

## Chapter 3

# The Customer Side of Energy Saving Activities: Exploring Attitudes and Interests on the Karlshamn's Energy Market

Larsson, R. - Schönknecht, J. - Sweet, P. - Driver, M.

### 3.1 Executive Summary

*This chapter reports the results of the market investigation task for the KEES project. The initial focus on energy savings by industrial customers was pursued through expert and customer interviews. Learning from the past experiences of energy saving initiatives, we find that the framing of energy saving activities seem crucial for their implementation success or failure. Ten interviews with key industrial energy customers and energy suppliers in Karlshamn's municipality suggest that, the larger the energy consumer, the greater the importance of and efforts towards energy saving activities, the more help provided by the suppliers, and the more awareness and knowledge of the role that IT can play. Barriers are mainly viewed as cost-related - too expensive, too little savings, too long pay-off times.*

*To pursue the added household focus of this subproject, we launched an exploratory consumer survey, resulting in total sample of 101 respondents. The household customer data displayed (1) a very positive orientation towards energy saving activities; (2) moderate satisfaction with their energy supplier; (3) priorities in favor of low cost electricity, "green" energy, security equipment, and energy saving advice; (4) desire to have electric bills with mainly own use statistics, cost of present period, forecast for next period, and optional payment forms; (5) fairly little interest in being contacted by supplier; and (6) few energy saving ideas.*

*A first attempt at moving beyond the limited demographic segmentation findings was made by tentatively estimating the various Decision Styles of the respondents. This generated clear distinctions between more unifocus Hierarchic and especially Decisive positive and non-negative attitudes regarding energy saving activities versus more balanced multifocus attitudes. The multifocus Flexible and Integrative styles also desired more varied information and payment options on their electric bills compared to Hierarchics.*

## 3.2 Introduction

The purpose of the market investigation in the KEES project is to contribute knowledge about the customer side of energy saving activities in Karlshamn's municipality by studying various customer viewpoints and profiles in relation to the local energy suppliers and their marketing. The initial focus was on key industrial customers, but the first findings of this and other KEES tasks suggested that we should redirect our focus towards the households instead. While this change resulted in some difficulties and delays, we believe that this subproject now contributes to a more full (covering both industrial and household customers) and relevant understanding of the customer/market side of the KEES project.

## 3.3 Learning from Experience: The Framing of Energy Saving Activities

Based on mainly the experience of professor Björn Carlsson of Linköping TH, *the political side of implementing energy saving activities* seems to be a key factor for success or failure. That is, how energy saving activities are *framed* is crucial for their acceptance. For example, replacing nuclear energy is a sensitive issue when trying to involve Swedish corporations. It is also prudent to avoid presenting energy savings as so great and obvious that those responsible are blamed for not having implemented them earlier. Instead, energy saving activities need to be framed as fast and significant gains that can be achieved by pioneering and popular efforts (Table 3:1).

Expert experience suggests that:

- avoid politically sensitive issues like nuclear replacement
- avoid getting those responsible blamed for not having done the activities earlier
- present fast and substantial savings as pioneering and popular efforts

in order to increase implementation success of ESA

*Table 3:1. Learning from Experience: The Framing of Energy Saving Activities (ESA)*

### 3.3.1 Key Industrial Energy Customers and Suppliers in Karlshamn

We identified eight key industrial energy customers in Karlshamn: Mörrums Bruk, Karlshamns AB, Abu-Garcia, Karlshamns Bostäder AB, Karlshamns Kommun, Karlshamns Expressbyrå, Ifö Sanitär, and Halda Utvecklingscentrum. They were the customers of the three key energy suppliers Sydkraft, KEAB, and Hydro. Jennifer Schönknecht interviewed all of these except for Hydro.

Interview questions centered around what energy saving activities have been done and are planned by key customers, what are the barriers to

implementing these energy saving activities, and how can suppliers and IT help the implementation of them. The energy consumption of the customers varied from 285.000 to 800 MWh. They forecasted small changes in this consumption during the next few years, while their views of energy saving activities ranged from crucial to important.

