

Efficient services for increased energy performance of SME

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Abstract¹

Technical solutions are not the key problem for the uptake of energy efficiency in small and medium enterprises (SME), as was shown in many projects. Key problem is to address and motivate SME for long term action, motivation which takes into account their limitations in terms of staff capacity, priority level, and financial resources.

The paper presents a new approach to SME building on communication-based services that empower companies to build their knowledge on their consumption patterns and changes therein. This approach is currently delivered to 150 SME companies with annual energy costs in the range of 90 k to 300 k Euro: based on an energy management information system (EMIS), the energy data is collected from the energy supplier through remote data acquisition and analysed in the EMIS system. The management of the SME is provided in monthly reports containing key developments of energy consumption through personalised e-mails.

A first evaluation gives rise to the following preliminary conclusions: a) a large scale approach is necessary, since SME-by-SME approach will not give long-term results, b) simple services to many SMEs will bring better results than complex services in a limited number of SMEs and c) energy related data of SMEs are crucial for success. The latter implies two

things: energy data information and involvement of data-holders is necessary; free access to energy data is key ingredient to create an increased level of energy efficiency action, analysed with view to policy implications based on gathered experiences.

The approach is not deeply scientifically backed. It is an approach that does not build on at theory, but focuses on real implementation. And it has to be kept in mind that the work presented in the paper is still in progress. The experiences thus far and thereby the paper also wants to open discussion regarding public accessibility of energy data from individual enterprises, a discussion similar to that which lead to availability of pollution data.

Introduction – Barriers to overcome

The basis for the content and findings of this paper is the EU co-funded project EFFI – Efficient Implementation of Energy Services in SME². The examined approach addresses non-technical organisational and information barriers. Before and in the course of the EFFI project we were looking at the impact of actions that have targeted energy efficiency in SME, and at surveys and analyses conducted with SME on the issue³. We conclude that it is the non-technological issues which are the main obstacles to energy service implementation and energy efficiency improvements in SMEs. Barriers can be found, as is shown in the following table, both on the

1. Throughout the document, where no references are given, conclusions refer to findings from the EFFI project.

2. Contract No. EIE/06/133/ SI2.439978.

3. [1], [11], IEE project sites e.g. BESS, EMEES, etc.

Table 1. Overview on barriers and goals on energy services for SME [1, adapted]

| Barriers and goals | SMEs | ESCOs |
|---|------|-------|
| Shortage of dedicated staff for energy issues in SMEs | x | |
| Energy efficiency is far away from SMEs core business | x | |
| Competition on energy service providers side | x | |
| Implementation of cost efficient measures | x | x |
| Business volume for service providers | | X |

Figure 46 Reasons for not implementing identified energy savings

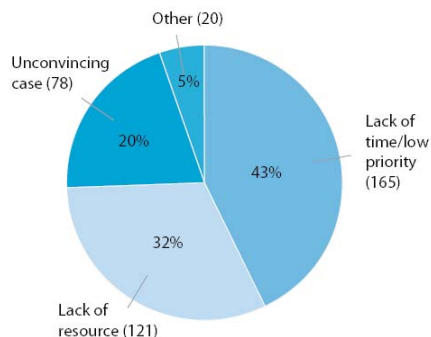


Figure 1. Reasons for not implementing identified energy savings [1]

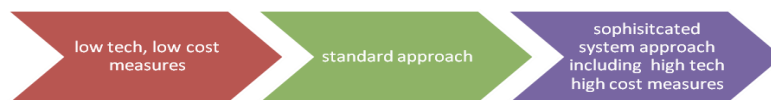


Figure 2. Rough division of measures intensity for energy efficiency (source: own)

side of SME, as well as on the side of the potential service providers, the ESCOs⁴.

During the project duration those issues were reconfirmed as key barriers. They were confirmed also by a recent Carbon Trust study [1]. This study addresses advanced metering for SMEs, carbon and cost savings and it is highly correlated with providing energy services to SMEs. The study classifies barriers, identified during the pilot project, into:

- Lack of time/low priority – the energy services couldn't be implemented, generally due to other business activities taking priority.
- Lack of resource – the recommendation was accepted as worth doing, but there are insufficient personnel or funding at the site.
- Unconvincing case – the site owner / managers do not believe in the feasibility or potential benefits of the recommended measures.

