

2004

Evaluation of the DANISH ELECTRICITY SAVING TRUST



October 2004 report in Danish by Rambøll Management - Translated by Robin Worrall

Copenhagen, 18 October 2004

**Statement by the Board of the Danish Electricity Saving Trust
regarding the evaluation of the Danish Electricity Saving Trust by
Rambøll Management.**

Introduction and background

The Board of the Danish Electricity Saving Trust (hereinafter the "Trust") took the initiative to commission an independent evaluation of its activities that would lay the foundations for the Board's prioritisation of the Trust's future activities and success criteria. Simultaneously, the evaluation can naturally be included in the energy-action programme of the Danish Ministry of Transport and Energy for improved energy efficiency and energy savings.

To ensure the independence of the evaluation, the Board appointed a panel consisting of Senior Lecturer Hanne Foss Hansen, Professor Peter Neergaard, Managing Director Jens Bærentsen, and former Bank Director Knud Sørensen. The panel established the evaluation criteria and, following submission of tenders, appointed Rambøll Management as independent evaluators.

Rambøll Management carried out its evaluation between April and October 2004. Rambøll Management based its evaluation on a review of existing evaluations, documents, interviews with stakeholders, and quantitative research among consumers and those responsible for energy procurement in public sector organisations. On the basis of the report presented, the Board has the following comments.

The Board's observations on the evaluation

The evaluation shows that the Trust has achieved very large electricity savings, and that these savings have been obtained very effectively, both for consumers and in socio-economic terms. According to the evaluation, the reason for this success is that the Trust has developed a broad range of initiatives that have actively influenced both the supply and demand sides, in a so-called push-pull strategy. The evaluation shows that these initiatives have been significantly more effective than traditional subsidy schemes.

The Board is very pleased with the evaluation's thorough analysis, the comprehensive documentation and naturally the very positive results. The Board has a number of observations concerning the evaluation of

the Trust's overall strategy, economy and consumers, partnerships with other players, and recommendations.

Overall strategy

Underlying the Trust's push-pull strategy is the recognition that consumers decide their electricity consumption, including the purchase and use of electrically powered appliances and systems. The Board's view is that electricity-savings initiatives have to be based on the needs of consumers and the barriers to energy saving they experience. For this reason the Trust has consistently worked to make the purchase of energy-efficient equipment simple, safe and cost-effective. The Trust's hypothesis is that a significant proportion of consumers will act on financial and environmental grounds that are easy to grasp and implement. A limited understanding of one's own electricity consumption and patterns is another barrier that the Trust is attempting to overcome.

The evaluation also shows that the new types of electricity-saving initiatives taken by the Trust have been instrumental in influencing the choice of products, marketing and pricing, and that consumers have benefited from significant financial savings in addition to electricity savings. The Trust's ability to influence the market has been achieved by placing demands on manufacturers and distributors in tandem with partnerships and campaigns, price transparency, bulk purchasing and local agreements.

Economy and consumers

The evaluation documents that the initiatives had been very economical for both consumers and society, mostly as a result of the Trust's influence on the market. This has ensured that consumers have access to a wide range of energy-efficient appliances and lower prices. The evaluation documents that the activities have provided consumers with a financial benefit that is ten times greater than the electricity-saving charge levied on their electricity bill that finances the Trust.

Although the Trust is not perceived as a competitor or as a consumer pressure group, the Board's view is that the Trust, being financed by consumers, has a special responsibility to protect the interests of consumers. This also includes ensuring that good-quality and energy-efficient products are offered at competitive prices. According to the evaluation, the Trust's efforts to create market transparency on prices and conditions for the implementation of electricity savings have endowed the Trust with a reputation for great integrity amongst consumers, and this has made the Trust an attractive partner for manufacturers, distributors and retailers.

The reason that the Trust has been able to influence consumer purchases of electrically-powered appliances is that the Trust has chosen areas where problems and solutions were relatively standardised. This applies to private households and offices as well as educational institutions in the public sector. In these areas it was cost-effective to use general campaigns, 'self-help systems', and product and price summaries on the Internet. Simultaneously, the Trust's activities underpinned

the development of energy- and performance-efficient standard products.

Partnerships with other players

The Board is also aware that the evaluation only includes part of the results of the Trust's activities. This is because Rambøll Management decided to limit its evaluation to the Trust's twelve quantifiable activities. The effectiveness of activities, such as the Trust's 'A-club' and its website, on public-sector and private purchasing of appliances is also included.

The Board also emphasises that the excellent results presented in the evaluation report were achieved because all the activities took place in close collaboration with market players, and that it was specifically the Board's mobilisation of market players that explains the favourable results.

Part of the Trust's twelve quantifiable activities can also be attributed to the partnerships between the Trust and other electricity-saving players. The Trust was the key player in all the twelve activities and was the largest contributor both strategically and financially. Other players contributed about 20% of the funding in two of the campaigns, and additional players took a major role in two other campaigns. However, the influence of the two campaigns was such that they were only able to generate a modest part of the electricity savings achieved.

As part of its calculations on electricity savings, Rambøll Management estimated what the scenario would have been without the efforts of the Trust. Objectively, this was difficult to evaluate, but the Board is pleased that Rambøll Management undertook a sensitivity analysis as part of its evaluation. The conclusion of the calculation is that, even allowing for a somewhat pessimistic assessment of its activities, the Trust's target for annual electricity savings would still have been met. Conversely, a more positive development would lead to even greater annual savings.

Recommendations

One important part of the evaluation task involved proposals for a future strategy. Rambøll Management's recommendation is that the Trust should continue with its present strategy. This should include the strategic adjustment that the Trust has made over the past year, namely that subsidies are no longer the key initiative, but are supplemented by voluntary sector agreements and support for market maturing and the introduction of electricity-saving equipment. The evaluation shows that these new initiatives are more effective than subsidy schemes. The Board is very satisfied that Rambøll Management, having made the calculations and analyses, concludes that the Trust has opted for a very effective strategy for achieving electricity savings in the future.

The evaluation provides a sound basis for assessing the Trust's total efforts and for comparing the effectiveness of the previous efforts in the field. Simultaneously the evaluation is a useful input for the future development and prioritisation of the Trust's efforts. The evaluation report

contains many recommendations for the implementation of the Trust's existing strategy and action programme. First and foremost, the evaluation points out that the Trust faces one of its greatest challenges in the public sector, which has a great potential for electricity savings. However, the sector does not use its market strength to influence development and thus does not set a good example in terms of electricity savings. In the Board's view, the public sector is hampered by, amongst other things, a number of organisational barriers such as poorly demarcated areas of responsibility, uncoordinated purchasing, and the separation of investment and operational funding. The Board believes that the imminent structural reforms in the Danish public sector present an obvious opportunity to change the organisational frameworks, thereby promoting a more unified financial approach where operational and maintenance costs are taken into account along with capital expenditure in the shorter and longer term. These may achieve substantial electricity savings in the public sector.

At its meeting on 29 September 2004, the Board discussed the recommendations made in the report presented by Rambøll Management. In terms of its future work, the Board considered several of the recommendations to be very significant – in particular those regarding improvements to the websites and the implementation of a total advice concept. The Board will incorporate the recommendations as central elements when formulating the Trust's 2005 action programme.

Action programme for increased energy efficiency and energy savings

The Board views the evaluation as a very important foundation of the proposed action programme for increased energy efficiency and energy savings. The evaluation demonstrated that it is possible to achieve electricity savings in a financially efficient way for the benefit of consumers and society. The preconditions are that one remains aware of the real barriers to energy saving facing consumers and involves market players in binding partnerships on supply, price and quality. In the Board's opinion, the challenge is to determine how the targets, means and organisation of the total energy-savings effort are incorporated in the action programme.

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The Danish Electricity Saving Trust

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1. Summary

In this report, Rambøll Management, in cooperation with Rambøll Energy & Oil/Gas, presents an evaluation of all the activities of the Danish Electricity Saving Trust (hereinafter referred to as the "Trust").

Objective and method

The objective of the evaluation is to examine all activities of the Trust. The evaluation was carried out from April to September 2004 and is based on a study of existing evaluations, documents, and interviews with stakeholders, and quantitative studies among persons responsible for energy and procurement in public-sector organisations, and consumers.

The Trust in brief

Established in 1996, the Trust is led by a Board consisting of a Chairman and eight other members appointed by the Danish Ministry of Transport and Energy (from February 2005). The Trust has an annual budget of approximately Dkr 90m which is financed by an electricity savings charge of Dkr 0.006 per kWh. The day-to-day management of the Trust is performed by a secretariat consisting of six staff members. Furthermore, a number of tasks are outsourced to external consultants.

The Trust has met its objectives

The objective of the Trust is to promote electricity savings in dwellings and public institutions in accordance with socio-economic and environmental considerations. Moreover, an important objective has been to create increased competition in this field and develop new initiatives to ensure greater efficiency of the applied initiatives.

The evaluation shows that the Trust has met these objectives to a very great extent. The overall goal for the activities of the Trust was to achieve annual electricity savings of 750 to 800 GWh in 2007. The evaluation indicates that the annual electricity savings for 2007 can be estimated at approximately 1,000 GWh, which is 28% more than expected. Sensitivity analyses show that this may vary between approximately 700 GWh and approximately 1,350 GWh. Consequently, even if the most critical assumptions of the five main activities are assessed pessimistically, the objective of 750 to 800 GWh has almost been met. Conversely, a more positive development of the critical assumptions will result in even larger electricity savings.

