End user engagement

Within the general area of energy the end-user has a mixed reaction to the relationship with energy suppliers. There is a general awareness by the end-user that energy policy has risen up the political agenda in tandem with the “green agenda”. But there is a more acute awareness of increasing energy prices, and proliferation of choices. There may also be concerns about continuity of supply, ease of use and the level of personal control. There is evidence that energy companies have not had a good image with customers,[1] but also that this image is improving.[2] The customer is also changing, becoming more technically savvy and IT literate.

District heating is rather different to other forms of energy supply. Because of the capital investment required the typically close involvement of the city or local authority there needs to be a longer term commitment. But one stakeholder’s long term commitment can be anothers’ monopoly. It may be the perception, accurate or not, that a supply may be in a monopoly position, which may require an added effort of persuasion over and about tempting stories of lower prices and continuity of supply.

It is towards this added effort that this part of the toolbox is addressed. Thus we will have sections, below, on end-user engagement, informal and formal. The informal will draw on ideas of participatory democracy and for the formal we shall present concepts such as customer charters. The final subsection makes some suggestions about the use of social media[3]

Participation

The relationship of the end-user to other stakeholders is complex. Two themes dominate the relationship. From the viewpoint of modern liberal economics the end-user is a rational being who enters the energy market to purchase heat at a particular price. But the end-user is a member of a community and may be able to shape that community within democratic and legal constraints.

Our basic premise is that (i) it is a good idea to involve the public as end user in decision-making in district heating (ii) this involvement should go beyond that offered through normal elective democracy. At its simplest the end-user should be “part of the conversation”.[4][5][6] The main reasons we offer are

1. to build up best practice in public participation and democracy
2. to build up trust among stakeholders
3. to speed up technology change where the advantages are clear
4. to educate the end-user in the wider decision-making such as in national energy policy and green issues
5. to make the energy market more efficient
6. to encourage cost saving via behavioural change, e.g. related to energy peak-shaving

Methods to involve citizens more directly are referred to as participatory or deliberative democracy.

The spectrum of engagement

Various versions of what we call here the spectrum have been put forward. In this section we will describe the status quo, that is what types of participatory democracy are to be found involving the end-user. The list is one of increasing involvement from very little information to full ownership by the end-user. It is adapted from various sources: see in particular Arnstein’s “ladder of citizen participation”.[7]

Little or no information

A common complaint of the citizen closely affected by an event or decision, and who was not personally informed about it is “I only read about it in the newspaper” or “I learn from the web”. The basic right to be informed is contained in the term “freedom of information”. A Freedom of

Information Act is a hallmark of a democratic society.[8] Every day there is tension between the public's right to know and the protection of special interests such as national security and commercial secrets. Even though much political decision making is in the open with debates and votes in parliaments and councils, the executive traditionally remains secretive and there are many examples of outright resistance to release of information.

Information only

A huge amount of information is now available via the www, from good data on official documents and academic scholarship to personal experiences and opinions. Indeed, because of the modern whistle-blower it is harder to protect information for ever from the glare of publicity. By information "only" we need to distinguish between information issued to inform and educate and information, such as advertising, which seeks to encourage or change behaviour, typically, to buy a product or services.

There is material which lies on the boundary between information and persuasion which is highly relevant for the energy market. Information about a certain type of energy contract on offer, may be partly accurate, but may make claims about energy saving without full supporting data. Miss-selling of financial products on the basis of exaggerated claims or suppression of realistic charges (hidden charges) has led to several scandals in the UK. Although there have not been such scandals in the energy market the inability to control energy prices, in some countries, and the bewildering range of contract choices available to consumers has led to charges of profiteering and the deliberate confusing of customers.

On the other hand information about risks of different types of medical intervention is of very high quality, often referring to the latest research. Personal histories and information from interests groups for particular diseases are immensely valuable. It will be important for Celsius to learn about best practice in other fields.

In summary, high quality passively issued information is essential to participatory democracy, but one needs to guard against misleading content.