*The greater their energy consumption, the more energy saving activities have been implemented, such as using waste water for distant heating, more effective processes (e.g., "varvtalsreglering"), re-used heating, isolation, lighting, and load management. The main barriers to the implementation of energy saving activities are clearly their high costs, low gains, and long pay-off periods.* The lists of already implemented activities are clearly longer than those of planned future energy saving activities, which seem mainly to be limited refinements of past efforts. While the largest customers are getting significant support from the suppliers, others are looking for some help from suppliers to improve their energy savings. These findings are summarized in Table 3:2.

So far the smaller key industrial customers mostly have had to pay for assistance from their energy suppliers. The barriers to supplier support are mainly viewed in terms of costs and the suppliers' relative inexperience in providing such service. The customers have almost no idea about what the suppliers are planning to offer in terms of future energy saving activities. Some report that they would like assistance in finding the best rates and improvement analyses/monitoring techniques.

Questions:	<u>Larger key customers</u>		<u>Smaller key custs.</u>
Importance of ESA	very high	<=>	high
Existing ESA	many advanced	<=>	few simple
Barriers to ESA	high cost, low gains, long pay-off		
Future ESA plans	smaller refinements of existing ESA		
Support from suppl.	substantial help	<=>	little help that cost
Future ESA offers	don't know		
Demands on suppliers	ok	<=>	need help
The role of IT for ESA	very important	<=>	don't know
Future IT support	clearly desired		

*Table 3:2. Key Industrial Energy Customer Findings on Energy Saving Activities*

Again, *the largest customers consider IT central to energy saving activities*. The smaller key customers are more uncertain and view the lack of IT knowledge as a barrier. They are also less inclined to plan for using IT to save energy and seem to want help from the suppliers in this area. *Even the larger customers seem to have a demand for cooperation with the suppliers regarding the IT side of energy savings*. Thus, the IT and energy connection can be a key area for energy suppliers to pursue together with especially their most valuable industrial customers and thereby generate valuable knowledge and services of relevance to the smaller industrial key customers.

### **3.3.2 The household energy market in Karlshamn**

#### **Adding an End-consumer Survey**

Given that at least the largest industrial energy customers were already quite advanced energy savers, it is more promising to look at the many smaller customers, such as household residences, for energy savings potential. This was also supported by findings of other subprojects, and the steering committee meeting in March therefore decided that we should redirect our focus towards the residential market.

We designing a consumer survey that was administered through the publication and website of Commersen, which is sent to every household in Karlshamn's municipality. The survey design involved pre-testing of decision style estimating features, suggestions from KEAB, and an energy idea contest to generate interest with 16 000 SEK in prizes. Unfortunately, there were only 21 responses, which was probably due to several circumstances such as short time, lack of interest and ideas regarding energy issues among the general population, lack of marketing and prominent display, questionable media, lack of reward for answering without any idea, and the competing local attention towards the opening of the science park Kreativum.

We therefore conducted a supplementary phone survey covering the same questions regarding energy saving attitudes, supplier satisfaction, interest in various future services related to energy, desired information on electric bills, and energy saving ideas. This also served as a non-response analysis of the first survey attempt, which had only been seen by less than 9% of the random phone sample. Furthermore, none of the phone respondents who had seen the first survey had responded to it, mostly due to lack of interest. Hence, the two main reasons for the low response rate of the first survey attempt seemed to be that very few noticed it and the few who did were sufficiently uninterested to not respond.

However, the phone survey generated a much higher response rate. Out of the total 230 telephone calls made to random numbers in the Karlshamn directory, 111 answered in person (48%, not including answering machines) and out of these, 80 agreed to answer the questions (i.e., 35% of the calls made and 72% of answered calls, of which 15 refused due to lack of time or interest and 16 were deemed unsuitable due to lack of understanding from hearing problems, age, etc.). While many of the questions had strikingly

similar results (see the Tables 3:3, 3:4, and 3:5 comparing the findings of the first "Commersen" survey and the phone survey findings), there were also several indications of higher interest levels in, for example, various desired information on the electric bill. It can be expected that the mere form of phone interviewing elicits higher espoused interests than mail surveys, so the high interest findings of the phone survey should be carefully interpreted due to possibly being methodologically inflated. At the same time, it is interesting to note the possibility for energy suppliers to make practical use of this possible methodological bias by interacting with household customers via the phone and thereby raise the customer interest in possible services.