In terms of fuel savings the results of the Trust also exceed the defined objectives. In 2007, the activities are expected to contribute to fuel savings of 6.4 PJ, which is far above the target of 2.7 PJ.

Objectives achieved in environmentally efficient way with socio-economic gains

The savings has been achieved very much in accordance with socio-economic and environmental considerations. Hence, the evaluation results prove that the total activities of the Trust have led to socio-economic gains. Furthermore the evaluation shows that in comparison with the results of traditional initiatives, these gains have been achieved in an enviro-economically efficient way. Thus, society has both improved the environment and saved costs.

Consumer gains delivered by electricity savings charge

The activities of the Trust are financed via the proceeds of an electricity savings charge of Dkr 0.006 per kWh levied on dwellings and the public sector. Seen from the consumer's point of view, the electricity savings charge has been used efficiently. Thus, the electricity savings are assessed at Dkr 7.8bn, or more than ten times the electricity savings charge collected.

Efficiency through initiatives that match the obstacles

The high efficiency has been achieved by applying strategies and initiatives that effectively address the primary obstacles to energy-efficient behaviour among consumers and public-sector organisations. As a politically, bureaucratically and commercially independent body, the Trust has succeeded in developing a comprehensive and efficient palette of initiatives. Firstly, it contains a number of initiatives based on supply, such as price lists, price pressure, invitations to tender, gearing of subsidies and voluntary agreements. To a great extent, these initiatives have influenced the availability of energy-efficient products as well as their price. Together with the legitimisation of the Trust in the eyes of the general public, these have to a large extent contributed to the high efficiency.

From subsidies to voluntary agreements

In recent years the Trust has changed its policy and increased the emphasis on: voluntary agreements with manufacturers and retailers of electrically-powered products, development and market maturing of electrically-powered products, and advisory programmes, which to a large extent make use of the technological possibilities of the Internet. The changed focus is appropriate in relation to future energy-savings potential. The energy efficiency of most products is by now substantial and consequently potential energy savings for the individual consumer are declining. But for society, considerable savings can still be made. From this point of view, it seems appropriate to work, to a larger extent, with voluntary agreements designed to phase out less energy-efficient products. The same applies to the development of energy-saving products.

New challenges facing the Trust ...

However, the change of policy also poses new challenges for the Trust. The use of voluntary agreements requires closer cooperation with the stakeholders of the Trust. The evaluation indicates that in sections of the stakeholder circle, there is a negative perception of the Trust as partner. Amongst other things, this stems from initiatives which were previously heavily focused on by the Trust – especially the focus on price. However, the first three voluntary agreements prove that the Trust is an attractive partner.

... making demands on the organisation

The change of policy and the subsequent use of an extremely wide-ranging palette of initiatives poses new challenges for the Trust in terms of resources and competences. Compared with a palette of initiatives primarily based on subsidies, the new and broader palette of initiatives is more demanding in terms of capacity. Therefore, the evaluator considers that the existing restrictions governing the size of the secretariat are inappropriate to the new challenges.

On the basis of the evaluation, the evaluator recommends that the Trust:

- develop a strategy and concepts for the use of websites
- focus more on branding and image measuring
- consider its strategic position in the entire energy-saving chain
- increase its focus on stakeholder management
- develop new objectives for efficiency
- analyse resource and competence requirements with a view to future challenges

2. Introduction

In this report, the results of the evaluation of the activities of the Trust are presented. The evaluation was conducted on behalf of the Trust by Rambøll Management in cooperation with Rambøll Energy & Oil/Gas in the period from April to September 2004.

The Board of the Trust appointed an independent evaluation committee to supervise the evaluation and wording of the recommendations. The members of the committee are: Senior Lecturer Hanne Foss Hansen, Professor Peter Neergaard, Managing Director Jens Bærentsen, and former Bank Director Knud Sørensen. In addition, two representatives of the Board of the Trust, Ken Zillmer and Steen Gede, together with the Trust secretariat, participated in the committee meetings.

2.1 Objectives and reasons for the evaluation

The objective of the evaluation is to analyse and assess all the activities of the Trust including its organisation. The scope of the evaluation is reactive as well as proactive. On the basis of current and completed activities, the evaluation will contribute to establishing an overall knowledge platform to prioritise and plan future activities.

The reason for instigating the present evaluation stems from the Trust's extensive change of policy in recent years in terms of initiatives and strategies being used. Therefore the Board considered it appropriate to commission an overall evaluation of the Trust's activities.

The Trust has carried out external evaluations of the initiatives and activities which have been implemented on an ongoing basis since the Trust was established in 1997. However, the present evaluation is the first to assess the overall activities of the Trust. For this reason, previous evaluations have been included as part of the background for the overall evaluation.

2.2 Evaluation questions

The evaluation will specifically answer the following questions:

- To what extent has the Trust managed to identify and confront the obstacles which consumers experience when acting in an energy-efficient way?
- To what extent has the Trust managed to influence the market for electrically-powered appliances to lower prices and increase the availability of energy-efficient products?
- To what extent has the Trust managed to develop and apply new efficient initiatives?
- Have consumers benefited from the electricity savings charge?
- Has the Trust implemented cost-efficient initiatives – measured by kWh saved per krone spent on initiatives?
- What socio-economic costs per kWh saved have Trust activities induced?
- How large a level of electricity savings has the Trust achieved?
- Have the activities of the Trust been successful compared with traditional initiatives?
- Is the Trust able to learn from campaigns in other fields?
- Has the Trust correctly prioritised areas and initiatives?

The evaluation's scope is the total work of the Trust, i.e. completed, actual and future activities.

2.3 Evaluation criteria

In order to assess the evaluation questions, the evaluator proposed that the criteria listed below should form the basis of the evaluation. These criteria were discussed with representatives of the evaluation panel, the Board and the secretariat.

Figure 2.1 Evaluation questions

Evaluation questions	Benchmark/criteria
Analysis, part 1: Initiatives and their use	
To what extent has the Trust managed to identify and confront the obstacles which consumers experience when acting in an energy-efficient way?	<ul style="list-style-type: none"> ▪ Match between obstacles identified in surveys and evaluations and a review of initiatives.
To what extent has the Trust managed to influence the market for electrically-powered appliances to lower the prices and increase the availability of energy-efficient products?	<ul style="list-style-type: none"> ▪ Development of offers and prices over time ▪ Development of offers and prices compared with those of other countries ▪ Assessment from trade representatives
To what extent has the Trust managed to develop and apply new efficient initiatives?	<ul style="list-style-type: none"> ▪ Number of new initiatives used over time ▪ Expert assessment of the innovative nature of the initiatives ▪ Assessment of the relative efficiency of the initiatives
Analysis, part 2: Economic assessment of the efforts of the Trust	
Have consumers benefited from the electricity savings charge?	<ul style="list-style-type: none"> ▪ Has the average household received a refund of its Dkr 0.006/ kWh by way of savings?
Has the Trust implemented cost-efficient measures – measured by per krone spent on initiatives?	<ul style="list-style-type: none"> ▪ Assessment of the relative efficiency of the initiatives ▪ Comparison with cost efficiency of other players ▪ Comparison with goals set for expected electricity saving of 750 to 800 GWh/year in year 10
What socio-economic costs per kWh saved have Trust activities induced?	<ul style="list-style-type: none"> ▪ Mapping ▪ Comparison with: CO₂ reductions in Energy 21 plan, traditional measures, and the former scheme for the conversion of electrically-heated dwellings
How large a level of electricity savings has the Trust achieved?	<ul style="list-style-type: none"> ▪ Objectives: Annual savings of 750 to 800 GWh in 2007
Benchmarking of Trust activities in terms of traditional initiatives	<ul style="list-style-type: none"> ▪ Assessment of the relative efficiency of the initiatives. ▪ Expert assessment
Gathering of experience compared with other public campaigns	<ul style="list-style-type: none"> ▪ Expert assessment of the potential of the measures in other fields

Figure 2.2 (cont.) Evaluation questions

Evaluation questions	Benchmark/criteria
Analysis, part 2: Economic assessment of the efforts of the Trust	
Has the Trust correctly prioritised areas and initiatives?	<ul style="list-style-type: none"> ▪ Match between obstacles identified in surveys and evaluations and a review of initiatives
Are the change of policy and the planned future activities appropriate?	<ul style="list-style-type: none"> ▪ New focus areas offer larger savings potential than the existing areas. ▪ New initiatives are perceived as legitimate by the players in the sector. ▪ New initiatives match the existing concept and organisational capacity

2.4 Reader's guidance

In this introductory section, the objectives of the evaluation, evaluation questions, and criteria are presented. The overall evaluation method is presented in section 3. Section 4 offers a brief review of the main results of the evaluation, whereas section 5 includes the recommendations concerning future activities of the Trust.

Section 6 is a short introduction to the Trust and its initiatives and activities.

The actual analysis of the results follows in sections 7 to 11. The analysis is divided into the current and completed activities (section 7), effectiveness (section 8), innovation and development (section 9), the organisation of the Trust (section 10), and change of policy and future activities (section 11).

3. Evaluation method

The methodology of the evaluation is based on a combination of qualitative and quantitative methods.

Document survey

The evaluation is based on existing documents. It primarily concerns the existing evaluations and analyses that have been produced on the activities of the Trust. Evaluations of campaigns implemented by other players in the field were also analysed.

Documents prepared by the Trust are also important data sources. These include action programmes and documents on campaign planning. Furthermore, the evaluator has used an internal self-evaluation which the Trust compiled in 2004.