Formal consultation

Perhaps the most actively developed area of interaction with the end-user is where consultation is built into legislation or where a formal consultation may take place with citizens who have interest in decisions being made by elected governments. Thus, in most countries in the EU if your neighbour applies to the local planning authority to build an extension to their house you will have the statutory right to be consulted. You will be informed and will have a set time in which to submit written objections or support. There are rights to be consulted, whether the local authority, a not-for-profit housing association or where a private company is the landlord. This will include examples where there are well-defined less formal agreed consultation standards, for example standards covering unbiased analysis and publication of the results of consultation.

Citizens can attend planning meetings and may be allowed to make a statement. They may also have a private conversations with a planning officer, but in such situations the conversation and access may be restricted.

Formal or statutory consultation, when conducted by a local authority is part of the "governance and the governance of cities" is increasingly a subject of discussion at EC and international level

Active discussion/negotiation

Where two companies, one an end-user the other an energy supply, come to an agreement, or where there are negotiations between labour and management there is a well-defined end in terms of a signed contract. One can consider such negotiations as a part of oiling the market: capital to capital, or capital to labour. Indeed, there is an extensive academic work on the role of negotiation in market economics.[9]

But with energy supply, where the end user is a private citizen or negotiations of the type just mentioned are rare. As mentioned above, the energy market is more like a special super-market with not many cabinets (suppliers) in which there are products offered on a take-it-or-leave-it basis. There certainly is a contract sealed by a signature, but an informal poll of one's friends and colleagues shows that few people are aware of the details of the contract. For example if there is a fault which leads to a cut in service, do we generally know what the contract obligations concerning time to connection, or the terms of any compensation?

Another situation in which the dialogue is one-sided is in the sale of financial services. There is scepticism that the sales process is a true form of negotiation and whether the independent financial adviser is really independent of the major suppliers, banks and insurance companies.

Celsius hopes to help raise the profile of forms of genuine dialogue and negotiation between stakeholders, but especially those involving the citizen end user. Ideally the active negotiation needs to take place at every stage of a project development. This document does not focus on construction but on the following the two main stages.

Feasibility: There are strong arguments that feasibility study of a district heating project, and we include here cost-benefit analysis and similar approaches, should include the end-user. Such a study provides an opportunity to interact with many actual and potential stakeholders. The type of contract likely be offered to the end-user is, or should be, part of the study, if only because it will affect demand. In some projects dialogue with the end-user only starts at the stage that a project is about to be approved or just after approval. This is democratic, in that the project will have been discussed "in committee" and councils with elected representatives, but there are risks in that the end-user will only hear about the project as a fait accompli. For example tenants may be told that the old boiler in their building will to be replaced by a more centralized CHP system.

Operation: Within the Celsius project there has been consider able discussion of the relationship between end-user and energy supplier. Issues which may be problematically (i) rising price (ii) long-term contracts versus more flexible short term choice for the customer (iii) public versus private suppliers (and changes between the two) (iii) different consumer behaviour dependent on demographics (eg. age) (iv) management of peak loads (iv) fault management and continuity of supply.

Participation methods

The methods described here are taken largely from other fields. The list can be considered as a very short tutorial on participatory democracy. To repeat, we are discussing methods outside the normal elective democracy but which should enhance,not replace it. Thus, we are excluding statutory consultation. In terms of the above spectrum the methods, they largely cover consultation and negotiations.

Citizens juries/panels

This refers to small groups selected, perhaps randomly, which deliberate over a matters of interest to a community and which to act rather like a court of law in calling witnesses or experts. These can be set up by the community itself or by the executive to aid decision making and can in the latter case be part of the organisational structure. For example the Citizens' Council of the National Institute of Clinical Excellence in the UK discuss ethical issues. These groups typical write a report expressing their, hopefully, consensus views.

Consensus conferences

These are similar to citizen juries and panels and have been used notably in the medical fields and their main aim is to build consensus. They are said to be useful where difficult technical issues need to be shared with the public. Political writing emphasizes consensus types of democracy as being a more inclusive than for simple majority rule, for example in including participation by minorities and building consensus between culturally different communities.