Existing practices and projects, including EU supported projects, rely on in-SME's energy managers and on SME's financial resources. They focus mainly on promotion and implementation of energy management in various industrial sectors⁵

and rely on the standard approach with a onetime snap shot on the energy profile through an audit and that proposed measures find implementation by themselves.

But the main problem is not performing the energy services itself or even the energy management structures in SMEs. Main problem is – among others also confirmed by the a.m. Carbon trust study – that more than 70% of SME covered by the study suffers lack of financial and human resources – resulting in a lack of attention to the issues. Also in Germany this lack was confirmed by a KfW survey conducted in 2006 [11]

Slightly simplified to two ends of the story, there are two methods in order to overcome that barrier:

- Implementation of low-level energy efficiency measures with short payback time.
- Outsourcing human and financial resources to implement medium and high demanding energy efficiency measures from the SME.

A current standard approach is mostly somewhere between those two key alternate options as is illustrated above, and very much focussed on a one-by-one approach to the companies. On the other hand – SME is a mass market. 99% of companies in the European Union are SMEs⁶. Industry is overall responsible for roughly 28% of final energy consumption and 300 mil-

4. ESCO – Energy Service Company. In this context it is meant and used in the widest meaning of the word service providers, and is not limited to turn key project providers.

5. E.g. EU co-funded projects BESS, E-check in Craft SME, and EMS-Textile.

6. Eurostat. Enterprises by size class – overview of SMEs in the EU – Issue number 31/2008.

lion tons of CO₂ emissions annually from industrial processes alone⁷, a large potential for the energy savings and those service providers to leverage the savings.

EFFI's aim is to reach out to more of the mass of SMEs to motivate and empower them to act upon energy efficiency than the standard approach, starting at an earlier point.

Knowing the obstacles within SME to act upon energy efficiency as described above, the following assumptions are made:

- SME will not be reacting to one-time information or complex information.
- SME will need the right amount of information at the exact time when there is a window of opportunity for them to react.
- Especially where energy efficiency is seen as an “unconvincing case”, SME will need to get a clear view and a feeling for their own energy profile, and savings potentials.

Based upon these assumptions then, we can further develop the idea and look at key ingredients for successful motivation of SME.

- A neutral partner to organise activities / provide access to (trustworthy) information and organise the market actors for follow up and measures implementation.
- Continual access to information on the company's energy consumption and its trends – enough to be useful, but not too much to be taken in fast and remembered.

ESMO – the pivot point

In the long run information about energy consumption should become a basic ingredient in company decision making processes, and hence part of the company culture. Intelligent energy services should be technically appropriate, but need to consider real (in) capabilities of SMEs. To do this, we felt the need for a neutral trustworthy body, organising and initialising energy services for SME. Here the parallel and experiences in the field of Energy Performance Contracting are a relevant inspiration. EPC works best in places where a third party has taken up the role of a mediator. It has been seen in the public sector that such a function can stimulate market development and real implementation of energy efficiency measures⁸.

This function within the frame of EFFI is called Energy Service Market operator or ESMO and its role follows the principles as laid out above. We have designed it as a growing hub for support, implemented in its visible and accessible part as a web portal; leading to an expandable and growing network of supporting partners – the service providers (ESCOs in the widest sense of this word). The hub is a combination, consisting of basic services, additional information to read up (default options for getting started) and access to implementation partners

7. EU Statistical pocket book 2009.

8. Reference is made to the work of the agencies such as the Berlin Energy Agency or Graz Energy agency as successful mediators and market developers for EPC, and the spreading of this success through the projects clearcontract and Eurocontract, the latter of which was coordinated by the main author of this paper. See also [8].

as a link to the standard approach of implementing energy efficiency measures (consultants, equipment retailers) however expanding it by also integrating financial institutions.

Information

We said that the second key ingredient is the right amount and time of information, to the right people. And – since we are targeting a huge market – information has to be pragmatic in the way that it will reach as many entities of the target group as possible, preparing ground for further action. This means that a user-oriented approach is needed, and this also means that it has to build upon the current market situation with its actors and number of ways to eventually reach a point where energy services and energy efficiency measures will be implemented.