Qualitative in-depth interviews

Based on the analyses of existing documents, a vast number of qualitative in-depth interviews of stakeholders connected with the Trust were carried out. In all, 31 interviews with 27 organisations divided into the following categories, were carried out:

1. Manufacturers and product developers
2. Energy supply companies/consultants
3. Trade and procurement organisations

4. Cooperation with a consultant from the Trust
5. Other

To safeguard the anonymity of the persons interviewed, this report does not disclose their identities. In the report, references will be made to the stakeholder category – not to named organisations or persons.

In addition, the evaluator has interviewed the former Chairman of the Trust and had discussions and held meetings with the Trust on an ongoing basis.

Workshop with communication experts

A workshop was held for four communication experts who were experienced in influencing attitudes and behaviour via campaigns in the health, environmental and energy fields.

Survey involving consumers

Interviews with a representative selection of the Danish population aged 17 years and older were carried out using *Rambøll Standardbusurvey method*. The interviews were conducted over the telephone and typically took place on weekdays between 4 p.m. and 9 p.m.. The respondents were selected randomly from landline telephone directory databases.

The interviews took place between 7 and 10 June 2004. The random sample consisted of 995 persons.

The person interviewed was always the person in the household with the most recently-celebrated birthday. Interviews were never conducted with substitutes in the household. Up to six redials were allowed for each household.

Demographic post-stratification was performed in connection with the data analysis.

Survey among persons responsible for energy/procurement

A questionnaire study was carried out among persons responsible for energy/procurement in national, county and local public-sector organisations.

The questionnaire study comprised a combination of Internet-based replies and telephone interviews. All respondents received a letter informing them of the purpose and procedure of the study together with a link to a website page containing the questionnaire.

Respondents who failed to complete the questionnaire within ten days were subsequently contacted with a view to conducting the interview over the telephone.

The random sample comprised 583 persons responsible for energy/procurement. Of these, 412 filled in the questionnaire. The response rate of 71% can be described as very satisfactory.

Register analyses

With a view to examining the efficiency of the work of the Trust, a number of impact analyses have been prepared on the basis of existing data.

4. Overall results of the evaluation

The overall conclusions of the evaluation are presented in this section. The conclusions are based on the analyses covered in sections 7, 8, 9, 10, and 11.

The Trust has achieved very significant electricity and fuel savings

When the anticipated effect of the most recent initiatives is included, the measurable activities of the Trust will result in accumulated savings of approximately 15,000 GWh over the total lifespan of the projects. In 2007, the annual savings are estimated at approximately 1,000 GWh. In the evaluator's view the results from the 12 measurable activities are a fair estimate of the total effectiveness of the Trust.

On one hand, the impact of implemented activities is not immediately measurable. On the other, some of the effects of the 12 measurable activities can be attributed to partnerships with other players. In the 12 activities that form the basis of the calculations, the Trust was clearly the most dominant player and the player that contributed most in terms of strategy and financing. However, according to the Trust, other players have contributed approximately 20% of the financing in the two campaigns (low energy light bulbs and A-rated appliances).

In two other campaigns (the Standby and the School campaign), other players have likewise played an important part. These two campaigns have, however, only generated very limited electricity savings. For this reason the evaluator believes the two situations have a neutral impact and that the calculated savings of approximately 1,000 GWh constitute a fair estimate of the total electricity savings in 2007.

In the remarks on the Electricity Saving Trust Bill, it is noted that a total of 750 to 800 GWh can be expected in the 10th year (2007) following the scheme's establishment. With an expected saving of 1,024 GWh in year 2007, the forecast electricity savings are between 28 and 36.5% more than expected.

Sensitivity analyses show that the figure may vary between approximately 700 GWh and approximately 1,350 GWh. Therefore, even if the most critical assumptions of the five main activities have been assessed pessimistically, the objective of 750 to 800 GWh has almost been met. Conversely, a more positive development of the critical assumptions will result in even larger electricity savings. On this basis, the evaluator estimates that the Trust has by and large met the electricity-savings target established under the legislation.

The same applies to fuel savings. The aim was that the activities should result in fuel savings of 2.7 PJ in 2007. However, the expected fuel savings of 6.4 PJ in 2007 clearly exceed the target set.

CO₂ reduction achieved in enviro-economically efficient way

In 2007, the electricity savings achieved will amount to a CO₂ reduction of approximately 777,000 tons. The reduction has been achieved through the use of effective initiatives. This assessment is based on a comparison with traditional initiatives.

The reference point for the Trust was Energy 21.¹ In Energy 21 the efficiency requirement in relation to CO₂ reduction was a maximum CO₂ shadow price of DKK 600 per ton.^{2,3}

By comparison, the Trust has managed to achieve an average CO₂ shadow price at Dkr 55 per ton, i.e. efficiency that is ten times greater than the maximum demand specified in Energy 21.

Compared with the results of the scheme on conversion of electrically-heated dwellings before the establishment of the Trust, the results are just as impressive. The goal set for the Trust required it to be twice as efficient as the previous scheme. With a price of Dkr 726 per ton, the former scheme had a CO₂ shadow price 13 times higher than the average CO₂ shadow price of the activities of the Trust.

The only traditional energy-saving initiative which is more efficient in reducing CO₂ emission is the use of standards for windows, gas boilers and circulation pumps. However, this initiative is outside the range at the disposal of the Trust.

Overall, the evaluator considers that the initiatives of the Trust are efficient compared with traditional initiatives.

Electricity savings have been socio-economically beneficial

Energy savings are achieved through activities requiring certain resources. These include resources which the Trust uses for its activities, for example subsidies and campaign material, but also resources which the target group itself uses for associated investments.

Electricity savings allow individual consumer and public institutions to save money. Nationally, money is saved as a result of a decreased demand for power stations for example.

Analyses prove that the financial value of the savings surpasses the cost of generating the savings. On average, the value of the savings which can be ascribed to the activities of the Trust amounts to Dkr 0.04 per kWh saved, equivalent to a total socio-economic gain of Dkr 338m. Saving electricity also means that society has saved money.

Very high return on consumer electricity savings charge

Society has saved resources by saving electricity. However, the question is whether individual consumer's finances have benefited from the savings. The Trust can be seen as a mutual fund, in which Dkr 0.006 per kWh of electricity consumption in dwellings and the public sector is invested. This electricity savings charge contributes a total budget of approximately Dkr 90m per year. During the eight years from 1997 to 2004, the Trust's budget amounted to approximately Dkr 0.72bn. The total user savings on current and completed projects amount to Dkr 7.8bn over the lifespan of the projects. This means that

¹ Energy 21 is a government plan from 1996 for a sustainable energy development in Denmark in an international context. See <http://www.ens.dk/graphics/publikationer/energipolitik/e21dk/energi21.pdf> for further details.

² The enviro-economic effect can be assessed by way of the so-called CO₂ shadow prices. The definition of CO₂ shadow price is the amount which society has to pay for saving one ton of CO₂. Thus, a negative CO₂ shadow price reflects that society saves money as well as CO₂.

³ Calculated on the basis of the classic method without including the net tax factor, the tax distortion loss or the positive effects of reduced SO₂ and NO_x emissions 33.

the return on the investment collected from electricity consumers amounts to more than ten times the investment. Based on the return achieved on the electricity savings charge, the evaluator's view is that to a large extent the average consumer has received value for money from his investment.

The Trust has employed cost-effective initiatives

The initiatives employed by the Trust are cost-effective. This becomes evident when comparing the initiative costs of the Trust (costs for saving one kWh or a CO₂ reduction of one ton) with the costs of the former conversion scheme (converting older dwellings to combined heat and power) before the establishment of the Trust.

In total, the Trust has spent Dkr 90 on initiatives per ton of CO₂ reduced. Under the old scheme, Dkr 419 had to be spent on initiatives to achieve the same effect.

The expectations of the Trust were that its investments had to be twice as efficient as the former scheme. With an average cost efficiency of 4.6 times as much, the Trust has clearly fulfilled expectations in respect of total cost-efficiency.

The evaluation shows that, when we look at the cost efficiency measured by initiative kroner spent per kWh saved, there is a relatively large variation between the different activities. The most efficient activity in terms of initiative kroner spent has been the 'Elsparreskinne' (auto power saver plug bank) at a cost of Dkr 0.3 per kWh saved. The Standby campaign has the lowest efficiency, showing a cost of Dkr 3.8 per kWh saved.

When we compare the initiative kroner spent per kWh saved of the current and completed activities on one hand and the planned activities on the other, it becomes clear that the planned activities on average have a slightly lower efficiency in terms of initiative kroner spent per kWh saved (Dkr 0.10 against 0.07). The result indicates that in future the Trust can be expected to make larger investments to save one kWh.

The Trust has influenced the market for electrically-powered appliances

The evaluation shows that the Trust has been able to influence the market. A permanent improvement in the availability of energy-efficient products such as A-labelled appliances and low energy light bulbs has taken place, just as prices have fallen as a result of the activities of the Trust.

In addition, when it comes to lighting solutions, there are indications that the activities of the Trust affect both prices and availability. However, these are only indications. A more valid evaluation requires that the trade and the Trust initiate more detailed surveys.

On the basis of the above results, the evaluator considers that, to a great extent, the Trust has managed to influence the market for electrically-powered appliances in several areas by way of lower prices and improved availability.

The Trust has managed to identify and confront the obstacles which consumers experience when acting in an energy-efficient way?