Community forums

This refers at its simplest to any group which is set up by a community to discuss and take action on one or more aspects of community life. There are well-developed schemes and organisation such as [10] covering many aspects of community life: health, education, crime and economic regeneration. As with the word “consensus” above the word “community” is generic and useful. It points to common interests, the need for information and the need to take action. These community based schemes fall under a general heading of “civil society”.[11]

The medium by which the community forum operates is, today, hybrid: part actual physical meetings and part web-based, using email or social media. At its simplest one may arrange by email to meet physically. More complex is something like CELSIUS itself which has many meetings but uses the web-site for information and organisation. See 6.1 Media communications for a discussion of web sites.

Deliberative democracy

Deliberative democracy provides a forum for debated between experts in the presence of citizens and other stakeholders affected by the issues and the policy alternatives being debated. Typically a poll is taken before and after the debate as both a demonstration of the effectiveness of the method itself and so that voting is based at least on a basic understanding of the physical consequences of the decisions to be made and the ethical trade-off that may be necessary. It may also reveal and resolve tensions between the role of experts and that of citizens.[12]

Smart democracy[4]

This area has been developed within Celsius to respond to issues of democracy as related to new technology affecting the public. It can be taken as a consolidation of ideas developed on Celsius, and hence touches several of the themes in this document. Here is a summary of the attributes of smart democracy.[4]

1. It concerns mechanisms for local democratic stakeholder participation in decision making relating to improving and innovating technologies and their adoption (legitimation) where there are significant local/community costs and benefits deriving from the provision of collective (public) goods and positive and negative external effects.
2. It recognises that external network effects, whereby consumers gain from coordinating their consumption technologies (e.g.compatible phones) are particularly important with the development of smart technologies.
3. It complements, but does not substitute, both the established representative democratic mechanisms and the provision by competitive markets which are appropriate where either external effects are absent or are of a larger (non-local) scale; although smart democratic institutions can contribute by delegation to representative institutions.
4. It may mandate “profit for purpose” community producer, consumer and hybrid co-operatives (e.g. local energy producing co-operatives).
5. It should involve all stake-holders affected by the technology as far as possible at each and every stage of the product cycle from conception to end-of-life.
6. It should be used particularly to facilitate and accelerate the transfer from old to new technologies by enhancing and speeding the process of legitimation of the new and de-legitimating of the old by incorporating locally distributed and pertinent information, knowledge and preferences. Implementation requires understanding of how legitimation/de-legitimation can diffuse in the social networks of a community.
7. Stakeholders should agree the precise mechanism for achieving the locally determined policy.
8. It should, where appropriate, make use of modern smart communication.

Tenants’, residents’ and housing associations

Since district heating concerns building it is evident that organisations which represent householders will feature strongly. They are typically set up to act on behalf of residents in their relationship with landlords. The housing charity Shelter has excellent definition and advice [13], and the Joseph Rowntree foundation.[14]

Housing Association's may be more formal organisations and can themselves be landlords (owners) and, at least in theory, are answerable to the tenants where the tenants are their shareholders. There is usual a legal environment (rules) for the operation of housing associations and their national organisations.

Service agreements (SA), price dialogues and consumer charters

The key to customer engagement is the service agreement. This is a legal contract as opposed to a customer charter or code of practice, which is are more holistic documents, although the two are closely related. Service agreements or Service Level Agreements (SLAs) are the basis for commercial contracts, but many domestic customers may not take notice of the "small print" in their contracts.

The following are standard items for inclusion in an SA.

1. All tariffs and maintenance charges may be obtained,
2. Duration of the contract
3. Conditions for renewal and termination of services (and associated charges)
4. Compensation and the refund arrangements which apply if contracted service quality levels are not met including inaccurate and delayed billing,
5. Method of initiating procedures for settlement of disputes
6. Information relating to consumer rights, including on the complaint handling and all of the information referred to in this point

Price dialogues

Surveys reveal that price (tariff) is often the key issue with customer. There are particular concerns where the heat supplier has a monopoly and, indeed, in surveys and informal customers can show distrust in a monopoly supplier: "The overriding issue for most consumers was price. Many consumers lacked confidence that they were paying a fair and accurate price for their heating. This was fuelled by a lack of transparency in how their bills were derived, concerns over unfair charges and doubts over the efficiency of their network".[1] Price control becomes essential and it needs monitored openly by an independent body.