The total sample consisted of mostly males (65 versus 36 females) and the phone survey subsample had an average age of 52 (ranging from 25 to 85), lived in their own houses (65 versus 15 living in apartments), and had an average of 2.7 household members. The total population of Karlshamn consists of approximately 14.000 households and 31.000 persons (i.e., an average of 2.2 household members) that are evenly distributed between men and women and have an average age of 42 years. Thus, it is a small exploratory sample of less than 1% of the total population with an overrepresentation of men and older persons with somewhat larger households. While no claims are made for the results being statistically generalizable to the whole population, the apparent sample bias seems reasonable in terms of relevant energy customers.

### Survey Findings

Basically, almost all of the 101 responses were quite positive towards energy saving activities. They considered energy questions being important for their households and that energy savings will save the environment and create resources for future generations without reducing living standards, hindering product development or causing unemployment (see Table 3:3).

Furthermore, they were interested in not only the lowest possible price (although this was their top priority), but also "green" energy, energy saving advice, load management, electric security equipment ("elsäkerhetsutrustning"), energy saving household appliances, and so forth.

<u>Questions:</u>	<u>First 21 respondents</u>	<u>Add. 80 phone resp.</u>
Importance of energy	high	high
ESA will:a) save the env.	High	high
b) reduce living standard	low	low
c) reduce household cost	moderate	moderate
d) hinder product devel.	Low	low
e) create future resources	high	moderate/high
f) create unemployment	low	low
Overall view of ESA	very positive	positive

*Table 3:3. Household Energy Market Findings on Energy Saving Activities*

Table 3:4 presents the average rankings of various future services. For example, the "2,0 by 95%" figures for first 21 respondents on the "lowest possible price" alternative mean that 95% of the respondents rated this as a future service that they are interested in and on average these 95% ranked it as the second most important future service. That is, the lower average rank the more important the future service. The relatively high "internet via power lines" ranking by the first 21 respondents can be explained by the fact that half of these responses were made via the internet on the website of

<u>Future services ranking:</u>	<u>First 21 responde</u>	<u>Add. 80 phone resp.</u>
lowest possible price	2,0 by 95 %	1,5 by 95 %
green energy	2,6 by 47 %	2,8 by 75 %
energy saving advice	2,8 by 47 %	3,6 by 74 %
internet via power lines	3,7 by 33 %	5,6 by 26 %
load management	3,8 by 67 %	4,2 by 60 %
energy security equipm.	3,9 by 57 %	3,5 by 79 %
energy saving appliances	4,4 by 57 %	4,1 by 69 %

"Commersen".

*Table 3:4. Household Energy Market Findings on Future Service Preferences*

There was a fairly wide spread regarding desired information on the electric bill, such as the cost for the actual period, estimates for future period, use statistics, and optional payment forms and periods. Table 3:5 shows the rather large differences in percentages between the initial "Commersen" survey and the supplementary phone survey regarding the bill information. The respondents were moderately satisfied with their present energy supplier. Approximately a third wanted to be contacted by their supplier.

<u>Bill information:</u>	<u>First 21 resp.</u>	<u>Add. 80 phone resp.</u>
use statistics	57 %	81 %
forecast for next period	43 %	61 %
the cost of present period	38 %	78 %
optional payment form	38 %	51 %
household specific advice	33 %	55 %
optional payment periods	29 %	51 %

*Table 3:5. Household Energy Market Findings on Electric Bill Information*

The energy saving ideas ranged from alternative energy sources and seasonal as well as age differentiated approaches to concrete technical suggestions and slogans (see Appendix for a list in Swedish). A jury consisting of members

from the KEES research group and steering committee selected the following price winning ideas:

1. An insightful poem about special energy problems of the growing segment of elderly consumers and how energy suppliers can cater special energy services to this so far largely neglected group in terms of energy services (by Karin Ulvesten);
2. An idea for a pedagogic "energy speedometer" that compares the present energy consumption of a household with the normal consumption and signals green when its below and red above (by Stefan Karlsson);
3. A suggestion to adapt the offering of various related energy services and products to seasonal variation, such as offering insulation materials in the fall and heat camera shots during the early winter (by Lars-Olof Larsson);
4. A short and meaningful slogan about energy and environmental savings to have a cleaner world (by Ingegerd Lendl);
5. A suggestion to pressure electric appliance producers to eliminate the present energy consumption of many appliances when they are turned off (by Otto Ottosson).