The Trust has managed to identify the most important obstacles in connection with energy-efficient action and has initiated and implemented measures that attempt to counter these obstacles. In particular, the work has been implemented along barrier-breaking lines: *simple, safe, cheap and visible*.

The analyses of the evaluation indicate that the Trust has been particularly successful in breaking down the price barrier for the benefit of private consumers. The major campaigns to promote the purchase of A-labelled domestic appliances and low energy light bulbs have contributed to a reduction in prices over the long term.

The evaluator estimates that for all intents and purposes the barriers that bring difficulties and uncertainties have been broken down. The publication of approved lists on websites has been an efficient instrument in breaking down these barriers. The same applies to the 'package deals', which were offered as part of the conversion of electrically-heated dwellings. Product development and marketing of the 'Elsparaskinne' (auto power saver plug bank) is an example of the fact that it has become easy and safe to act in an energy-efficient way. Finally, the increased product availability has contributed to breaking down barriers.

In recent years, the Trust has focused on breaking down the barrier relating to the relative invisibility of power consumption. Websites containing self-check functions have been used as a main initiative. Analyses show that it is important that such elements do not stand alone but are combined with other campaign activities in order to highlight them.

Overall, the evaluator finds that the Trust has managed to identify and confront the barriers which consumers experience when acting in an energy-efficient way.

The Trust has managed to develop and use new and efficient initiatives

The first seven years of the Trust have been characterised by innovation. In terms of initiatives, the Trust has undergone continual development and has been able to adapt its initiatives promptly to the needs and barriers that have been identified. Today, the initiatives used by the Trust constitute a wide range of traditional subsidies, clubs, procurement agreements, price overviews, websites, voluntary agreements, concept development and other measures.

The wide range of initiatives enables the Trust to work efficiently with both supply and demand issues. In the evaluator's view the Trust has contributed a high level of efficient innovation.

Gathering experience from other public campaigns

On the basis of a workshop with communication experts, the initiatives and strategies of the Trust were assessed compared with the experiences from public campaigns in other sectors. Firstly, this analysis shows that the Trust has established a wide and appropriate range of initiatives that are combined efficiently in the push-pull strategies applied.

Secondly, the analysis shows that the development of new initiatives, which directly affect behaviour, such as the 'Elsparaskinne' (auto power saver plug bank), are considered relatively innovative and extremely efficient, thereby making it possible, in campaign terms, to influence both attitude and behaviour simultaneously.

In the evaluator's opinion, the Trust has developed initiatives that could be used in other areas, for example in connection with capital-intensive investments in renovation and energy improvements, urban redevelopment and insulation.

Appropriate prioritisation of areas and initiatives

The analyses in the evaluation show that generally the Trust has appropriately prioritised areas and initiatives. Amongst other things, this evaluation is based on the fact that the Trust has been simultaneously innovative and cost-effective.

Another indicator in terms of appropriate prioritisation of areas and initiatives is the development of efficiency over time. If one looks at the cost-effectiveness measured as initiative kroner spent per kWh saved, the results show that planned initiatives are expected to be less efficient than current and completed initiatives. In the evaluator's view the decline in cost-effectiveness is due primarily to the fact that, from the start, the Trust focused on areas that were highly cost-effective. The evaluator does not interpret this as a sign of the Trust's inability to apply the most efficient strategies and initiatives systematically.

Amongst other things, the Trust has now discontinued the scheme to convert from electricity to gas, which was relatively inefficient in financial terms when measured both in terms of initiative kroner spent per kWh saved and socio-economic costs per kWh saved. The fact that the Trust relies less on the relatively financially-inefficient subsidies also confirms this evaluation. Finally, the results show that socio-economic effectiveness is rising.

The more qualitative data also support this conclusion. Firstly, independent communication experts judge that the initiatives applied have been efficient. Secondly, there is a good match between the analyses of barriers experienced by consumers and public-sector organisations and the initiatives applied. The Trust has been very focused on price, which is considered a major barrier to the use of more energy-efficient products.

Overall, the evaluator considers that the Trust has appropriately prioritised areas and initiatives.

Appropriate change of policy requires redefinition of partner relations and an evaluation of competences and resources?

On the basis of the data collected, an analysis has been prepared of the change of policy implemented by the Trust and the planned activities in connection with the 2004 action programme. The analysis shows that the change of policy is appropriate in relation to the obstacles and savings potential. Many electricity-consuming products are now extremely energy efficient. Therefore, the savings potential for the individual consumer has become so low that it often no longer makes sense to individual consumers to spend time and resources trying to locate the most energy-efficient products. By contrast, society is still able to make considerable savings, and these require another approach – as illustrated by the partly failed Standby campaign.

From this perspective, to a larger extent, it seems appropriate to work with voluntary agreements phasing out less energy-efficient products. The same applies to work developing energy-saving products.

The evaluator is convinced that the change of policy is appropriate. Simultaneously, however, the Trust will encounter new challenges. Firstly, an increase in the use of voluntary agreements requires stakeholder cooperation. To a considerable extent this is characterised by cooperation and dialogue. This is a partial shift compared with previous strategies where the Trust needed to use market mechanisms more aggressively in order to stimulate the reduction of prices required to increase consumer demand for the most energy-efficient products. The evaluation shows that this strategy has been very efficient and provided the Trust with an image as a strong and performance-oriented

organisation that can be an attractive partner. On the other hand, it has also created hostility in some industries and contributed to some stakeholders' taking a negative attitude to the Trust.

Consequently, as demonstrated by the first three voluntary agreements, the Trust will make an attractive partner compared with some industries. However, in relation to the sectors that were dissatisfied with the conduct of the Trust during the early years, it will be necessary to re-establish the partnership climate and trust required for constructive cooperation on voluntary agreements.

The increasing involvement in competence development constitutes another challenge to the Trust. The development and introduction of the 'Elsparneskinne' (auto power saver plug bank) has shown that the Trust is able to generate excellent ideas for new products and can play a central role in market maturing by endorsing the product and guaranteeing a minimum sales volume. Simultaneously, the 'Elsparneskinne' (auto power saver plug bank) ran into problems. Some of the products had to be withdrawn as they did not comply with current legislation. Subsequently, the Trust has increased its control procedures. To the extent that concept development will play a central role in the range of initiatives of the Trust, it will always be important for the Trust to ensure the quality of the developed concepts to preserve credibility among both manufacturers and consumers.

As detailed above, the change of policy means that there is an increase in the application of new initiatives. As the Trust continues to use existing initiatives such as subsidies, consultancy services, A-club etc., the total range of initiatives is more extensive today than previously. In addition to the increased range of initiatives, a great number of the new initiatives seem considerably more resource-intensive compared with those in the early years of the Trust, which primarily involved the administration of subsidies. As the Trust has been subject to restrictions as to the size of the secretariat, it has so far handled this issue by outsourcing the tasks to external consultants. This also includes project management and coordination tasks where the primary purchase has been resources and not competences in particular. In the evaluator's view the restrictions on the size of secretariat should be re-appraised in the light of the future resource-intensive range of initiatives.

5. Recommendations

The recommendations of the evaluation are presented in this section.

As described in the overall conclusions presented in section 4, the Trust has achieved a number of excellent results by way of electricity savings and the subsequent CO₂ reductions. These results have been achieved through the use of efficient initiatives.

Simultaneously, the evaluation shows that the Trust has been able to adjust its initiatives to meet current needs on an ongoing basis. From focusing primarily on the conversion of electrically-heated dwellings based on subsidies and preparation of framework agreements, the Trust has progressively adjusted its policy to include a wider range of initiatives including concept development, voluntary agreements and consultancy services. In the evaluator's view this change of policy mostly matches the main obstacles to fostering energy-saving behaviour among private consumers and public-sector organisations. On this basis, the evaluations do not give rise to recommendations for significant changes and reprioritisation. The strategic framework outlined in the 2004 action programme constitutes a solid work foundation for the years ahead. The following recommendations should therefore be perceived as suggestions in support of the policy that has already been established.

Recommendation 1: development of a strategy and concepts for the use of websites

The Trust increasingly employs websites as an initiative. The importance of this media will increase in relation to future plans for developing Internet-based self-help tools for advisory programmes. The evaluation has found that a total strategy concerning the use of websites is incomplete. As a result, today the websites appear haphazard and heterogeneous. A large number of the websites are well frequented, because they now contain relevant information; however, user-friendliness is relatively poor. For this reason, the evaluator suggests that the Trust develop a collective strategy for the use of websites. This strategy should take into account issues such as success criteria for the sites, accessibility, reason for visiting the sites, layout and design, user check, ongoing evaluation, etc.

Recommendation 2: branding and systematic image measurement

The Trust is increasingly using initiatives such as competence development and maturing, and voluntary agreements. To a great extent, the efficiency of these types of initiatives depends on consumer awareness of the Trust and its credibility. Thus, the Trust increasingly needs a powerful brand image. The evaluation shows that two out of three consumers are unaware of the Trust, which represents extensive unexploited awareness potential. For this reason, the evaluator recommends a strengthening of the overall branding of the Trust, the values and the quality guaranteed by the Trust when it endorses a product. As an extension of more general branding, the recognition and credibility of the Trust should be measured on an ongoing basis. In addition to ongoing efforts to unearth the need for general branding, these results could also be used to document the value of the Trust as a partner in connection with the voluntary agreements.