The basis for the EFFI therefore is metered energy data and other data from the companies, automatic collection of this data, automatic analysis and distribution back to the SME, ESCOs and other interested parties in a useful format. This means that all relevant actors, from service providers, financial institutions, and associations need to be involved as further communication channels for motivational work, and for support in case of bigger energy efficiency measures. Another important part is the media presence and visibility support.

A pragmatic approach

It is a user-oriented approach, considering needs and capabilities of SMEs and service providers as the main players of an energy service market. Top management is the targeted level. The EFFI model does not look for best available technology, very efficient and more than moderately complicated energy services for which decisions can easily be made. It searches for very simple services, low level regarding organizational and financial demands, unless more complicated and demanding services could bring outstanding results.

The model is designed as and follows a three phase approach, each of which will be described further on in more detail:

1. SMEs motivation (Demand creation).
2. Stakeholders motivation (Supply creation).
3. ESCO motivation (Supply creation).

Demand creation: the SME motivation process

No service is best service is the Amazon approach and that of similar companies⁹ to the market. It includes the following principles for success:

1. Eliminate dumb contacts.
2. Create engaging self-service.
3. Be proactive.
4. Make it easy to contact your company.
5. Own the actions across the company.

9. The Best Service is No Service: How to Liberate Your Customers from Customer Service, Keep Them Happy, and Control Costs, Bill Price, David Jaffe, ISBN: 978-0-470-18908-5, March 2008.

6. Listen and act.
7. Deliver great service experiences.

Another way, moving into the same direction, is the concept of creating “default options”. Default, as described by Goldstein [3], means win-win creation. In his words: “Well defined product defaults benefit both company and consumer by simplifying decision making, enhancing customer satisfaction, reducing risk, and profitable purchases”. This view of a provider’s proposed behaviour is essentially supporting the need for simple options, to make life easier for the service provider, by making the customer’s life easier, and helping him decide. In the case of the EFFI model, this is applied to the ESMO who would be taking over this part of the business, from taking too complex information (“raw” energy data) and creating from this useful information, packaged as a simple product with a trigger to (re)act .

SMALL STEPS TO GET SMES TRUST

From the above, the simple conclusion for our application is that any communication with SMEs should be nice, easy and should make them very comfortable. Since we are dealing with business data, SMEs should also never feel threatened in any way. We just try to help them and the start should be very easy, providing quickly understandable data in a very evident way, easy to use.

8. This information should be using existing infrastructure and communication channels (already existing energy data), and avoid human work effort to provide the service:

As stated before – a large market has to be reached; we are talking thousands of SMEs in Europe. Addressing the SME individually one by one is not a feasible option. In order to reach a breakthrough, we should address many, many of them, and at the same time, providing information to slowly motivate the SME, regularly addressing them each month. The expectation is to get a response of a few percent from those whose window of opportunity is open at that point in time. This filter will facilitate the right SME being more targeted since those ready to move will be having simple triggers to request help. And since both sides are informed – implementation progress could be much faster and more efficient.

9. A pull concept is not adequate (see above). A push should be implemented instead: the World Wide Web is fine, but it represents pull approach and is not enough; in addition, (paper and) e-mail communication have to be utilised.

Initial mass communication is executed via existing channels, such as paper and electronic mail. In that way no effort on the side of the SMEs will be necessary to get their first trigger. Each time when they open a new mail they will receive a custom made product, tailored to their needs, with simple analyses of their company’s development with view to energy consumption, later extended by benchmarking. Some first simple hints to catch the idea on easy first steps are included in the mail. The goal of this first stage is that after a few mails the SME manager will pick up a phone or click on the web application to get more information or to start an action.

TRIGGERS TO CATCH SMES

When implementing this approach, we need to consider what kind of information can achieve the intended trigger. It is about what to tell SMEs to get their attention. Since we aim at thousands rather than tens of SME, different triggers will be needed to reach a large amount of SME. The success of the triggers will be analysed with the response to the phones, clicks on the web application.

Possibilities are:

- How my competition does it.
- What is my position right now.
- Decreasing costs.
- What we did this year and why it is better /worse than what we did last year.
- What we did in this year and what my competition did.
- Can I do anything to be even better.

