in Europe 2020 strategy (Europe 2020 Strategy).

In Hungary the specific (per capita) energy consumption is very low while the energy intensity is relative high. The proportion of electricity generated by only renewable energy resources is only 6.35 percent in Hungary while the EU average is 20.44 percent. The biggest part of the "green power" stemmed from biomass. (Eurostat 2012, National Energy Strategy 2030, MEH 2013). In connection with our main topic, the alternative energy consumption, there are four strategic documents that determine the external framework of energy consumption through the specific national government policies and strategies. To sum up, the main goal of these documents is to propagate and diffuse alternative energy use (the final goal is to reach the proportion of 20 percent), but it is also important to change the societal approach and educate the citizens.

LITERATURE REVIEW: THE LEVELS OF CSR

CSR (Corporate Social Responsibility) is a very popular marketing tool nowadays. Many studies deal with the best CSR strategies and the advantages of CSR. Although CSR seems like a voluntary and selfless function, companies usually expect some benefits from these activities. It could be a stronger brand, better corporate image, growing sales and market share, lower operational costs, recovering financial statements, permanent competitive advantage or favorable effects on stakeholders (e.g. employees, authorities, customers, business partners). (Kotler and Lee 2005, Ligeti 2006, Matolay 2010) Orosdy (2006) deals with green or eco-marketing, which can be deemed as special part of CSR, thus the statements of Orosdy's study can be generalized. According to Orosdy the appearance of green or eco-marketing has four reasons: it could be a real market segment (e.g. LOHAS consumer group). it could serve PR purposes, it could be a rational and conscious follow-up of ecological expectations (e.g. substitution of traditional bulbs with energy savings bulbs) and it is also imaginable that the company is an "unselfish/altruist capitalist", i.e. the company is aware of protecting nature and social welfare.

Carroll's pyramid (Carroll 1991) and Putzer's pyramid (Putzer 2011) also show these different reasons. According to Carroll (1991) CSR has four levels: economic responsibilities (good profitability, maximizing earnings per share), legal responsibilities (complying with various legal regulations), ethical responsibilities (ethical behavior) and philanthropic responsibilities, which means to have respect for stakeholders and be a good corporate citizen. This fourth level can be deemed as the real CSR. Putzer (2011) also classifies four levels of CSR on the basis of different literatures (e.g. McAdam 1973, Ackerman 1973, Sethi 1975, Enderle and Tavis 1998.



Zadek 2004, Blomqvist and Posner 2004; Wolff and Barth 2005, Kotler and Lee 2005, Tóth 2007, Mullerat 2010, Deák 2011, Urbán and Szabó 2011, Öberseder et al. 2013) into a pyramid according to Carroll multidimensional approach and Toth's (2007) pyramid. As Figure 1 shows at the bottom of the pyramid there are companies which play by the rules of the game, but they do not carry out social responsible actions. In fact it is Friedman's CSR conception (Friedman 1970) and it integrates Carroll's first two levels. the economic and legal responsibilities. At the second level the companies typically use CSR as a communication tool; we can find many green-washing actions on this level. Therefore this level can be called the level of outwards responsible companies. On the third level the companies integrate CSR in other divisions (e.g. production, pricing), so CSR is a part of the DNA of the company. These companies can be called as "entrepreneurs for others". At the top of the pyramid there are "the really responsible companies", the DNA of these companies and the corporate philosophy are based on responsibility.

Any pyramid is chosen, it can be seen that there are different CSR actions from the economic and legal responsibilities to the philanthropic or real responsibilities. One part of the companies is making way to real CSR (really responsible companies, entrepreneurs also for others), but other part of the companies (outwards responsible companies) use CSR as only a communication tool for improving image, growing sales etc., furthermore there are also companies which obey laws, but operate without CSR. What kind of CSR is typical in the energy sector? What determines which CSR can appear in the energy sector? Many papers deal with the connection between the responsible and the financial performances (e.g. Beurden and Gössling 2008, Matolay and Wimmer 2008, Matolay 2010, Artiach et al. 2010), but these studies do not take into account a very important player, the customer or the consumer.