Recommendation 3: strategic choice for positioning the overall range of initiatives

So far, the activities of the Trust have been focused on stimulating behavioural changes through changed purchases and investments. Attempts to change habits and lifestyle have been somewhat less successful. Equally, no suggestions have been made for initiatives such as norms and taxes outside the

core area of the Trust. So far, the chosen strategy has been very efficient. In the years ahead it will still be possible to achieve energy savings by promoting the popularity of energy-efficient products, for example in the standby area. However, the evaluator estimates that the possibility of reducing electricity consumption through initiatives that primarily focus on the actual purchase situation is decreasing, as a large number of product groups have become extremely energy efficient in recent years. On this basis, the evaluator recommends that the Trust reassesses its role in the overall energy-saving chain.

The Trust should reflect on the image that it presents in relation to consumer behaviour without damaging the possibilities of the other initiatives. Equally, attitude-forming activities should also be assessed in relation to the 18 – 25-year-old age group. This group prioritises electricity savings less than other groups despite the fact the majority of the group (77%) is aware that they can save more. Finally, the Trust should consider the possibilities of influencing the use of conventional initiatives such as norms. The Trust has previously made suggestions in this area. Increased involvement in establishing norms is naturally in step with the increasing use of voluntary agreements.

Recommendation 4: increased focus on stakeholder management

The Trust is surrounded by a broad spectrum of stakeholders with interests that have not always coincided with those of the Trust. In line with the increasing use by the Trust of voluntary agreements that require active stakeholder participation, stakeholder management is becoming more and more significant. The evaluation reveals varying assessments of the existing cooperation. These have worked very well in connection with the office campaign and the voluntary agreements. In these situations, the partners were involved well in advance, and the Trust has been very receptive to good advice. Therefore, the Trust should evaluate the processes internally in these cases and assess how to exploit these experiences in the future.

The evaluation shows that some stakeholder groups have a negative perception of the Trust. Therefore, the Trust should find out how to establish a constructive cooperation with those members of the stakeholder group that have a negative perception of the work of the Trust. These initiatives should aim to expand the knowledge of the Trust's comprehensive palette of possibilities to design campaigns that create win-win situations for all players involved.

Recommendation 5: development of new objectives and indicators of efficiency

The steady change of policy has gradually enabled the Trust to discard the original focus areas. However, this has taken place without the Trust's having explicitly formulated new goals for efficiency. The evaluator therefore recommends that the Trust, in cooperation with the energy authorities, define new goals for: initiative kroner spent per kWh saved, socio-economic effectiveness and CO₂ shadow prices.

As an extension of this, the Trust should also draw up a number of new result and response indicators that will monitor its efforts more efficiently in relation to the public sector. The outcome in this area will first be apparent in the long term. Simultaneously, it is hard to monitor this effort because it is difficult to isolate the effect of this initiative from other initiatives. The evaluator therefore recommends that the Trust firstly define clear goals for this effort, and secondly establish a monitoring system which is capable of measuring the impact of the efforts within the public sector.

Recommendation 6: analysis of resource and competence needs in relation to the future strategy

Taking into account the small secretariat and considerable outsourcing, the organisational structure of the Trust has both obvious advantages in terms of flexibility, and also certain disadvantages. The extensive use of external consultants means that the overview of, and the interaction between, activities is limited to very few people. This makes the Trust vulnerable to absence and illness and there is also a risk of the accumulated know-how not being retained within the organisation. Simultaneously, there is a risk of burdening key employees to an extent that makes it difficult to follow up on all the initiatives launched. Furthermore, this means that external consultants handle important tasks at significantly higher costs, without any added value being created.

The change of policy of the Trust and the subsequent increased resource-intensive activities further highlights the disadvantages of the current organisation. Therefore, the evaluator recommends that the Trust initiates a comprehensive analysis of its resource and capacity needs. This analysis should focus on two issues: (1) where the individual tasks are best placed, including whether the Trust needs to expand the number of employees in the secretariat; and (2) which competencies the Trust needs in order to be able to take care of these tasks. The evaluation results indicate that there is a special need for a more thorough analysis of which competencies are needed to handle concept development and use of the Internet.

6. The Work of the Trust

This section provides a short introduction to the Trust, its objectives, organisation and strategy, types of initiatives and an overview and brief explanation of the most important current and completed activities.

6.1 The background and objective of the Trust

The Trust was founded in 1996.⁴ The Trust was established as part of the former government's energy action programme, 'Energi 21' (Energy 21), which aimed to reduce the CO₂ emission of the energy sector.⁵

Up until the establishment of the Trust, the electricity supply companies and the Danish Energy Agency had been the most important players in the energy-savings field. From the remarks on the bill, it appears that there was a need to deploy more resources in the energy-savings field in general. Simultaneously, the need to introduce new players to the area was identified. Firstly, a new player would create increased competition in the area, thereby ensuring greater efficiency of the applied resources. Secondly, there was a need to introduce players with a different incentive structure than that of the electricity supply companies. As suppliers of electricity, the electricity supply companies have a long-term incentive to avoid reducing electricity consumption.

The Trust also differs significantly from public-sector organisations which have so far been in charge of initiatives in the field. Compared with these organisations, the Trust enjoys a much higher degree of freedom and can much more easily employ more market-oriented initiatives, such as offers. Section 7 contains detailed analysis of the different players.

The clause dealing with the objectives of The Trust is as follows: The objective of the Trust is to promote electricity savings in electricity consumption in dwellings and public institutions in accordance with socio-economic and environmental considerations.

The law states that grants from the resources of the Trust can be made for: the development, marketing, procurement and utilisation of electricity-saving appliances and equipment.

6.2 The organisation and finances of the Trust

Board and secretariat

The Trust is headed by a Board consisting of a Chairman and eight other members appointed by the Danish Ministry of Transport and Energy (from February 2005). The Chairman and two members shall be independent of the other interests represented on the Board. The six other members shall represent supply companies, other commercial activities, consumers, municipalities and county authorities, and energy and environmental organisations.

The Board shall establish an independent secretariat. The Trust shall cover its administrative costs from its own budget. From the remarks on the bill covering the Trust, it appears that the Trust shall establish a small secretariat and that the Trust should delegate a number of operational tasks. At the moment, the secretariat consists of six employees including the head of the secretariat.

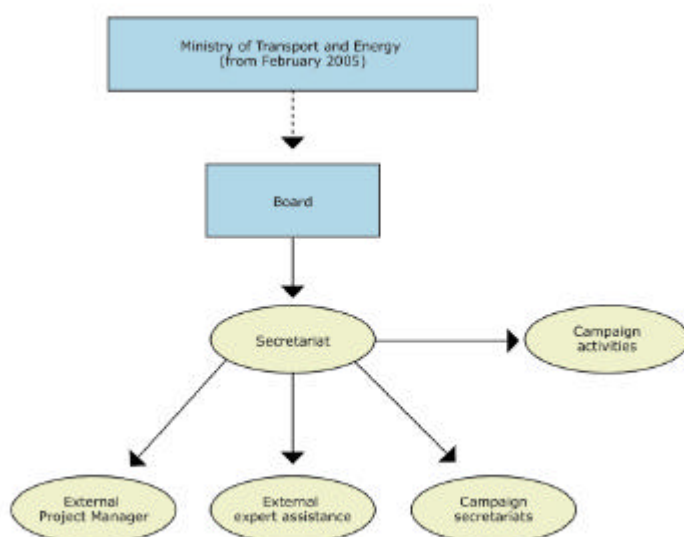
⁴ Act no. 1209 of 27 December 1996.

⁵ see remarks on the bill.

The limited size of the secretariat originates from the expectation that the Trust should focus on one major task: namely the conversion of electrically-heated buildings. This conversion scheme was expected to account for 90% of the Trust's funds.

The secretariat outsources a number of tasks to external consultants. These tasks can be divided into two types of assignment. One type consists of expert assistance with tasks of a very technical nature. General project management is another type of task which is outsourced. In this case, the outsourcing primarily takes place to control the core activities of the Trust. The outsourcing of these tasks is primarily a consequence of the restrictions governing the size of the secretariat.

In addition to the above tasks, the Trust has also outsourced the running of four external secretariats (secretariat for the A-club, the lightning secretariat, the subsidy secretariat for the lightning campaign, and the subsidy secretariat for district heating).



The finances of the Trust

The Trust receives a total annual income of Dkr 90m. This income derives from the proceeds of the special electricity savings charge of Dkr 0.006 per kWh, which is collected from households and the public sector.

As a consequence of campaign activities concerning special energy-efficient fridges/freezers, the subsidy has been increased by Dkr 10m in 2004 and 2005.

The major part of the Trust's funds is used for investment grants. In 2005, these will amount to approximately Dkr 65m. Dkr 30m is used for other activities, which primarily consist of:

- campaigns
- consultancy and information activities
- subsidy administration and quality control
- websites
- project management, etc.

The Trust outsources a major proportion of its work tasks. The annual overhead for external consultants involved in project management and co-ordination tasks amounts to approximately Dkr 4m

The total direct costs incurred by the secretariat amount to Dkr 6.2m, of which Dkr 3.4m is allocated to salaries and fees; Dkr 2.8m is used for running other areas of the secretariat.

Characteristics of the organisation of the Trust

The organisation of the Trust differs from the other players in the energy-savings field.

As opposed to *national authorities*, the Trust differs in various respects. Firstly, the Trust is controlled more independently than for example the Danish Energy Agency. The Trust has its own Board, thus shortening the time between decision-making and action-taking. Simultaneously, according to an agreement with the Board, employees of the secretariat take most of the operational decisions. Hence, the Trust can react promptly in terms of new demands and possibilities, for example, entering into new agreements with trade organisations. This independence also makes it more difficult for stakeholders to exert influence on the initiatives of the Trust through political channels.