Dialogue with the customer can take place in several modes (i) as parts of a sales operation (ii) as part of normal operation (CRM) (iii) more formal negotiation, eg for a new project (iv) as part of a complaints procedure and so on[15]

The following should be partly of a continuing dialogue with the customer

- The price in relation to the service agreement - The breakdown of price into different categories - Changes in price, price stability - Price caps - Clarity of price information - Maintenance costs

Metering and control

Smart meters are second generation meters in the home which from which information is passed back to the energy supplier to monitor energy consumption. Most of the recommendations, form the EU or national governments concerns electricity and gas, and there is very little consideration of DHC. Metering is useful for the consumer to check the accuracy of bills and for the supplier for a number of operational reasons such as monitoring peak loads. The same ought to apply to DHC.

There is an important relation to pricing. Some older DHC systems do not have any metering, and some have smart systems. The metering will typically cover a fixed standing change sometimes often other charges. All this affect the equity of pricing across different schemes, the competitive position of DHC.

Smart metering is an important factors in a customer being able to contribute to energy saving initiatives by government and in collaboration with the supplier, all of which should be part of the price dialogue.

Consumer charters

As mentioned, and several studies highlight, an active and open relationship between the end-user and supplier (and other stakeholders where appropriate) is advantageous in many respects and will typically cover matters related to service and price. Established areas of management are concerned with areas such as CRM: Customer Relationship Management. Despite conferences and many commercial offerings in CRM it is not clear the extent to which it is brought to bear on the relationship between large energy suppliers and domestic end-users although in a market in which customers can switch suppliers some anxiety is shown about whether CRM can be used to discourage switching.

The prevalence of “customer charters” issued by energy companies, which cover all aspects of payment and supply, is increasing. There are examples of model charter in heating supply [16]. It is not clear the extent to which the conditions of such charters are legally binding compared “terms and conditions” comprise the service agreements with customers.

This toolbox contains a draft of the Celsius Customer Charter [17]. We give here some of the background principals to the development of customer charters. For the charter itself we have drawn on number of sources. Confidence and trust. These concepts pervade much of the existing literature on DHC. It stems from the nature of the long term investments by the supplier and the need for long term commitment form the end-user. Unlike, say, the supposed open market for electricity contracts the DHC market may be less flexible. A good discussion of an ongoing research programme on trust in the DH environment has been published by the Swedish Association for district heating.[18]

Competition and choice. One of the drivers for regulation is the need to open up markets to competition by giving customers more choice and other mechanisms. The energy market is seen as being controlled by a number of large corporations and the need to open up the market is a key policy objective up to EC level. Because of a perceived monopoly supply in the case of DHC the issue may be even more critical. Special directives relating, for example to third party access, may be harder to handle at a local level[19].

Social housing and vulnerability. Historically much of DHC has been to public housing estates with traditions of supplying heat to the more vulnerable sections of society. Even when such housing estates diversify in ownership and DHC is extended to new build there remains a percentage of vulnerable citizens. New terms such as “social exclusion” and “energy poverty” have been introduced to express the need for a more targeted approach. There is evidence that small and single person households may dis-benefit from economies of scale, for example by paying higher rates for low use via individual metering. In the energy market vulnerability is recognised at EC level.

Technology and control. Celsius is very much concerned with technology and the optimal control strategies that go with it. For DHC there are cost gains that can be obtained by allowing a greater degree of control by the supplier; for example maintaining efficient input and return temperatures, using weather forecasts, optimal storage, discouraging peak usage. Where there are so-called VIP contracts[20] , there may be much more opportunity to control actual room temperature, but where the supplier has less control over the hot water once it is inside the building these cost savings may be more difficult. A very much related issue is the individual control of radiators and individual metering and smart metering. This may seem like “choice”, in the same degree, as say electricity, but poorly insulated buildings households in more exposed positions may dis-benefit.

Information. If there is one topic on which there is universal agreement it is the necessity for clearly stated and timely information and the need for a receptive communication between suppler and end-user. Today, much information should be made available on a well-designed web page. There are sensitive issues which are generally agreed should be included such as, repair time, forewarning of price changes and special “deals”.