RESEARCH OBJECTIVE AND METHODOLOGY

The conducted exploratory empirical research consists of two main parts. Firstly we focused on secondary research using literature review with the aim to reveal the characteristics of the Hungarian households' traditional and alternative energy consumption and define the possible attitude towards responsible or renewable energy which should be the most important CSR activity in the energy sector. On the basis of the secondary research we tried to determine what CSR activities could evolve and we also conducted a primary research that consists of two main parts: a qualitative and a quantitative method. As quantitative technique a face to face survey was compiled, we used personally administered pen and paper questionnaires. The objective of this quantitative research was to reveal Hungarian customers' opinions and habits in connection with CSR and responsible buying habits, consumer behavior. We reached 2,000 respondents and the quantitative part of research is representative for the given population based on variables age. gender, education and region. As qualitative technique we used content analysis on the basis of CSR reports and documents of three energy companies. The objective of this qualitative content analysis was to discover the main types of CSR in the energy sector which showed the evaluation of CSR activity by the Hungarian customers.

SECONDARY RESEARCH: HUNGARIAN HOUSEHOLDS' CONSUMER BEHAVIOR IN ENERGY SECTOR

In this part of the study the influential factors of the Hungarian households' energy and alternative energy consumption are revealed and an energy consumption model is defined. 40 percent of the households total energy consumption is utilized in buildings and 66 percent of this consumption serves heating and cooling purposes. In case of heating, natural gas is increasingly

substituted by biomass. (National Energy Strategy 2030)

Although energy is expensive, Hungarian families are not energy conscious, as the results of research by OTP Lakástakarék Zrt. show it. The company conducted a research in connection with the expenses of the households, the energy consumption habits, attitudes and awareness in 2012. 500 Hungarian households were involved, the research was not representative. Based on the results, only 25 percent of families are registering persistently their own energy consumption and 68 percent of the households do not know how much energy the household appliances, electric devices use. In turn the overhead expenditures aggregate 25-50 percent of the total annual household expenses by 55 percent of Hungarian households. It means 1400-2000 euros (EUR) expenses per year for a typical Hungarian family. 22 percent of the respondents try to reduce their energy consumption by switching off charger units.2

In Hungarian households the use of alternative energy resources is very low. Only 0.1 percent of the households use solar energy, the use of pellet has the same proportion. It is very distressing that geothermal heat pump could not be shown as obligate, exclusive heating solution. The heating works use little biomass based fuels (only 9 percent) to generate heat. (Tabi 2011). From 2010 to 2011 more and more households switch from natural gas to wood or other cheaper energy sources (Portfólió 2012), which also shows that price is the most important factor in energy consumption. The proportion of alternative energy sources in primary production was 17.5 percent in 2011 (Eurostat 2012, National Energy Strategy 2030).

Based on different researches (e.g. Druckman and Jackson 2008, Brenčič and Young 2009, Csutora 2011, Tabi 2011, Nansaior et al. 2011) some important results, factors in this study are introduced to conclude how energy consumption can affect CSR. In the introduction we briefly presented the shared

contextual domain, the external conditions, like legislations, government policy and accessibility of energy sources. The internal conditions can be divided into two main groups: individual contextual domain and personal characteristics. The attitude towards our environment and planet also influences our energy consumption. But Csutora's (2011) research, which was not representative, did not reveal significant difference between the environment conscious and neutral consumers' ecological footprint. So, there is no correlation between energy saving and energy consumption.