As an example: we have a simple product or service pushed towards the SME, an e-mail report. The report contains information, for example: “despite the same level of production, your specific electricity consumption increased by 10% in the last week”. The trigger to (re)act could e.g. be “The base load during night hours was approximately ten percent higher than previously and is eight percent higher than the average within your sector”. Sector data will be based on the growing number of SME in the approach and referenced with NACE data.

HOW IT WORKS

Summarising the elements as described above we have the following steps to implement: a No-choice pre-set information is being pushed via E-mailing (see graph) to the SME on a regular basis. The e-mail reports are targeted at decision makers in the companies, and are simple, with essential information only and well designed to be attractive and memorable.

The goal is to wake up SMEs managers’ curiosity. Once triggered, the e-mails have a link to web tool and a password where they could find **more** information.

What is “more”?

More means making it even easier to react, but more also means that this is the point where their action is needed. They find their energy data more in details, analysed and connected to e.g. to weather data, time of use, peak and base load, among others.

Another element is that “more” means closing the gap between the EFFI and the “Standard” approach: companies get tailored advices and contacts (e.g. we detected problems with lights => please contact experts for lights). The key innovation here is that they have an ESMO to guide them through steps.

Furthermore includes that they will be classified - the basis for comparing them with others, i.e. sector, numbers of employees, climate zone classification. The option to change is introduced by which the SME helps increase precision and relevance of information.

Yet another step in increasing the services is that the principle “The More you share, more you have” is introduced. For increased and more accurate data, SME are stimulated to share

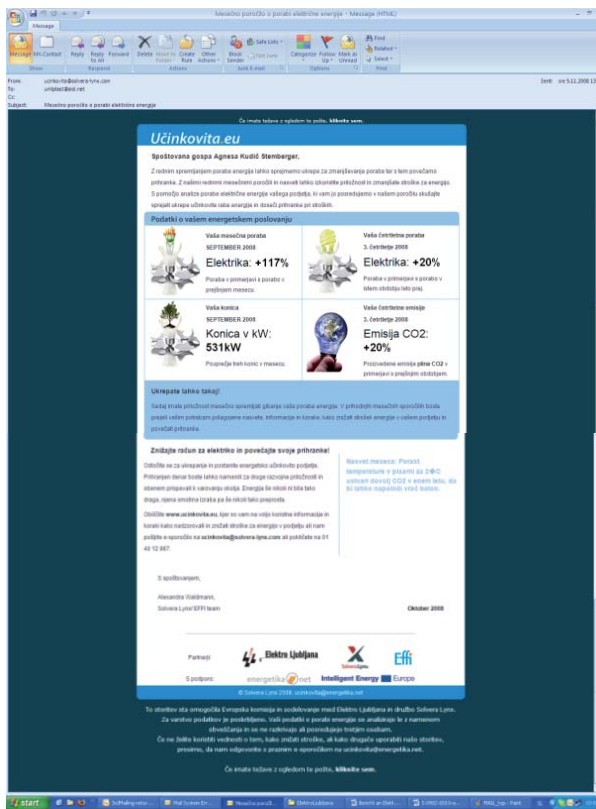


Figure 3.

their data with others in order to get more data about others. The basis for this is to move from automated e-mails to a dashboard application and thus increasing default options by providing direct permanent access to the kind of information received in the e-mails, but under the control of the SME to review the information. A visual impression of this is if one imagines the web-phone and chat application “Skype”. The desktop application shows information in a few reports (graphical form) and offers complete sentences, focusing one or two issues (benchmarking or other). In essence it replaces the emails and adds choices of reports for the customer.

INTERIM SUMMARY

- Easy, short facts & figures are interesting for SMEs
 - Money talks.
 - Other issues are less important, but can help (e.g. emissions).
- Personal communication is not efficient
 - too expensive.
 - can’t reach many SMEs (10000’s).
 - not efficient on the long term – regular communication is a necessity.