The strategic goals also distinguish the Trust from a traditional national organisation. The Trust operates on the basis of a relatively clearly defined bottom line in the form of specific targets for electricity savings. In comparison, more traditional government organisations possess a more complex target hierarchy where correct and flawless administrative procedures constitute an important goal.

The fact that the bottom line of the Trust is relatively precisely defined allows the Trust more freedom than traditionally administered government organisations. Firstly, the Trust is able to take greater risks. To begin with, the success of the Trust is measured on the basis of the total savings achieved over a period of ten years. Therefore the Trust can test activities with an unknown effect.

In terms of competences, there are also obvious differences between the Trust and more traditional government organisations. The Trust has a very small permanent staff, which pursuant to the Electricity Saving Trust Bill cannot exceed six persons. Any requirement for extra competences is dealt with through contracts with external consultants. The advantage of this model is great flexibility because competences can be matched with the actual requirements. However, the disadvantage is that this solution is very expensive. Also, safeguarding sufficient coordination and know-how accumulation can be difficult.

Finally, attention can be drawn to the basic budgetary differences. The electricity savings charge of Dkr 0.06 per kWh paid by consumers finances most of the activities of the Trust, amounting to Dkr 90m per year. This provides the Trust with a relatively high degree of financial freedom compared with other government organisations which need to raise funds for each campaign.

Equally, the Trust operates differently in many key areas covering the distribution of electricity and supply companies. There is a huge difference in the strategic objectives of the organisations. The long-term strategic objectives of the electricity supply companies are to maximise their profit, which in the long term is the same as maximising the sale of electricity. Legal regulation is

the reason that electricity supply companies are engaged in electricity-saving activities. Conversely, the strategic objective of the Trust is to minimise power consumption.

The two types of player also differ in management terms. Electricity distributors and supply companies consist of many local and regional players. Centrally, the trade is represented by ELFOR (Danish Power Distribution), which supervises all national activities. The organisation of ELFOR consists of a committee, a Board of Directors, a management committee, three service committees and a secretariat. Compared with the Trust, ELFOR has a more complex organisational structure, which in most respects renders the organisation less flexible. Furthermore, ELFOR only has a budget of approximately Dkr 25m for activities at a central level.

6.3 Action areas and target groups of the Trust

Since the start of 1997, the initiatives of the Trust can be divided into three areas, which still apply today. These are:

- conversion from electric heating to more environmentally friendly energy, such as district heating, natural gas, etc.
- electrically-powered appliances such as white goods, TV, video, electronics etc.
- lighting, ventilation and public supply

The direct target groups of Trust initiatives are:

- households
- bulk consumers of electricity (public enterprises, organisations etc.)

Hence the private business sector is not included in the direct target groups of the Trust. However, the activities of the Trust provide the private business sector with a spin-off effect in terms of the information activities, but not subsidy schemes. In addition, the private business sector also benefits from the voluntary agreements which the Trust makes with manufacturers and trade organisations.

6.4 Strategy of the Trust

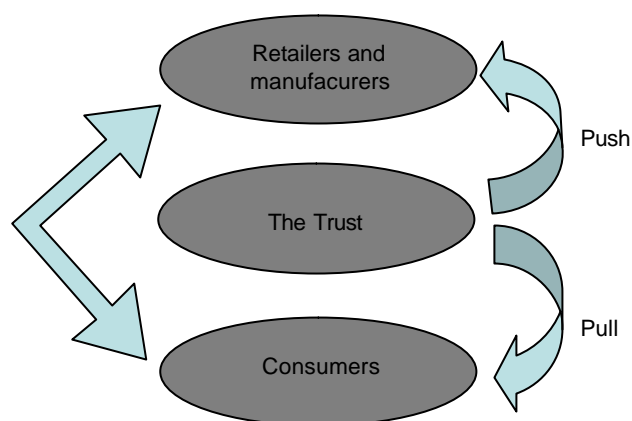
Since the establishment of the Trust in 1997, the Trust has worked with the various initiatives to ensure electricity savings in households and the public sector.

From the start, the general strategy of the Trust has built on the principles that it must be *simple, safe and cheap* for the two target groups to act in an energy-efficient way. Concurrent with the Trust's extending its area of action from only involving the conversion of electrically-heated dwellings to also encompassing electrically-powered appliances, lightning, and ventilation, the strategy has been supplemented with additional elements.

In connection with the conversion, the strategy was to gear the subsidies, i.e. by making the subsidies conditional on other players' also contributing to lower consumers' total conversion costs, for example by reducing the connection charges to the district heating network.

The *push-pull theory* became a new and significant element in the strategy of the Trust in connection with the increase of the area of action to include electrically-powered appliances as well. The key element of the theory is the involvement of the supply side while simultaneously influencing the consumer side.

Figure 6.1 Push-pull mechanism



The figure above illustrates how the Trust uses the push-pull theory. The Trust carries out activities attracting attention (such as the energy labelling of products) to increase the consumer demand for A-labelled products. This motivates the supply side to focus increasingly on A-labelled products. The so-called pull effect.

The push effect consists of encouraging manufacturers and distributors to increase the availability of energy-efficient products and/or lower the prices of these products. The incentive to the manufacturers is that the Trust contributes resources for marketing and public endorsement of the products which help create an increased demand.

In a new supply-side initiative, the Trust has recently started working on phasing out the most inefficient solutions by way of voluntary agreements.

The Trust acknowledges the fact that the greatest resources can be found in the market itself. Changes in Danish consumers' choice of electrically-powered equipment can shift market shares and orders running into billions between the different players on the market. Thus, to a great extent, the strategy of the Trust is to activate this market dynamic by utilising the individual players' attempts to achieve greater market shares and profits.

In 2003 the Trust broadened its focus to include the visibility of power consumption. The idea behind making the consumption pattern visible to the consumer is to identify the connection between behaviour, investments, consumption, and potential savings. The nature of information and contact to consumers is changing from direct advice and general information, with the emphasis now on communication via websites where the advice is based on consumers' specific situations.

The overall strategy of the Trust includes the following elements:

- It has to be simple, safe and cheap
- The push-pull mechanism

- Visibility
- The use of market dynamics.

By applying this strategy, the Trust wishes, as a non-commercial party, to play a decisive part in the development of the market by liaising between manufacturers, retailers, and consumers, and to promote openness and competition on the market for energy-efficient appliances and systems.

6.5 Types of initiative

The Trust uses a number of different initiatives in its work to promote electricity savings. In the terminology of the Trust, 'initiative' is a type of overall *approach* which may include a combination of different instruments. The primary initiatives are listed in the table below, which also specifies the different instruments that are generally used in connection with the initiative in question, and the general principles governing the use of the initiatives.

Table 6.1 Overview of the most significant initiatives of the Trust

Initiative	Instruments	General principles
Reducing the cost	<ul style="list-style-type: none"> ▪ Direct subsidy to private consumers. ▪ 'Listing fees'⁶ to retailers. ▪ Subsidies to public and other large-scale consumers. ▪ Framework supply-side agreements (e.g. plumbers). ▪ Complementary subsidies, waiving of connection fees etc. from other players ▪ Price pressure 	<ul style="list-style-type: none"> ▪ These instruments cover a fixed period ▪ Subsidies are primarily used to kick-start the market ▪ Subsidies from the Trust must be geared to supply-side contributions from market players. ▪ Push effect (influencing the supply side)
Information and campaigns	<ul style="list-style-type: none"> ▪ Marketing (e.g. mass communication) ▪ PR (production of articles) ▪ Websites, highlighting of elec. consumption, and benchmarking of key numbers ▪ Teaching aids and materials ▪ Free 'Incentive kits' – e.g. elec. meters ▪ 'Ambassador strategy' – retailers, installers, etc. acting as ambassadors in relation to customers (incl. training of sales staff) ▪ General facts and information 	<ul style="list-style-type: none"> ▪ Assist with positive launch of energy-efficient products on the market ▪ Close cooperation with manufacturers and retailers ▪ Not just information, but tied to initiatives offering the consumers actual advantages ▪ Pull effect (influencing the consumer side)

⁶ A listing fee is a form of incentive payment to retailers to market a wide range of quality low-priced light bulbs. The money is shared amongst companies that sell bulbs from the low energy light bulb list. Retailers receive the same percentage of the funding pool as their percentage sales' share of approved low energy light bulbs during the campaign period.