The acceptance of nuclear energy is just a reluctant acceptance to moderate climate change. (Pidgeon et al. 2008) Hungarians are well disposed towards solar energy (83 percent) and wind energy (78 percent). Hydro energy got only 43 percent, which is less than the EU average (65 percent). The most beloved energy sources are the renewable resources in Hungary. (Kovács 2010)

Compared the preference with the real behavior this positive attitude will not be demonstrable, if alternative energy means extra expenditure. 66 percent of the Hungarian households are not prepared to pay more for energy produced from renewable sources than for energy produced from other sources according to the representative research of European Commission (2006). The most important expectation of the Hungarian families in connection with electricity is the low price (EU: 45 percent, Hungary: 53 percent), and the roles of environmental-(EU: 29 percent, Hungary: 23 percent) and health protection aspects (EU: 22 percent, Hungary: 17 percent) are much smaller. (Kovács 2010) The results also indicate that Hungarian households will not be willing to accept the responsible performance as a real value; they do not want to pay more for the alternative or "responsible" energy.

RESEARCH RESULTS: HUNGARIAN CUSTOMERS' ABOUT CSR

On the basis of the secondary research we supposed that there is gap between the con-

sumers' positive attitude towards renewable energy and their effective or real behavior. That means the Hungarian customers will probably have a positive attitude towards the conception of CSR, but they will not evaluate responsible products when they make purchase decisions.

What does CSR mean for the Hungarian customers?

According to the answers (Figure 2), only 12.4 percent of the respondents have never heard about corporate social responsibility. It was allowed to sign more than one answer. Most of the respondents (42 percent) think that CSR equals with supporting environmental and social causes voluntarily. From the possible answers this was the closest to the today's CSR definitions (e.g. Carroll 1979, Blomqvist and Posner 2004, Kotler and Lee 2005, Toth 2007, Matten and Moon 2008, EC 2011) that define CSR as voluntary actions gone beyond law in the multidimensional interest (environmental. economic, ethical etc.) of the society. But many respondents answered that CSR is not more than doing business on legal (34.5 percent) and/or ethical (24.6 percent) way. This conception is similar to Friedman's (1970) CSR definition.

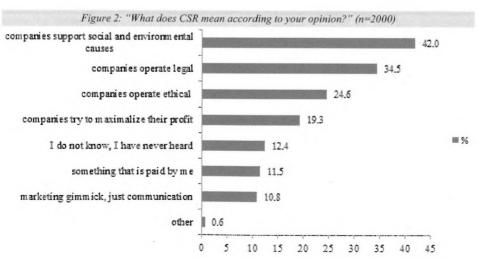
41.6% of the respondents connected some kind of negative statement to CSR: a

new expenditure, a profit maximize tool or marketing gimmick, just a communication tool

After the definition the importance, the perception and the effect of CSR was analysed (Table 1). Hungarian customers are familiar with the CSR concept more or less and they think it is very important that responsible activities are carried out by companies. Hungarian people have very strong and positive attitude towards CSR. But as the negative definitions showed the respondents do not perceive that companies are really responsible and undertake CSR activities. In spite of the fact that Hungarians feel that CSR is very important and have positive attitude, CSR does not affect on their buying decision or their daily routine. One reason of this is the low perception of CSR because there is relationship between the perception and the effect of CSR ($\chi 2=528,455$; $\lambda=0.093$; $\phi=0.532$; Cramer-V=0,266; p<0,000).

How responsible Hungarian customers are?

Results in connection with conscious behaviour pattern (e.g. donating the unused things, shopping according to the needs, recycling and buying local or regional products) show (Table 2) that these activities characterize the Hungarians more than the responsible



behavior patterns (e.g. buying fair trade or bio products, buying products at higher price if it is favourable for the environment, buying products from recyclable materials). Companies probably do not need to undertake real responsible actions; it is enough for them to stay at the bottom of the pyramid and make cheaper CSR actions.