The importance of data access

We believe that only a service, which would provide SMEs with tailored service, without any additional work or costs for SMEs, can be successful. This is even truer in the beginning

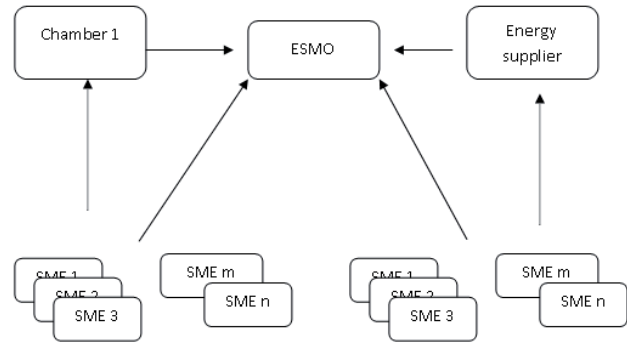


Figure 4. Authorization to access the data. Owner SME always authorized energy supplier, but could also someone else, e.g. ESMO. This permission could be collected directly, via chambers or via energy supplier.

of the motivating process of SMEs, when they don’t believe in energy efficiency necessity or when energy efficiency is not one of the priorities. The key person of SME is a general manager, who is often also the major shareholder. It is very difficult to fulfil those demands with technically difficult and complex energy services. But we can start with simpler, which demand less work and equipment of ESMO: analysing the data, benchmarking and showing the weakest points of the SMEs as well as providing easy options upon which they can start saving.

Another finding is also that waiting for the SMEs response is not an efficient strategy. We push the motivating information to them and minimize their work. Since one of cornerstones is analysing energy data, is of crucial importance to get those data on a very simple way.

TECHNICAL REVIEW OF ACCESSING THE DATA

Electricity metering is generally widely implemented and data, technically speaking, easier available than for example for gas. In best case they are available for all SME with standard 15 minutes resolution; in worst case they are available only as a monthly data. Automatic Gas meter reading is implemented mostly for the biggest SMEs. In that case data are available on daily or one hour interval. Due to more expensive meters, smaller SMEs are not metered in that way and data is available only in the monthly interval.

LEGAL RIGHTS TO ACCESS AND ANALYSE DATA

Another question is how ESMO can get access to those data from the meter directly or in some databases. There are a number of options. Each of them has some advantages and handicaps. Options two and three are currently the ones most

promising due to existing relationships between the two entities.

1-ESMO – SME

Most straightforward way is that ESMO asks the SMEs. SME may demand from the meter reading company that they share data with ESMO. This way demands personal approach, since it is question of trust to allow somebody to deal with energy data, which could be a business secret.

2-ESMO – Chamber – SME

A different approach can be via SME associations such as the Chambers of Commerce or others who offer help to their members through energy consulting. In that way chamber asks members for permission to collect their energy data. This way is not demanding for ESMO, but the success could be lower since it depends heavily on relation chamber – members and demands SMEs action (allowing accessing the data).

3-ESMO – energy data owner – SME

ESMO could also cooperate with an entity that already provide some kind of services to SMEs and has access to data. Most usually is this energy supplier, which is basically ESCO¹⁰ which provides at least one service – energy supply. In that case ESMO does not need to care about permissions since energy provider will take care for this. The problem here is that in that position ESMO is not independent anymore and it could be difficult to provide ESCOs independent service to SMEs. On the other hand it should be an energy supplier's interest to provide additional services to SMEs. This improves its image and properly managed improve clients loyalty. It is also good to better know the consumers habits, their attitude to energy consumption and in that way provide better and more custom oriented services. At this stage, however, due to the effort involved to provide energy efficiency services (many customers, small relative output per customer, same effort needed as for bigger customers) especially larger suppliers do not actively follow the option and opportunities in this target group¹¹. Following the energy service directive¹² the need for energy suppliers to increase their services to end customers is only one option, not implemented as mandatory in all Member States of the European Union.

Information Asymmetry

A SHORT DISCUSSION ABOUT AVAILABILITY OF ENERGY CONSUMPTION DATA

Energy data is the key ingredient in implementing the EFFI approach, and we have sketched out above that the ownership of data is crucial. In Slovenia, energy suppliers charge high monthly fees if customers want to receive, or allow a third party such as the ESMO to use that data¹³. With view to the general

benefits that availability of data would have, we can compare the case to earlier successful cases of environmental data.