Table 6.1 (cont.) Overview of the most significant initiatives of the Trust

Initiative	Instruments	General principles
Market transparency	<ul style="list-style-type: none"> ▪ PR and marketing. ▪ Approved lists, price and product comparisons, websites (www.hvidevarepriser.dk, www.a-paere.dk, www.radio-tv.sparel.dk etc.) 	<ul style="list-style-type: none"> ▪ Exerting supply-side pressure in relation to prices and product availability (push effect) ▪ Help to reduce consumer barriers in relation to price and availability (pull effect)
Concept development and market maturing	<ul style="list-style-type: none"> ▪ The Trust funds development and offers the concept free to all interested manufacturers ▪ Product endorsement (Trust logo) ▪ ‘SparOmeter’ (SavOmeter) and the ‘Elspareskinne’ (auto power saver plug bank) ▪ Cooperation on bulk purchasing (A-club, SKI (State and Municipality Procurement Services)) 	<ul style="list-style-type: none"> ▪ Comprehensive range of new products on sale at very low prices
Voluntary agreements	<ul style="list-style-type: none"> ▪ Agreements on phasing out less efficient electrical equipment ▪ Marketing of energy-efficient products 	<ul style="list-style-type: none"> ▪ Intensive dialogue with manufacturers and any other players on the supply side ▪ ‘Give and take’
Advising and servicing large-scale consumers (public-sector organisations, offices etc.), procurement partnerships	<ul style="list-style-type: none"> ▪ Certified testing (ventilation). ▪ Websites (self-help systems, product and price overviews, remote advice) ▪ Cooperation on bulk purchasing (A club, SKI (State and Municipality Procurement Services)) 	<ul style="list-style-type: none"> ▪ Can be combined with other initiatives, e.g. subsidies

6.6 Overview of activities

The most significant campaigns and activities which have been implemented since the establishment of the Trust are briefly described in the table below. Apart from these activities, a number of communication activities were carried out. These were included in both the completed campaigns and constituted independent activities – this primarily applies to various websites and general marketing and PR activities.

Table 6.2 Overview of the most important activities of the Trust

Activity	Purpose and target group	Year	Type of initiative
White goods campaign	Increase market share for A-labelled fixed white goods; focus on fridges, freezers and tumble-dryers	1999	<ul style="list-style-type: none"> ▪ Information and campaign ▪ Price pressure and subsidies
Low energy light bulbs (two campaigns)	Increase the share of low energy light bulbs in private households	2000 2001	<ul style="list-style-type: none"> ▪ Information and campaign ▪ Price pressure and subsidies
The Standby campaign	Encouraging demand from private households for television, video and audio equipment featuring lower standby consumption, with spin-off effect on other electronic products	2001	<ul style="list-style-type: none"> ▪ Information and campaign ▪ Market maturing (electricity meter)
School campaign	Drawing attention to the standby problem among pupils in the 7th grade in primary and lower secondary schools	2001	<ul style="list-style-type: none"> ▪ Teaching aids and materials /information (incl. use of product developed)
'Elsparneskinne' (auto power saver plug bank)	To reduce unnecessary standby consumption from existing IT equipment connected to PCs in premises of large-scale users and in households	2003	<ul style="list-style-type: none"> ▪ Concept development
Conversion of electrically-heated dwellings	To influence owners of private dwellings, public and non-profit buildings, and housing associations to convert from electrical heating to either district heating or heating based on natural gas	Ongoing since 1997	<ul style="list-style-type: none"> ▪ Subsidies ▪ Market transparency combined with price/framework agreements
Lighting	To convert large-scale consumers of lighting systems to more efficient systems – primarily offices, schools and day-care centres	Ongoing since 2003	<ul style="list-style-type: none"> ▪ Subsidies ▪ Market transparency
Ventilation	To achieve electricity savings in ventilation installations in schools, day-care centres and offices	Ongoing since 2003 (Pilot project 2002)	<ul style="list-style-type: none"> ▪ Subsidies ▪ Consultancy ▪ Price pressure/framework agreements
The A-club	Electricity savings via voluntary procurement agreements for public and private institutions	Ongoing since 1999	<ul style="list-style-type: none"> ▪ Voluntary agreements (with users) ▪ Information

Table 6.2 (cont.) Overview of the most important activities of the Trust

Activity	Purpose and target group	Year	Type of initiative
Office campaign	To achieve electricity savings in public and private offices by focusing on electricity consumption and potential savings		<ul style="list-style-type: none"> ▪ Information and campaigns ▪ Voluntary agreements (including campaigns on lighting and ventilation)
Voluntary IT agreements	To phase out inefficient products	3 implemented in 2004	<ul style="list-style-type: none"> ▪ Voluntary agreements ▪ Information and campaigns
Pump campaign	To phase out inefficient products in private households and change to energy-saving pumps	Under preparation, launch imminent	<ul style="list-style-type: none"> ▪ Voluntary agreements ▪ Information and campaigns Market transparency
New white goods campaign	To increase the market share for household appliances with energy label A+ and A++	Initiated 2004	<ul style="list-style-type: none"> ▪ Information and campaigns ▪ Market transparency

7. Analysis of current and completed activities

This section analyses the activities of the Trust, including the individual activities, in terms of the following aspects:

- Identification of barriers and use of initiatives
- Evaluation of impact and efficiency of the Trust's activities
- Innovation and development

A four-step analysis is required to evaluate to what extent the Trust has identified and confronted barriers to acting in an energy-efficient way:

- 1) Firstly, to identify barriers to energy-efficient action in general/theoretical terms, next
- 2) to outline the barriers identified by the Trust, relate these to the general situation and to the barriers that consumers appear to encounter, and then
- 3) to ascertain whether the initiatives applied match the barriers identified, and finally
- 4) to analyse whether the match has created the expected results

Sections 7.1 to 7.4 deal with the four steps of the analysis.

7.1 Barriers

7.1.1

Theoretical description of barriers to energy-saving behaviour

According to the classic perception of barriers and initiatives in terms of electricity savings, one needs operational connections where the preconditions for action are knowledge and attitude.⁷

But action and behaviour are also defined by the context to which the individual belongs. The context is defined partly by the accumulated set of values and maxims which control our preferences and choices at the sub-conscious level, and partly by the physical and socio-economic frameworks, such as finances and practical options that influence actions by defining our room for manoeuvring.

On one hand, this means that one cannot expect a changed pattern of action, unless the target group is aware of the current situation and thinks that an alternative could be desirable. On the other hand, this also means that the room for manoeuvring is limited by a number of external factors. If, for example, it is very difficult to obtain energy-efficient products, this in itself may be a barrier that negates the best intentions.

Three levels of knowledge

In order for knowledge to influence attitudes and actions, a person or an organisation should possess three types of knowledge.⁸

1. Knowledge about energy consumption: An entirely decisive precondition and incentive for initiating savings measures is that the individual player has a knowledge of his or her energy consumption. It is impossible to make changes if one is unaware of the basic situation and does not appreciate that it could be different.

2. Knowledge about reason for consumption: It is not enough to realise that consumption is too high. It is also imperative to find the reason for the consumption, i.e. to be able to identify the routines and devices that cause the excessive consumption.

⁷ EFP project. Education as an energy-policy initiative, Rambøll 1996.

⁸ DTI 1997, Steger 1993, Wellford 1994.

3. Knowledge about alternatives: Finally, it is necessary to understand the alternatives to the situation referred to – i.e. instructions concerning specific actions and new behaviour.

The information effort should take into account that these three levels of knowledge are a precondition for the knowledge as initiative to have an effect.

Attitude and action

Even though information has made us aware of our energy consumption and the consequences, it is far from certain that our behaviour will be more energy-efficient. Attitudes and rationales work like a filter between knowledge and action. Therefore, action depends on whether we can sensibly convince ourselves to accept the consequence of our knowledge. A given action must make sense from the perspective of our rationales.

A positive attitude towards electricity savings is, however, not always enough. Most of the time, there is quite a gap between attitude and action. Our daily sub-conscious pattern of behaviour often involves this filter between attitude and action. Our everyday behaviour is not always oriented towards what seems most sensible from an energy-efficient and financial point of view. Our lifestyle in the form of values and preferences directly influences our actions irrespective of our attitudes towards electricity savings. This means that changes in energy behaviour that require a change of habits and routines may collide with our behaviour and lifestyle. This results in considerable inertia in terms of change. For example, it is not sufficient to know that standby consumption in a dwelling can easily be reduced by 20% in situations where the comfort or prestige represented by the existing consumption takes priority in a person's life.

Depending on lifestyle, a single activity for some groups may be easy and logical, while others will find the same activity illogical and demanding. The probability of one consumer's carrying out various initiatives depends on how the initiative corresponds with his or her lifestyle.⁹ In this respect, initiatives can be classified into three groups:

- 1. Changed purchase/investments:** Savings that are initiated through the purchase of efficient products or investments in improvements. Motivation could be either: a) savings underlining/drawing attention to values that are important for your other values; b) comfort improvements that promote a valued state; or c) savings that are financially beneficial and that do NOT mean big sacrifices in terms of habits. Under these circumstances, lifestyle may even work as a catalyst for energy-saving measures.
- 2. Changed habits:** Savings made within the existing lifestyle, but requiring information and continuous attention. These include the simple saving rules, such as turning of the light and defrosting food in the fridge. These measures may demand a certain amount of willpower, but they conform with core lifestyle values. This type of measure acts somewhat more slowly, because the lifestyle functions as a bottleneck, thus requiring a more lasting and action-oriented effort, for example, campaigns combined with advice.

⁹ Inspired by Oluf Danielsen 'Forbrugernes energihandlerum' fra Energiforbrug – livsstil og adfærd. Danmarks Energifremtid Miljø og Energiministeriet 1995. (Energy consumers' room for manoeuvring in terms of energy consumption – lifestyle and behaviour. Energy Future of Denmark, Ministry of Environment and Energy 1995).

- 3. Change of lifestyle:** Savings that conflict with natural lifestyle logic, for example avoiding the purchase of new appliances. This requires a fundamental separation of the values and preferences that unconsciously control your daily actions.

Categories 1 and 2 represent the measures where savings are most easily obtained.