The cross-tabs showed different relationship between demographic variables and responsible and conscious behavior. In the case of conscious activities women and higher educated customers are more involved. The frequency of these activities does not depend on income. This latter establishment is not true for the responsible

Table 1: The importance	the perception and	the effect of CSR
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	N	Minimum	Maximum	Mean	Std. Deviation
Importance of CSR	1944	1	5	4.47	0.798
Perception of CSR	1904	1	5	2.87	1.061
Influence of CSR on buying habits	1935	1	5	2.56	1.272

Table 2: Hungarian customers' behavioural habits

	N	Minimum	Maximum	Mean	Std. Deviation
I shop according to the needs.	1990	1	5	4.33	0.939
I have the broken down devices repaired.	1984	ì	5	3.95	1.143
I donate my unnecessary, unused things.	1978	1	5	3.79	1.212
I always plan my shopping ahead.	1989	1	5	3.64	1.324
I recycle everything that is possible.	1981	1	5	3.51	1.296
I buy regional products.	1979	1	5	3.03	1.222
I make budget.	1983	1	5	2.77	1.514
I buy products from recyclable materials.	1948	1	5	2.29	1.177
I buy products at higher price if it is favorable for the environment.	1978	1	5	2.05	1.176
I buy fair trade products.	1701	1	5	1.96	1.095
I buy bio products.	1971	1	5	1.85	1.089

Table 3: The rotated component matrix of the factor analysis

	Component			
	1	2	3	4
CSR is important for me.	-0.141	0.412		0.356
I perceive CSR actions.		31	0.103	0.815
CSR influences my buying habits	0.294			0.703
I shop according to the needs.	-0.300	0.292	0.541	
I make budget.	0.160		0.788	0.147
I always plan my shopping ahead.		0.158	0.818	
I buy regional products.	0.465		0.471	
I buy bio products.	0.778		0.105	
I buy products from recyclable materials.	0.753	0.205	0.149	
I buy fair trade products.	0.765			
I buy products at higher price if it is favorable for the environment.	0.770			0.101
I have the broken down devices repaired.		0.758	0.103	-0.141
I recycle everything that is possible.	0.247	0.751	0.175	
I donate my unnecessary, unused things.	0.117	0.686		

activities. For the environmental friendly products the respondents with better financial circumstances are willing to pay more.

The result of factor analysis show four major affecting variables (*Table 3*): responsible shopping habits, positive (conscious) behavioural pattern, behavioural pattern generated by necessity and awareness about CSR.

The first factor contains the purchase of more expensive but more responsible products (environmental friendly, bio and fair trade products); therefore they are called responsible shopping habits. In the second factor there are also responsible habits, but these habits are not costly (e.g. donating unnecessary things, recycling) or they are cheap for the customers (repairing instead of buying new). The customers will not buy responsible products but behave conscious. so the second factor is called positive or conscious behavioural pattern. The elements of the third factor are connected to limited financial circumstances. Because of lack of money customers have to make budget and plan before shopping and they can only buy what they really need. So this factor is called behavioural pattern generated by necessity. Buying regional or local products also belongs to the first and to the third factor. The fourth factor contains the perception of CSR and the effect of CSR. It was formerly testified that higher perception of CSR means higher influence on shopping habits. If the customers are better informed about CSR, they will observe more responsible actions and buy more responsible products. Therefore this factor is called awareness about CSR

Passive, conscious and responsible clusters

Respondents can be divided into three major groups by a k-means cluster analysis. The three groups vary in activity and the forms of conscious habits and are called 'passives', 'conscious group' and 'responsible group'. The cluster of 'passives' is willing to make less effort than the other clusters. Members think that CSR is very important but it is the task of the companies. They do not want to buy responsible products or change their everyday behavioural pattern to become more conscious. The 'conscious' cluster supports the concept of CSR, but they cannot buy responsible products. But this group is very active in the case of cheap conscious activities like recycling or donating unnecessary things. Positive behavioural pattern characterizes them. The third group is the 'responsible group' which is not just conscious, but also buys responsible products like bio, recycled or fair trade products. However, the members of this group buy more often responsible products than the two other groups, but the frequency of purchase is also low. Table 4 show the demographic differences of the clusters.