History of political and legislative debate on making pollution data publicly available developed from the needs of decision-makers and the public to be able to make informed decisions (i.e. on legislation, on drafting policy on buying property) regarding mainly visible pollution – air and water emissions were thus the first emissions regulated. It also created first demand regarding the pollution data through development of national air and water quality monitoring networks. Many political and social struggles were then fought to make polluters report their pollution data available to the authorities. Second wave of struggle was to make this individually reported data available to the public. Due obvious reasons taking into account environmental check and balances.

In the field of environmental protection, nowadays a special agency can be asked for the so called “pollutant release and transfer registers/inventories”. These inventories are databases of individualized emission data per source. They are regularly published and are made public in proactive way, i.e. by use of internet¹⁴.

Many countries already have extensive systems in place for collecting and registering data on emissions, e.g. through operating (environmental) permits or monitoring systems that are regularly (annually or less frequent). Also through the European Emissions Trading Scheme, large production sites are included, and summary data is in principle available. When protocol on pollutant release and transfer registers was negotiated in the frame of the Aarhus convention, non-governmental representatives suggested to include also energy consumption data in such inventories. However, parties to the Convention (UN ECE countries and USA) were not supportive in the late 90s and early 2000s.

Looking at lists containing primary (and regulated) pollutants to air, water, soil, some also on waste transfers and traffic basically *no individualized data on energy consumption for SME* is publicly available¹⁵. An analysis will also find that SMEs are having less reporting obligations¹⁶ on pollutants. Especially energy consumption data per company are not part of such inventories. On the other hand, basically all countries do have comprehensive energy consumption statistics.

A first conclusion is that individualized data on energy consumption for SMEs is basically in hands of the energy providing companies, thus addressing the issue of their accessibility. This is also begging a set of questions on complex legal issues. Energy consumption data is part of the contractual relationship between energy provider and energy consumer, where electricity price and many other attributes are identified. We can assume the argument, that revealing or publishing such data might jeopardize energy provider future market capabilities and also its position. However this kind of argument was already addressed in the emission debate in the past. General answer or response was that it is of public interest to know the local emission sources and their quality, pointing out social,

10. As stated before, ESCO is defined here in the widest sense of the word, also due to the well known and widely discussed fact that there is no one accepted definition existing so far, despite efforts and slight improvements in the past years.

11. Own discussions with suppliers

12. Directive on the End use Energy Efficiency and Energy Services 2006/32/EC.

13. Refers to 15 minute resolution data in case of electricity.

14. See for example <http://www.eper.ec.europa.eu/> or <http://www.epa.gov/tri/>.

15. Adapted from UNECE [4].

16. Reporting needs! We are aware of the need to keep pollutants within limits does apply to SME.

health and environmental costs or benefits. However at this stage one could argue that the analogy with emission data is not entirely straightforward: energy consumption data is part of contractual relationship between two commercial or private parties (if we take SMEs). Thus such (private) relationship cannot be directly connected to the public interest¹⁷. Of course freedom of contract is one of the basic principles of the free market theory, where all agents are free to act in accordance with their capability to fulfil the contracts they freely step into. We could argue that this principle was relativised by social need for more affirmative action – thus going after public interests. Energy consumption data are indicator of the energy spent, that could be contributed to the various sources of energy. These have a different impact on our climate. It is of common understanding today, that fighting climate change or more precisely, anthropogenic global climate change, caused by excessive use of fossil fuels. Thus, safety of the public is a more important principle as a freedom of individual contract.

The liberalisation of the energy market, further development of the energy efficiency legislation and market responds by growing numbers of various energy service providers, are all contributing to further request for quality data as an entrance data for energy efficiency measures. The liberalisation of the market has now also reached the provision of measurement services, which brings new players to the market: the meter operators. These can be the energy suppliers, or third parties.

The contractual nature of the energy consumption is opening another dimension for understanding. A contract is by definition “an agreement that creates and defines obligations among the two or more parties”¹⁸, so the third party (energy service providers) can obtain the data only by agreement of one or both parties¹⁹. They also agree about the scope of the information exchange or even the process of their revealing. However all parties do not have the same set of information or knowledge about the data, influencing the agents behaviour.