Consultation, complaints and performance evaluation. Many customer charters contain some kind of guarantee to consult; for example on improvements in existing services or new services. This can be seen as part of performance evaluation and may seek a level of interaction with the customer which invites suggestions for improvements as a positive side of the (usual) complaints procedures. For example with rail transport metrics might be “percentage of trains arriving on time”. But there will be methods to complain and to seek financial redress in particular cases. Performance is often related to quality and reliability measures. There is at least one example of a heat supply company using a formal Ombudsman to help resolve dispute.

Regulation. There is a wealth of material on consumer rights, and specialised regulations regarding energy. In terms of a consumer charter, it will be important that the rights under consumer protection legislation explained or at the least good references to such rules given. This is done regularly eg updates of regulation issued by the regulator. An example would be where a regulator makes stricter repair time obligations related to storm damage.

Customer duties. Most charters are two-way and impose informal duties on the customer, such as a requirement to pay the bill on time, not to damage equipment, report faults and allow access to buildings. It is to be noted that many existing regulations have sections on customer duties which are as long as, or longer than, those on service level.

Facilitators

It is clear that in many areas where capital project affect local communities the role of the independent advisor or consultant is important. For the developer, such as a local authority, or a large housing association, the quality of the consultant is often critical. For the end-user, however, it may be seen to be important but is rarely provided. One of the recommendations of the architects Richard Rogers’ Urban Task Force report[21] is to

Develop mechanisms that ensure public participation and involvement in the development of urban vision statements. Promote the involvement of professional facilitators to support community groups and qualified designers at key stages of project development and implementation alongside landowners, developers and project sponsors.

Studies emphasize the importance of a “champion” to facilitate a project. Such a person would, ideally, have an overview of the whole and act somewhat in the capacity of a (virtual) chair of the group the stakeholders. Given our particular interest here in the domestic end-user it would also be ideal if the champion had at least a sufficiently neutral role to convey and take into account the end-user’s wishes. A large housing association which represents the residents well may have its own or an established relationship with a consultant or champion. For smaller outfits, say a small apartment block, there may be a need for impartial expert advice.

Here is a basic job description for a community facilitator.

1. Establish and maintain communication, with all stakeholders, but especially the end-user and the local community
2. Provide independent advice and training in relevant aspects of DHC
3. Be aware of and promote, where possible, the environmental agenda
4. Mediate on issues relating to service value: customer charters, price, maintenance and repair
5. Be aware of and respond to vulnerable households and communities (fuel poverty)
6. Promote high standards of administration including the use of clear communications
7. Represent an independent voice at meetings

Checklists: questions and impediments

Celsius has developed a checklist of questions which point to impediments which may arise, particularly, from interactions with the end user. Other questions and checklist fall under the heading of business and investment. It is suggested that such questions make be helpful in a number of ways and the way in which they are used should also determine to whom the questions are asked: from internal brainstorming and decision-making by stakeholders to design of questionnaires in gathering input from end-users. Section 5 covers the checklists in greater detail.

Possible uses include:

1. End user surveys
2. Formal risk assessment and risk control [22]
3. Business cases. See below and D6.3[23]
4. Customer relationships and customer charters, see above.

Media communications

Something of an ideal way forward in terms of interaction with consumers is given in the Accenture report "The New Energy Customer."[2] The report has two broad messages. The first is that the research confirms that Consumers have become “omnipresent,” the notion that they are always available and online and move between the Web, telephony, social media, and messaging. These trends are largely driven by the increasing capability of mobile devices, the maturity of the social Web and the ever-increasing "Internet of Things."[24] Then, having identified the new generation of customers which has a preference for “web-based channels” of communication, the report supports future interconnectivity and diversity:

“As consumers move away from traditional one-way relationships, these forces are driving more complex, interactive relationships both with individuals and with certain communities of consumers. What will ultimately emerge are more active, multi-way relationships - necessitating an entirely different, and more complex, set of customer insights”. It points to a need for energy companies to keep abreast of IT developments to facilitate such interactions, while paying compliments where they are due. Within this framework the report identifies a tension between the desire of the customer to have fingertip control over energy and almost the opposite: the need for “set-and-forget” functionality. Low price, simplicity and a single supplier of all energy needs seems to the majority desire. Communication relating to queries, faults, contracts and products should be fast and digital.