### 3.3 Decision Style Segmentation of the Respondents

Mass-marketing approaches have traditionally been built upon increasing sales volumes by increasing the number of exposures of advertisements. That is, companies have tried to increase their market shares by advertising more times to more people by using newspapers with greater circulation, radio programs with greater listening audiences, television programs with greater viewing audiences, and direct mailings to greater parts of the population.

However, sales performance can be seen as a function of both the number of exposures and the precision of which these exposures result in actual sales. For example, 10 000 exposures with 2% precision/hit rate result in 200 sales. The volume-based marketing approach suggests that these sales can be increased by, let's say doubling the number of exposures to 20 000, which would with the same precision result in sales also doubling to 400. This reasoning neglects "the dark side of rejected market offerings", though. If only 2% of the exposures result in actual sales, then 98% result in more or less conscious rejections. In our illustration above, this means that 9 800 rejected the first offering and by merely doubling the number of exposures, we have also doubled the rejections to a sizable 19 600. At some point, the mass-marketing companies will undermine its future markets with low-precision, high volume exposures that cause more frustration than actual sales (cf. Larsson & Passby, 1997).

Companies have thus increasingly begun to use segmentation to increase their marketing precision, that is, in some way tailoring market offering to different parts of the market. This segmentation has mainly been based on demographic differences, such as, gender, age, household size, income, profession, and nationality. While clearly being a step in the right direction towards high-precision marketing, demographic segmentation has seldom been able to substantially increase sales hit rates.

The present Karlshamn household sample can be partly analyzed in terms of a couple of demographic differences. The whole sample includes information about gender and the supplementary telephone survey includes additional information regarding age and living in houses versus apartments. Table 3:6 below shows how these demographic segments differ in terms of their responses to the questionnaire.

The greatest differences (more than 0,5 on the 5 point scale questions regarding energy savings and supplier satisfaction, more than 1,0 average ranking of future services, and more than 15% of desired bill information and supplier contact) have been marked with < or > in the table. As we can see there were quite few substantial demographic differences. Men wanted somewhat more information on their electric bills and especially optional payment forms, while women were somewhat more interested in green energy and electric security equipment. Men were slightly less satisfied with their energy suppliers and wanted also to be more contacted by them than women.

Younger respondents (less than 50 years old) believed that energy saving activities could reduce household costs to a somewhat greater extent and

wanted more bill information, while older respondents (50+) tended rank future services like load management and energy saving appliance offerings somewhat higher. Respondents living in their own houses felt that energy issues, including reducing household costs and wanting more bill information as well as to be contacted by their supplier. Those living in apartments had perhaps a more "idealistic" view of energy issues, where they considered energy saving activities would save the environment and were interested in future services like green energy.

In sum, these demographic findings were quite limited and unsurprising. Thus, we should attempt another basis for segmenting our way towards higher marketing precision.

*Table 3:6. Demographic Segmentation Comparisons*

### 3.3.1 A Decision Style Approach to Market Segmentation

The ISES research group found a more promising basis for high-precision marketing segmentation in Driver's Decision Style model of human information processing (Larsson & Baderschneider, 1997; Larsson, Driver & Sweet, 1998). The model and theoretical basis it is built upon addresses how individuals differ in terms of two dimensions: (1) the amount of *information use* (i.e., does the individual settle for using only small or moderate amounts of information – satisfice – or does s/he use as much information as possible – maximize); and (2) *solution focus* (i.e., does the person generate one single solution to a problem and stick to it over time – unifocus – or does s/he generate several different solutions that are all entertained and/or changed – multifocus). The combination of these two dimensions creates a matrix, shown in Figure 3:1 with five major types of Decision Styles – Decisive, Flexible, Hierarchic, Integrative, and Systemic (Driver, Brousseau & Hunsaker, 1993; Driver & Brousseau, 1997).

		Information use	
		Satisficer	Maximizer
Solution focus	Satisficer	<b>Decisive</b> Fast Action-oriented Efficient	<b>Hierarchic</b> analytic logical quality
	Multifocus	<b>Flexible</b> fast action-oriented adaptable	<b>Integrative</b> analytic exploratory creative
		<b>Systemic</b> analytic comprehensive prioritizing	

**Figure 3:1. Decision Style Matrix**

Individual differences in information processing can capture essential characteristics of customers as well as organizational members. By knowing the Decision Styles of customers, products can be developed to suit individual ways of processing information, and also be effectively marketed in a corresponding manner. Larsson, Driver and Sweet (1998) have summarized the ISES research findings of how this model can be used for effective customer style accommodation in the energy markets as follows.