Economic and rational choice theories were developed around this problem. Theory on information asymmetry claims that “decisions in transactions where one party has more or better information than the other are creating an imbalance of power. Such transactions might sometimes go awry”²⁰. This theory, reading it intuitively, is saying that energy providers as only market agent having overview about specific energy consumption of its customers are basically monopolists on such information/data.

By analogy, individualized data is not available to anybody but the energy provider, and such data to be collected is demanding from the collection agent individual contracting with all consumers. Thus the analogy with successful cases of obligatory publishing of emission data (see above) has been made. Having individualized emission data available per source the

information asymmetry is smaller and thus market positions of the agents more fair.

From energy efficiency (or climate change) point of view making individualized energy consumption data, owned by the energy providers publicly accessible would instigate further development of tailor-made energy services. It would also lower the acquisition costs for all parties:

- Services for grouping the SMEs regarding their industrial activity would be possible.
- Grouping of SMEs regarding their consumption value would deepen the pool of energy efficiency SMEs.
- Decision-makers would be capable to decide with more comprehensive and differentiated energy consumption data available.

Motivating supply side players – Stakeholder and ESCO motivation

We believe that a successful approach cannot stop with making acting easy for the SME. On the other side, the suppliers of energy and associated services are the ESCOs, but also financial institutions, Associations of SMEs, and essentially even the media. All of these need to be integrated and become part of the package. The project aims to establish a market with energy services in SMEs in limited volume, but with all key market players engaged and a high replication potential in other countries. The next step is to expand the communication /information services which are simple and trigger also non-investive, i.e. behavioural changes to those services or medium to complex offers from external providers. Nevertheless – they should be packaged simply and easy to apply for SME. Therefore the focus will be on pre-defined measures, and associated financial packages to fund implementation as a mid-term goal. The ESMO remains in the centre to organise market players, arrange partnerships, and connect supply and demand side.

Pilot implementation of the EFFI approach

DEMAND CREATION

From April to December 2008 (January 2009), a first implementation phase of the EFFI approach was launched in Slovenia regarding the above mentioned mass communication. Also in the other project countries Germany and Estonia, testing phases of EFFI were launched – which focussed on different aspects of the approach. Back to Slovenia: what was implemented was the mass communication of semi-automated mailings, together with the set up of a supporting website and the creation of a network of supporting partners (media, financial sector) as well as technical implementation partners (local energy supplier, compressed air reseller and maintenance provider).

Given the fact that data is a key ingredient – and that the data should be pushed to the target group rather than the target group being offered to fetch the information, the pilot was implemented in cooperation with the local electricity supplier. Based on their customer group, SME were selected. It was agreed that the range of SME should cover different types and sizes of SME. The energy cost range chosen therefore was 90 k

17. We thank Sylvia Rezesy for pointing out the problem.

18. <http://en.wikipedia.org/wiki/Contract>.

19. Here one can raise a question of the ownership of the data. Is it a provider or consumer or both. Arguments can be found for all three options – and it is one of the key issues for the future discussion. It opens also other issues like property rights, confidentiality clauses. We thank Sylvia Rezesy for pointing out the problem.

20. http://en.wikipedia.org/wiki/Information_asymmetry and http://en.wikipedia.org/wiki/The_Market_for_Lemons.

Useful information?

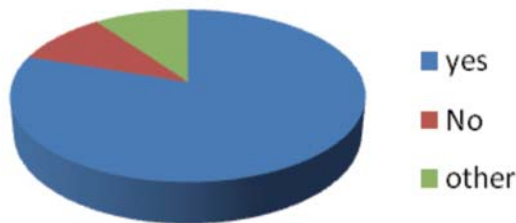


Figure 5.

– 300 k Euro total costs of electricity per year. In total almost 190 SME were in the sample. While the trial focussed on electricity – the next steps foresee the integration of further energy sources.