For the end-user groups and other stakeholders with vested interests in district heating are moderately active on social media. Such pages are helpful in the dissemination of information, technical innovation, news and trends, although there may be exchanges on various other issues.

Here are examples of sites.

1. Celsius has its own website and in addition there are twitter and Facebook accounts dedicated to the project, informing cities and other stakeholders as CELSIUS develops. The various interface provide a form for discussion among partners, CELSIUS cities and their communities.
2. The Korea District Heating Corporation (defined in as a community organization) has a Facebook page demonstrating high activity with more than 10,000 users, lively discussions, dozens of comments and exchange between the corporation and users.
3. Danfoss District Energy, Denmark also has an excellent example of a commercial Facebook page.
4. University of Kentucky Community Toolbox: "The Community Tool Box is a free, online resource for those working to build healthier communities and bring about social change. It offers thousands of pages of tips and tools for taking action in communities." It

concentrates on health welfare but could be a model useable for heating. It is very strong on training.

5. The web-based magazine Cogeneration has an active discussion following informative leading articles.

Read more

Introduction pages

- End user management

References

1. ↑ Jump up to:1.0 1.1 CHPA, “Which? calls for fair energy prices,” 2014[Accessed: 04-Dec-2014]
2. ↑ Jump up to:2.0 2.1 C. Davis-Van Atta, "18 things utilities need to know about Accenture’s new report on energy consumers", Opower, 2014. [Online]. [Accessed: 04-Dec-2014]
3. Jump up↑ Judt, T. R. (2010). *Ill Fares the Land*. Penguin Press, New York
4. ↑ Jump up to:4.0 4.1 4.2 P. Abell and H. P. Wynn, "Smart Democracy: Facilitating Technological Change." LSE, 2013
5. Jump up↑ CELSIUS WP6, “CELSIUS WP6 20140203 Governance and Contractual structure of District Heating Networks - A Working Paper.” LSE, 2013.
6. Jump up↑ D. Lazer, B. Rubineau, N. Katz, and C. Chetkovich, “Networks and political attitudes: Structure, influence, and coevolution,” Working Paper Series rwp08-044, Harvard University, John F. Kennedy School of Government, 2008
7. Jump up↑ S. R. Arnstein, “A Ladder Of Citizen Participation,” Journal of the American Institute of Planners, vol. 35, no. 4, pp. 216–224, Jul. 1969.
8. Jump up↑ Freedom House, Freedom in the World. Lanham, MD: Rowman & Littlefield, 2011.
9. Jump up↑ P. A. Hall and D. Soskice, Varieties of Capitalism: The Institutional Foundations of Comparative Advantage. Oxford University Press, 2001
10. Jump up↑ IAP2, “International Association for Public Participation,”2014.
11. Jump up↑ E. Gellner and H. Hamilton, "Conditions of liberty: Civil society and its rivals." Hamish Hamilton London, 1994
12. Jump up↑ The Center for Deliberative Democracy
13. Jump up↑ Shelter, "Private renting" - Shelter England, 2014.
14. Jump up↑ D. Wilcox, D. Grenop, and D. Mackie, “Making the Internet work for residents and their landlords.” Joseph Rowntree Foundation, 2002
15. Jump up↑ CELSIUS WP6 DHC Business models
16. Jump up↑ CHPA, "Standardised Heat Customer Charter." 2014
17. Jump up↑ CELSIUS WP6 Customer Charter
18. Jump up↑ svensk fjärrvärme, “Taking Trust Seriously in DHC.” 2013
19. Jump up↑ CELSIUS WP6 D6.1 System overview of key local, national and EU policies and programmes regarding legitimisation and governance v1.0
20. Jump up↑ CELSIUS WP6 Gothenberg case study 01102014
21. Jump up↑ A. Power and R. Burdett, Towards an urban renaissance. Wetherby: Urban task force, Department of the Environment, Transport and the Regions, 1999
22. Jump up↑ CELSIUS WP6 Risk Management
23. Jump up↑ CELSIUS WP6 D6.3 Strategic document on financial viability and risk assessment
24. Jump up↑ J. Rifkin, The Zero Marginal Cost Society: The Internet of Things, the Collaborative Commons, and the Eclipse of Capitalism. Macmillan, 2014.