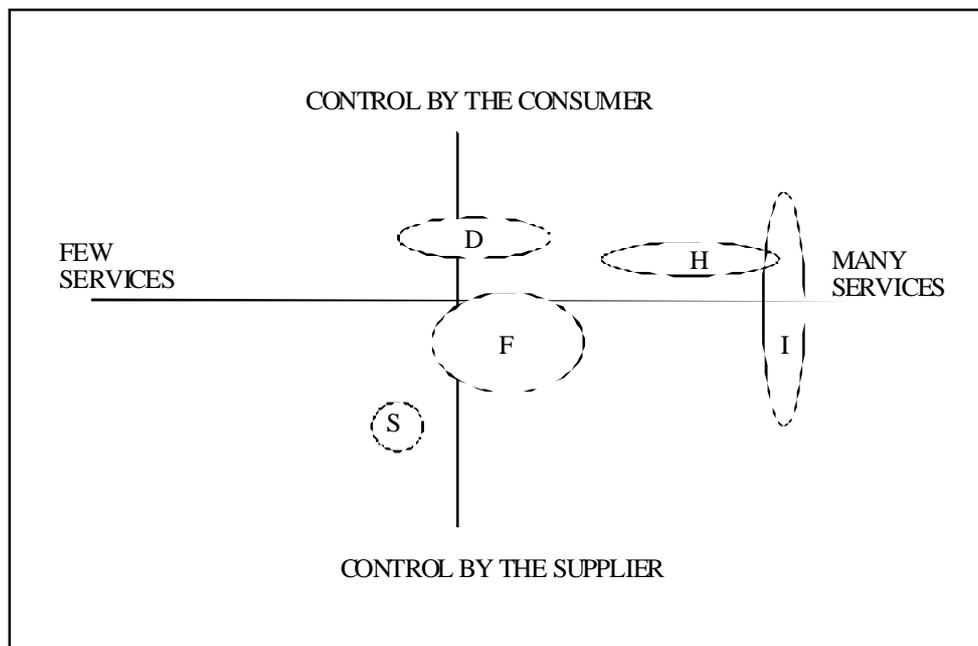
The Decision styles of energy customers influence their attitudes, communication and other behavior related to power use (Sweet, 1997; Passby, 1997). Larsson and Sweet (1996) outlined a basic high-precision marketing framework for how utilities can achieve mass-personalization through interactive marketing information systems. By using interacting interfaces, the customers themselves provide Decision Style indications that enable utilities to accommodate the ways in which customers process information thus increasing the likelihood of satisfaction and loyalty.

Decision Styles can be used to improve precision in marketing in at least four ways:

1. to determine what type of product or services to offer to differing styles;
2. to determine how to communicate offers in a style appropriate manner;
3. to determine what salesperson style will be the most effective for different customers;
4. to determine what salesperson style is most effective for different products given their information characteristics.

As an example of the first use, utility customer's Decision Styles were analyzed as well as their approach to selecting a electric utility service and their preferences concerning information content of their electric bill. Larsson and Passby (1997) present some preliminary findings how individual household customers differ in terms of electric power system preferences (such as how many new services they are interested in and if they want to control the services themselves or let the power supplier do it for them) depending on their Decision Styles (see Figure 3:2).

With regard to style impacts on the form of communication used, Driver and Cresse (1997) found that in an American sample only the high data oriented Hierarchic style wanted a large amount of varied information and advice on their bill. A similar study in Sweden confirmed this pattern in general. However, in Sweden the other high-information use style - Integrative, also showed interest in complex content of the bill. It appears that both the nature of the product and culture affect how style relates to preferred communication patterns. For instance, the multi-focus, complex Integrative style may not want information on what they see as non-critical issues, such as electric bills, in the U.S.; but in Sweden the relevance of energy issues may be more central and induce some Integrative customers to seek more information.