According to the results Hungarians have strong positive attitude towards CSR, but it does not prevail against their everyday shopping habits. One reason of the low effect of CSR is the low perception of responsible activities. The companies should change the consumers' behavior patterns mainly by effective communication. The communication is not enough because

Table 4: Significant demographic variables of the clusters					
	Passives	Conscious group	Responsible group		
N	565	509	502		
Gender	Man: 59.3 percent	Man: 40.1 percent	Man: 44.6 percent		
	Woman: 40.7 percent	Woman: 59.9 percent	Woman: 55.4 percent		
Income	average income	low income	highest income		
Education degree	lowest education degree	typically secondary school or higher education degree	biggest proportion of higher education degrees		
Marital status	single, being in relation- ship, married	married, divorced, widow/ widower	typically married		

the cluster analysis showed there is a really passive group, which does not want to change their habits for instance their energy consumption. The conscious group knows the importance of CSR, the members take care on their environment and society, but they cannot buy responsible products, they should choose the normal products for instance the traditional energy sources. The third group, the responsible one has enough money to buy responsible products, for instance renewable energy and they are willing to change their habits, but nowadays they also do not buy too often responsible products. The results of the secondary and the quantitative researches imply into the practice we will not find real CSR actions.

CSR IN THE ENERGY SECTOR – QUALITATIVE CONTENT ANALYSIS

According to the secondary research and the quantitative research Hungarian consumers do not deem CSR as a valuable part of commodity. With qualitative content analysis based on the information of the company websites and CSR reports we want to discover the main types of CSR in the energy sector. The three analysed companies are E.ON Hungária Group (http:// www.eon-hungaria.com), MVM Hungarian Electricity Ltd. (http://www.mvm.hu) and Sinergy Ltd. (http://www.sinergy.hu). Because of the limitation of the length of the manuscript we just briefly summarize the most important facts in connection with the companies and then show the results of our analysis.

E.ON Hungária Group

E.ON Hungária Group is one of the most important participants in Hungary's economy, because it is one of the largest companies in the country. The company group takes part in more aspects of the energy sector. Main goal of the company is to be in harmony with the interests of employees, customers and suppliers, and the needs of Hungarian environment and society. The CSR strategy of E.ON Group

consists of five main parts: Responsible Corporate Governance, Responsibility in the market, Responsibility for environment, Responsibility for colleagues (Workplace) and Responsibility for the society (Community). To sum up the CSR policy and strategy of E.ON we can draw that E.ON basically carries out activities related to promotion, communication and sponsorship. The real, deep CSR appears only in the form of responsible corporate governance and the security and reliability of supply, but the use of green or alternative energy is infinitesimal.

MVM Hungarian Electricity Ltd.

MVM Hungarian Electricity Ltd. is the largest Hungarian energy group. The mission of the company group is to provide safe supply of electricity and gas to Hungarian consumers through its power plants, transmission and telecommunications networks, trading companies and energy exchanges. CSR is an integral part of MVM's business activities. the group prepares annual sustainability integrated report, and one part of this report is the CSR report. The CSR strategy of MVM consists of four main parts: environmental protection, public information programs, sponsorship and domestic and international consultancy. To sum up the CSR policy and strategy of MVM we can draw as conclusion that the group carries out activities related to communication and sponsorship, but the real CSR also appears in the form of responsible corporate governance and the expanding use of renewable energy sources or alternative energy.

Sinergy Ltd.

The company was founded in 1999 and it is operating like a holding company. One of the most important tasks of the company is to implement greenfield energetic investment projects for industrial companies, local governments, public institutions and ensures financial resources. According to the tasks of the company, social responsibility is a well-integrated part of Sinergy's DNA. But

it also undertakes other CSR activities: integrated management system, responsibility for human resources, sponsorship and social commitment. Between 2007 and 2009 the company made CSR reports, but after 2009 there is no available CSR report. To sum up the CSR policy and strategy of Sinergy we can draw as conclusion that CSR is integrated in the whole business process from the business philosophy to the business as usual. The idea of the company is based on responsible behavior and consciousness.