The mailings procedure was – simply put – such that through an energy management information system (EMIS), the energy data is collected from the energy supplier through remote data acquisition and is analysed in the EMIS. Top management of the SME is provided (in a first step monthly, later the frequency can be increased) reports containing key developments of energy consumption through personalised e-mails. During the trial, six e-mails were sent out to the selected customers. Content included information on the electricity consumption compared to the previous month, a comparison of consumption in one quarter of the year to the same quarter last year, or the previous quarter, the development with view to CO₂ emissions as well as peak power. The information is – unlike on bills including so-called informative bills - not provided as kWh, but as level of change (e.g. -10%, +5%) and explanations regarding this change. Through the EMIS, data is in principle available at all times, and the further development of trial results are moving into the direction of making use of this fact. And further using abilities offered through the technology to make the messages and the information contained therein smarter, more individualised to the end user without increasing efforts /work time on side of the information provider. EFFI is showing what – if used by utilities – informative billing could be.

Coming back to the trial – in parallel to the preparations for the mailing itself, which included the set-up of the data query and analysis in the EMIS, the creation of the report engine as well as design and layout of the mails, and pilot participants being invited to the trial phase by the utility, the supporting website was developed and implemented²¹. The website is aimed to be a hub, providing information, suggesting and supporting solutions for SME to find information: simple, to get started, as well as more complex ways to implement energy efficiency and set up to grow into an access point for energy service providers.

IMPLEMENTATION AND FEEDBACK

Feedback for the customers was possible in two ways: directly during the trial, telephone and e-mail feedback was possible, the contact data and names was part of each e-mail. The second option was provided through a feedback questionnaire at

the end of the trial in December. The questionnaire sent out in December included questions on usefulness, further needs and a view on potential cost for such services provided.

The response from the pilot participants reached 8% return rate and is within standard return rates. Out of 151 messages, 12 answers were received, including three feedback messages not directly answering to the questionnaire but providing separate feedback. With one exception, all feedback stated that the information provided was useful and the amount of information was good. All answers received stated that information about further energy sources would be of interest to them.

In terms of changes towards acting on energy efficiency a need of external support, or the perceived need for external support becomes apparent. All but one answer stated that some changes had been initiated through the mails. In addition to the answers, two more recipients are known to have used the information to initiate changes.

If we scale up the response we can see that only a massive and long-term approach will bring the level of attention on side of SME, prepare them and will allow them to react whenever their window of opportunity is open, easing the access by service providers if ready at hand. SME-by-SME approach will not give long-term results. It is too tedious, and will – given large reductions needed (EU legislation, climate change needs) not allow the proper results. SME are slow reactors. Simple services for many SME will bring better results than complex services in a limited number of SMEs. Only this small steps approach will give the SME a feeling of being able to cope with the challenges within their limitations and while focussing on their more apparent core business.

The trial was structured in such a way that the majority of recipients that responded, reacted positively. It is enough information to trigger some changes or initiative to start thinking about changes. The time interval of monthly information seems a good one. Also the “translation” of the data into useful information that can easily be understood is needed and appreciated.

Important issues for long term success will be

- continuity of the provision of the service.
- basic service to be free of charge to the end customer.
- provision of further advice and support when it comes to structuring and implementation of changes.
- low price level of the service.

SUPPLY SIDE MOTIVATION

On the supply side four supporting partners were interested and joined, participating of the development and the test implementation of the EFFI approach, providing access to data, technical support to SME, or their communication channels with SME. They were from four different sectors, representing thus all sectors seen as relevant to a successful wider application of the approach. We work with an:

- Energy Supplier.
- Financial institution.
- Service provider (compressed air).
- Media partner.

21. <http://www.ucinkovita.eu>, <http://effi.energetika.net>.

As the questionnaire result shows, these are also the key needs for further steps on the side of the SME.

Conclusions

Based on an energy management information system (EMIS), the energy data is collected from the energy supplier through remote data acquisition and analysed in the EMIS system. The management of the SME is provided monthly reports containing key developments of energy consumption through personalised e-mails.

The approach as discussed – focussing on the beginning phase of demand creation has created a response that can be stated as adequate. This response confirms the approach and makes the next step towards developing the pilot towards a full implementation. A massive approach will be followed; in order to reach SME and initiate long-term results. Simple services to many SME will bring better results. Energy related data of SMEs are crucial for success. Entering with more force into phases two and three is needed to extend the added value and customer benefits.

Next important step is to work on the issue of data acquisition through energy providers. Service results will be better with free data access. From energy efficiency (or climate change) point of view making individualized energy consumption data, owned by the energy providers publicly accessible would instigate further development of tailor-made energy services.

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