*Figure 3:2. Decision Style Differences in Energy Preferences*  
 (D = Decisive; F = Flexible; H = Hierarchic; I = Integrative; S = Systemic)

A similar type of matching process can be realized between sales people and their customers. Baderschneider (1996; 1998) studied the importance of Decision Style fit for customer-utility relationships in Germany and Sweden. Fifty-six customer relationships of seven power producer and distribution firms were analyzed in terms similarity of the Decision Styles of the firm representatives and the respective customer. Out of the 36 customer relationships, which were considered to be good, 84 % shared at least one of the two style dimensions use and focus. In contrast, the 19 problematic customer relationships were to 53 % characterized by so called "toxic" communication, that is, completely opposite Decision Styles. Thus, sales attempts to accommodate customer styles seem to have great promise. Current developments include "Sales Partner" software to facilitate estimation and accommodation of customer Decision Styles and "Sales Partnering" workshops for building better relationships with industrial customers (Larsson, Sweet & Baderschneider, 1997).

Finally, products are most effectively sold by a sales person with a style appropriate for the product. Brousseau (1987) found that maximizing Decision Styles were more successful in selling complex products. In contrast, a much simpler product required more satisficing styles. In all, Decision Styles were able to predict the studied sales persons' performance to a high degree of accuracy.

### **3.3.2 A Decision Style-based Design of the Karlshamn Household Questionnaire**

The regular way of measuring Decision Styles consists of answering two questionnaires with a total of 105 questions. When dealing with customers and other "non-captive" populations, it is hardly possible to ask them to spend 30-60 minutes on answering for them irrelevant questions. Instead, customer style assessments need to be more unobtrusive through either personal observation or various systems that can capture style indications. One such system is consumer surveys that can be designed to not only generate answers to certain attitudinal questions, but also to capture how the respondents process information, such as the amount and focus of information that is processed (Larsson, Sweet & Baderschneider, 1997).

A first attempt at such a style-indicating questionnaire was done in this project. By using varying question designs, like some open-ended questions (where maximizers are likely to answer with more words), some ranking of optional alternatives (again where Integratives and Hierarchics are likely to rank more alternatives), some choosing an optional number of alternatives (where Flexibles and especially Integratives are likely to select more) and so forth, the way in which the respondents answer the different questions can indicate their respective Decision Styles.

The first design of this survey was tested with 54 students, of which 34 also answered the regular Decision Style questionnaires. In this way, we could test the validity of the style indications, which turned out rather satisfactory for a first attempt. Positive significant correlations were found for the Flexible and especially Hierarchic styles. One possible reason for the partial blurring of some of the styles is that no distinctions have so far been made between

role and operating Decision Styles even though this can be a highly relevant distinction. Nor did we attempt to identify the fifth Systemic style, since it is only assessed as an operating style.

Table 3:7 shows this first tentative Decision Style segmentation. Although the survey design, style indicating algorithms, and empirical data all need further improvements, there are some promising initial findings. In comparison with the demographic segmentation, the Decision Styles differentiated more clearly the various attitudes towards energy saving activities.

Questions:	Decisive	vs. Flexible	vs. Hierarchic	vs. Integrative
Importance of energy	4,1	4,1	4,2	3,7
ESA will: a) save the env.	4,4	3,7	3,6	4,0
b) reduce living standard	1,8	2,4	1,9	2,2
c) reduce household cost	3,7	2,5	3,2	2,9
d) hinder product devel.	2,2	2,1	2,1	2,3
e) create future resources	4,4	3,5	3,7	3,6
f) create unemployment	2,1	2,2	2,1	2,1
Overall view of ESA	4,8	4,0	4,1	4,1
<u>Future services ranking:</u>				
lowest possible price	1,7 by 94%	1,6 by 96%	1,7 by 94%	1,4 by 98%
green energy	3,3 by 69%	3,1 by 68%	3,1 by 59%	2,0 by 83%
energy saving advice	3,1 by 94%	3,4 by 86%	3,6 by 72%	4,3 by 28%
internet via power lines	6,7 by 19%	4,6 by 39%	5,5 by 19%	4,9 by 32%
load management	3,7 by 62%	4,3 by 61%	3,8 by 91%	5,2 by 32%
energy security equipm.	3,8 by 75%	3,5 by 82%	3,5 by 75%	3,5 by 64%
energy saving appliances	3,8 by 75%	4,2 by 75%	4,4 by 62%	4,6 by 56%
<u>Bill information:</u>				
use statistics	88%	71%	75%	76%
forecast for next period	69%	86%	44%	36%
the cost of present period	75%	82%	72%	48%
optional payment form	56%	71%	31%	40%
household specific advice	81%	75%	22%	40%
optional payment periods	44%	71%	28%	44%
Satisfaction with energy sup.	3,6	3,2	3,3	3,6
Want to be contacted by sup.	31%	43%	28%	32%