CONCLUSIONS

According to the results of the content analysis in Table 5 the CSR activities of the three companies are summarized. As the results show there is only one really responsible company, Sinergy Ltd., in which DNA CSR is integrated, so the company is at the top of the CSR pyramid. The problem is that this company is not a big player in the energy sector. The two big players are less responsible, although E.ON and MVM also carry out various and numerous CSR activities, the real CSR will not appear because they rather communicate the importance of renewable resources and sustainability than change the proportion of alternative sources in their energy generation. Therefore E.ON

is on the line of the 2nd and 3rd level of the pyramid. The company think that it integrates CSR in its whole business process. but the most responsible element of its CSR is the responsible corporate governance. MVM is at the bottom of the 3rd level of the pyramid (entrepreneurs for others), because it uses alternative sources during the energy generation, but its proportion is very low. the quantitative results also showed that the frequency of purchase responsible products like renewable energy is low.

These results agree with the results of the secondary data (Hungarian households' consumer behavior in energy sector) and the results of quantitative research. The Hungarian households will not be willing to accept the responsible performance as a real value. they do not want to pay more for the alternative or "responsible" energy, because of this gap between the attitude and the real behavior the real or deep CSR and the really responsible energy companies could not appear.

The companies firstly should change the consumers' behavior and energy consumption patterns mainly by effective communication. Probably therefore the CSR are actions based on commutation campaigns and sponsorship nowadays. We will not find too much real CSR actions.

Table 5: CSR activities of the three analysed companies						
	E.ON Hungária Group	MVM Hungarian Electricity Ltd.	Sinergy Ltd.			
Available CSR report	No	Yes	No			
Role in the Hungary's economy	Very important	Very important	Average			
Communication CSR inward	Important	Important	Important			
Communication CSR outward	Very important	Very important	Important			
Integrated Manage- ment System	Yes	Yes	Yes			
Kind of CSR	basically communication (promotion campaigns) and sponsorship, but various and numerous actions	basically communication (promotion campaigns) and sponsorship - various and numerous actions, but expanding use of renewable sources	business based on environmental responsi- bility; many other CSR activity (communication, sponsorship)			
Level in the CSR pyramid	On the line of the 2nd and 3rd level	at the bottom of the 3rd level	4th level			

because there is only a small target group who is willing to accept CSR as commodity value, therefore there could be only some smaller companies which can meet this demand. Until the consumers' behavior, consumption pattern and attitude towards alternative energy will not change, the number of the really responsible energy corporations will be much less, than the number of corporations, which use CSR as communication tool, so the companies do not have to undertake real responsible actions. But with the consumers' change the real CSR can spread in the future.

According to the results, the energy companies first must change the consumers' mind and attitude towards alternative energy sources with effecting communication, so they should stay at 2nd or 3rd level of the pyramid, and after the changed behavior pattern of the customers can they carry out real CSR activities. In this market environment the deep CSR can be only chosen as a niche strategy typically by the small enterprises.

NOTES

- 1 This research was realized in the frames of SROP-4.2.2.A-11/1/KONV-2012-0058, Modeling the effects of the energy- production, utilization and waste management technologies to the competitiveness of the cities and regions
- 2 HVG Online: Nem figyelik energiafogyasztásukat a magyar családok. 2012. szeptember. http://hvg.hu/ingatlan/20120919_Nem_figyelik_energiafogyasztasukat_a_magy, retrieval date: 10. 02. 2013, Index: Félmilliót költünk rezsire évente. 2012. augusztus. http://index.hu/gazdasag/magyar/2012/08/30/felmilliot_koltunk_rezsire_evente/, retrieval date: 10. 02. 2013, Energiaoldal: Pazar: nem energiatudatosak a magyar családok. 2012. szeptember. http://energiaoldal.hu/pazar-nem-energiatudatosak-a-magyar-csaladok/, retrieval date: 10. 02. 2013

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