*Table 3:7. Tentative Decision Style Segmentation*

Decisive consumers were more categorically positive (i.e., high scores on energy saving activities saving the environment, reducing household cost, and creating future resources) and non-negative (i.e., low scores on energy saving activities reducing living standards, hindering development, and causing unemployment), that is, black and white in their energy attitudes. They were paralleled by other unifocus Hierarchics with the second highest difference between high positive and low negative attitudes, while the Integratives and especially Flexibles were more balanced.

The ranking of future services showed that, while all were clearly most interested in as low energy prices as possible, the Integrative style ranked green energy higher than the others. The Integrative style also was the least interested style in energy saving advice and load management in contrast to the Decisive style that expressed higher interest in these two future services than the rest of the styles.

The desired bill information counter-intuitively indicated that the satisficers wanted more information than the maximizers. This could be in part due to the phone being the most used survey media and satisficers can give quick yes answers to many items that are orally enumerated. More according to theory, the multifocus and especially the Flexible style seemed to be interested in various payment options. Hierarchics wanted the least such options. Flexibles were also the most interested in being contacted by their energy supplier.

### 3.4 Practical Implications

Given the limitations of this exploratory market study of energy saving attitudes among Karlshamn customers, the following practical implications should be viewed as tentative. First, the implementation of energy saving activities is likely to benefit from being framed as popular pioneering efforts that will result in fast and substantial cost savings without placing blame on those responsible for not having done these efforts before.

Second, given that the largest industrial customers are already quite advanced in terms of energy saving activities, the main opportunity for energy suppliers in this area is to broaden their attention to the somewhat smaller industrial / business customers as well as households (see below). A key area for the energy suppliers is to develop IT applications for energy savings together with the largest industrial customers (which still demand new IT-based energy services), and then gradually diffuse the implementation of such IT energy services to other smaller business customers (which presently seem to lack knowledge about connections between IT and energy).

Third, the higher response rate and indications of greater interest among residential/household customers responding by phone suggest that the phone might offer the most effective means for energy suppliers to "energize" household customers towards new services.

Fourth, there seems to be a fairly strong potential for positive attitudes towards energy saving activities among household customers. Almost all respondents expressed favorable views of energy saving activities in general and their ability to save the environment and create resources for the future without decreasing the standard of living, hindering product development or causing unemployment.

Fifth, there seems also to be substantial household interest in various future energy services, albeit that the most demanded service still being energy at lowest possible cost. Many are quite interested in "green energy", energy saving appliances, energy saving advise, and electric security equipment, while some are interested in supplier controlled load management and other special energy services like internet via power lines, remote control of summer houses, burglar alarms and other warning systems. There is still no evident market pull for these services, but there are early indications of the potential to successfully introduce them.

Sixth, most household respondents wanted more information or payment options on their *electric bill* (on average 5 out of 12 items were selected). Most wanted statistics on usage and many wanted forecasted use for the next period as well as optional payment methods, periods, and alternative agreements.

Seventh, most household respondents were *moderately satisfied* with their energy supplier and only a third wanted to be contacted. This third seems slightly less satisfied than those who do not want to be contacted, so this can be an opportunity to increase customer satisfaction. Not wanting to be contacted may also reflect a general avoidance of 'sales calls' by most people

in general. More focused or targeted contacts addressing energy savings may actually be met with a positive response.

Eighth, *demographic segmentation* of the household sample generated largely rather obvious findings that younger/male home owners tend to be more interested in more information on their electric bills and want to be somewhat more contacted by their energy supplier than older/female persons living in apartments. Homeowners use more energy and thus we would expect them to express more interest in these questions, as the demographic segmentation indicates.

Ninth, our use of the Decision Style model for more useful and precise household customer segmentation (than demographic segmentation) offered preliminarily promising findings. *Decisive* customers were the most positive toward energy saving activities, even to the counter-intuitive extent that they expressed desire for more information on the bill, load management and advice. We interpret these indications as the decisive style seeking information, assistance and advice toward a *bottom line* result of improved energy efficiency.

*Flexible* customers were the most balanced style in terms of seeing both positives and negatives with energy saving activities. They wanted more varied information on their electric bill and were the ones who most clearly preferred payment *options*. Flexibles were actually by a small margin the least satisfied with their energy suppliers and the most interested in being contacted by the suppliers.

*Hierarchic* customers were the least interested in different payment options and in being contacted by their energy supplier. Hierarchic & Integrative customers were surprisingly less interested in obtaining more bill information than Decisives and Flexibles. We interpret this as more of a caution against supplying Flexible and Decisive customers with massive amounts of information, as these styles may have responded more positively to phone/personal inquiry than Hierarchic & Integrative styles responded.

*Integratives* were also predictably the most interested in "green energy" though they were least interested in load management. Load management is a 'singular' concept in the way that we phrased the question. It is therefore not surprising that the Integrative style found it less appealing, while "green energy" by its nature implies "alternative options" which should appeal to the multi-focused Integrative style.

Finally, it should again be emphasized that these are only tentative conclusions based on a quite limited and exploratory study. However, these preliminary findings are sufficiently promising to warrant more extensive research as well as practical rethinking about the new business opportunities that energy saving activities, IT developments, and market attitudes seem to converge towards. Energy suppliers should be wary of writing-off these developments as inherently uninteresting to customers or they risk finding that their opportunities will instead become threats at the hands of more insightful competing suppliers.

### 3.5 References

- [1] Baderschneider, C. (1996) The Human Side of Marketing in a Deregulating Industry: The Impact of Decision Styles on the Quality of Customer Relationships. Masters Thesis. Lund University, Department of Business Administration.
- [2] Baaderschneider, C. (1998) Winning and Keeping Customers: A Decision Style View on key Account Selling in the Electric Utility Industry. Paper presented at DA/DSM 98 Europe Conference, London.
- [3] Brousseau, K. R. (1987) Profiling Sales Success. Decision Dynamics Corporation.
- [4] Driver, M.J. & Brousseau, K.R. (1997) Decision Styles in the Information Age. DA/DSM Proceedings 97 Europe (Amsterdam).
- [5] Driver, M.J., Brousseau, K.R. & Hunsaker, P.L. (1993) The Dynamic Decision Maker. San Francisco, CA: Jossey-Bass.
- [6] Driver, M.J. & Cresse, D.N. (1997) Customer Style Accommodating Electric Billing: A New Interactive Service for Utility Firms. DA/DSM Proceedings 97 Europe (Amsterdam).
- [7] Larsson, R. & Baderschneider, C. (1997) Market Interaction: A Decision Style Approach for Creating Customer Value through Business Information Systems. DA/DSM Proceedings 97 Europe (Amsterdam).
- [8] Larsson, R., Driver, M.J. & Sweet, P. (1998) Interactive Marketing and Organization Learning Dynamics: Implications of ISES Research for Energy Companies. In Ottosson, H., Akkermans & Ygge, F. (Eds.) The ISES Project: Information / Society / Energy / System. Malmö, Sweden: EnerSearch AB.
- [9] Larsson, R. & Passby, M. (1997) High-Precision Marketing through Customer Style accommodation: Utility Industry Applications. DA/DSM Proceedings 97 Europe (Amsterdam).
- [10] Larsson, R. & Sweet, P. (1996) Interactive Marketing Information Systems: Towards High-Precision Market Communication through Electronic Media. DA/DSM Proceedings 96 Europe (Vienna), vol. 1, 535-550.
- [11] Larsson, R., Sweet, P. & Baderschneider (1997) High-Precision Energy Marketing: Customer Style Accommodation through Sales Partnering and Interactive Market Learning. DA/DSM Proceedings 97 Europe (Amsterdam).
- [12] Passby, M. (1997) Developing IT-based Interactive Services for the Power Consumer. DA/DSM Proceedings 97 Europe (Amsterdam).

- [13] Sweet, P. (1997) Interactive Business Processes and High-Precision Market Development in the Power Industry. DA/DSM Proceedings 97 Europe (Amsterdam).