Limitations in room for manoeuvring – supply, price and accessibility

Last but not least, our energy-saving behaviour is very much affected by our financial and practical situations, i.e. the factors that determine our room for manoeuvring. This means for example that energy-saving behaviour should be practically feasible and financially viable. In connection with the purchase of energy-efficient devices, it is very much the supply and price that define, or limit the room for manoeuvring. This is how commercial players gain great influence. If the supply is limited and difficult to access, i.e. only available in a few stores, the energy-saving appliances will de facto not be a component in the room for manoeuvring. As consumers we can naturally affect the supply with our demand; however this places great demands on willpower and information.

In summary, the barriers for electricity-savings may be categorised as follows:

Table 7.1 Barriers in terms of electricity savings

Barrier	Description
Lack of knowledge	Lack of knowledge about current situation (current consumption and consumption trend)
	Lack of knowledge about reason for consumption
	Lack of knowledge about alternatives
Contrary attitudes	Actions conflict with attitudes
Actions	Measures conform with habits and lifestyle, but are too expensive, difficult, uncertain or similar
	Measures conflict with habits, but not with lifestyle, requiring ongoing and sustained effort
	Measures conflict with lifestyle
Limited room for manoeuvring	Action made difficult by lack of information and poor accessibility, for example
	Action too expensive
	Limited offers/possibilities

Energy is low focus

Finally, the daily energy consumption is abstract or invisible to most consumers. We are, for example, not aware of the fact that behind the light in the bulb is a number of work processes and natural resources, and not many of us think about how the light entered the bulb. Our energy consumption imposes no other demands beyond the financial ones and only a few people save energy on the grounds of financial hardship. Energy consumption and hence savings in electricity consumption are therefore low focus.

7.2 The Trust's identification of barriers and consumers' experience of barriers

7.2.1

Barriers identified in private households

As a consequence of the above, the Trust has taken two decisive steps. Firstly, it has decided to shift resources from the low focus 'energy-savings' area into the high focus 'purchase' area where financial considerations rather than the environment are the decisive arguments. Thereafter, a decision has been taken to focus on measures directed at technologies or technical solutions, rather than on the underlying behaviour behind the use of various devices after they have been acquired.¹⁰ The Trust has concentrated on measures that conform with attitude, lifestyle, and habits, thereby avoiding the previous moralising about savings. It can be said that the Trust has chosen a modern approach based on the technical possibilities and the needs of modern families and organisations.

Secondly, there has been an attempt to make the consumer's choice less dependent on information, attitudes and lifestyle by working with the limitations in terms of room for manoeuvring. Through its work with the supply side, the Trust can introduce energy-efficient devices in attractive locations in shops and/or completely phase out inferior devices. This work stems from a market-oriented approach based on the push-pull theory.

Specifically, these choices have resulted in the following slogan for the activities of the Trust: it has to be simple, safe and cheap. The underlying assumption behind the slogan is that the most important barriers preventing the spread of the most efficient solutions are:

- It is difficult to buy the most energy-efficient products. It is difficult to find out what kind of products are efficient and the range is limited. Therefore, it is very important to involve the supply side to change the situation.
- Uncertainty about whether energy-efficient products have the same function or quality. Therefore, specific information and clear and reliable labelling is important.
- Price – energy-efficient products are (often) more expensive than the less expensive equivalents. Therefore, pressure on prices and price transparency are important factors.

In addition to barriers concerning price, supply and uncertainty, the Trust identifies the lack of knowledge and information about the technical possibilities (i.e. alternatives to the current situation) as a considerable barrier. This knowledge barrier also applies among those who could function naturally as ambassadors for the most energy-efficient solutions, for example distributors and retailers.

The Trust has therefore augmented its efforts to address the barriers with more long-term initiatives at the knowledge level in order to create the foundations for a gradual awareness that will lead to a change of habits. Examples are school campaigns and self-check facilities.

In summary, the barriers identified by the Trust can be grouped in the order set out in Table 6.1.

¹⁰ This, however, is not the case for the visibility of electricity consumption, school campaigns and self-check websites.

Table 7.2 Evaluator’s categorisation of the barriers identified

Barrier	Description	Specific definition of the barriers by the Trust
Lack of knowledge	Lack of knowledge about current situation	Lack of knowledge about consumption, and how its breakdown incl. benchmarking and consumption
	Lack of specific knowledge	Lack of knowledge about which appliances are used most
	Lack of knowledge about alternatives	Lack of knowledge about technical solutions
Contrary attitudes	Actions conflict with stated rationale	Interests, function and finances more important than electricity savings
Actions	1. Measures conform to habits and lifestyle	No back-up from distributors/retailers
	2. Measures conflict with habits, but not lifestyle	Organisational conditions in public institutions
	3. Measures conflict with lifestyle	
Limited room for manoeuvring	Action too difficult Action too expensive	Difficult, uncertain, lack of information Expensive, lack of price pressure and transparency
	Limited offers/possibilities	Limited availability

Barriers experienced by private consumers

In connection with the evaluation, the evaluator undertook a comprehensive survey of 1,000 randomly-selected consumers, with the intention, amongst other things, to determine whether the barriers addressed by the Trust conform to those experienced by consumers. This part of the survey shows that:

- previous information campaigns had an impact on consumers’ basic knowledge about energy consumption
- consumers believe that electricity savings are important, but that comfort is more important
- the 18 – 25-year-old generation gives less priority to electricity savings than other consumers
- easily the largest proportion of energy-efficient behaviour is not characterised by conscious actions, but rather by daily routines
- price is seen as the greatest barrier to purchasing energy-efficient products, but that 44% do not experience/perceive this as a barrier to purchasing energy-efficient products

This backs up the Trust’s ‘simple, safe and cheap’ slogan, as well as the focus on purchase/supply rather than on electricity savings pure and simple.

Additionally, this also supports the effort to encourage the purchase of the most energy-efficient devices irrespective of consumers’ particular choices.

The strategy, supplemented by an ongoing information campaign in support of the activities, is also important, partly because it is effective in the long term, and partly because there are indications of the need to maintain the basic knowledge in the field. In relation to this effort, the Trust should particularly

note that the youngest consumer group places less emphasis on electricity-saving activities. This could possibly also result in a review of the opinion-forming information efforts.

The detailed results are presented in the following section.

Consumer knowledge

Ordinary consumers have some knowledge about household electricity consumption – i.e. regarding the current situation, not in detail expressed in kWh per year for example, but in terms of relative size that can be understood. For example, 96% of respondents answer that they can save more on electricity than they do today.

Of these questioned, 61% believed that they could do more to save electricity. This applied particularly to 74% to 77% of those in the age groups 18 to 25, 16 to 34, and 36 to 45 years who believed they could save more money. These groups should be the primary target groups for an initiative.

However, the perception of what can be saved indicates that knowledge about energy consumption should be augmented in that 83% estimated the savings potential to be under 25%, which is clearly on the low side.

Likewise, consumers have a reasonable idea of the energy consumed by individual appliances, i.e. detailed knowledge about consumption. Consumers were asked to rank five appliances in order of how much electricity each one used. The results shown in Table 6.3 indicate that consumers generally have a reasonable understanding of the issues involved.

Table 7.3 Ranking of energy-consuming devices

Appliance	Consumer ranking	Actual ranking
Immersion heater (ca 850 kWh/year)	2.6	1
Tumble-dryer (421 kWh/year)	2.02	2
New dishwasher (352 kWh/year)	3.40	3
Cooker and oven (156 kWh/year)	2.94	4
TV/Video incl. standby (95 kWh/year)	4.09	5

Note: N=913 consumers. The following question was asked: "I will now name five things that use electricity and would like you to list them in order of consumption, starting with the appliance that uses most electricity?"

Despite the fact that electricity savings are a low-focus area, the research shows that information campaigns over many years have had an excellent impact. Consumers have a basic idea about saving electricity and which appliances use the most power.

Consumer attitudes

In attitude terms there is also a well-established basis for electricity savings, inasmuch that an overwhelming majority gives electricity savings high or a very high priority.

Table 7.4 Priority given to saving electricity

	Total %	18–25 years	26–34 years	35–45 years	46–55 years	56–65 years	over 65 years
Very high	19%	14%	15%	19%	18%	25%	19%
High	42%	34%	43%	43%	41%	49%	38%
Neither high or low	28%	34%	30%	28%	30%	19%	29%
Low	6%	14%	6%	7%	4%	4%	7%
Very low	4%	3%	6%	2%	6%	1%	4%
Don't know	1%	2%	0%	0%	1%	1%	3%

Note: N=995 consumers. The following question was asked: "What priority do you give to saving electricity?"

However, the 18 – 25-year-old age group gives electricity savings slightly lower priority than the other groups.

The reasons given by 56% of respondents for not saving more are attitude-related; saving rationale conflicts with, for example, comfort rationale (too difficult compared with return; prioritise comfort more, etc.; don't care; too expensive).

The reasons given by 58% of the respondents are behaviour-oriented (forgot; no possibility of actually doing something; I did everything possible).

Only 4% of the answers given are knowledge-related (I don't know how; our equipment is not suitable).

Table 7.5 Reasons for not saving more electricity

Reason	Percentage
Forgot/didn't think twice about it	41%
Too difficult compared with return	22%
I prioritise comfort/design/performance/cleanliness	23%
Don't care	8%
Don't know what I need to do	2%
Our equipment is not suitable	2%
Too expensive	3%
No possibility of actually doing something	7%
Other	9%
I do everything possible to save electricity	10%

Note: N=650 consumers who believed they could save more on electricity than they do today. The following question was asked: "What is the reason that you do not save more on electricity?"

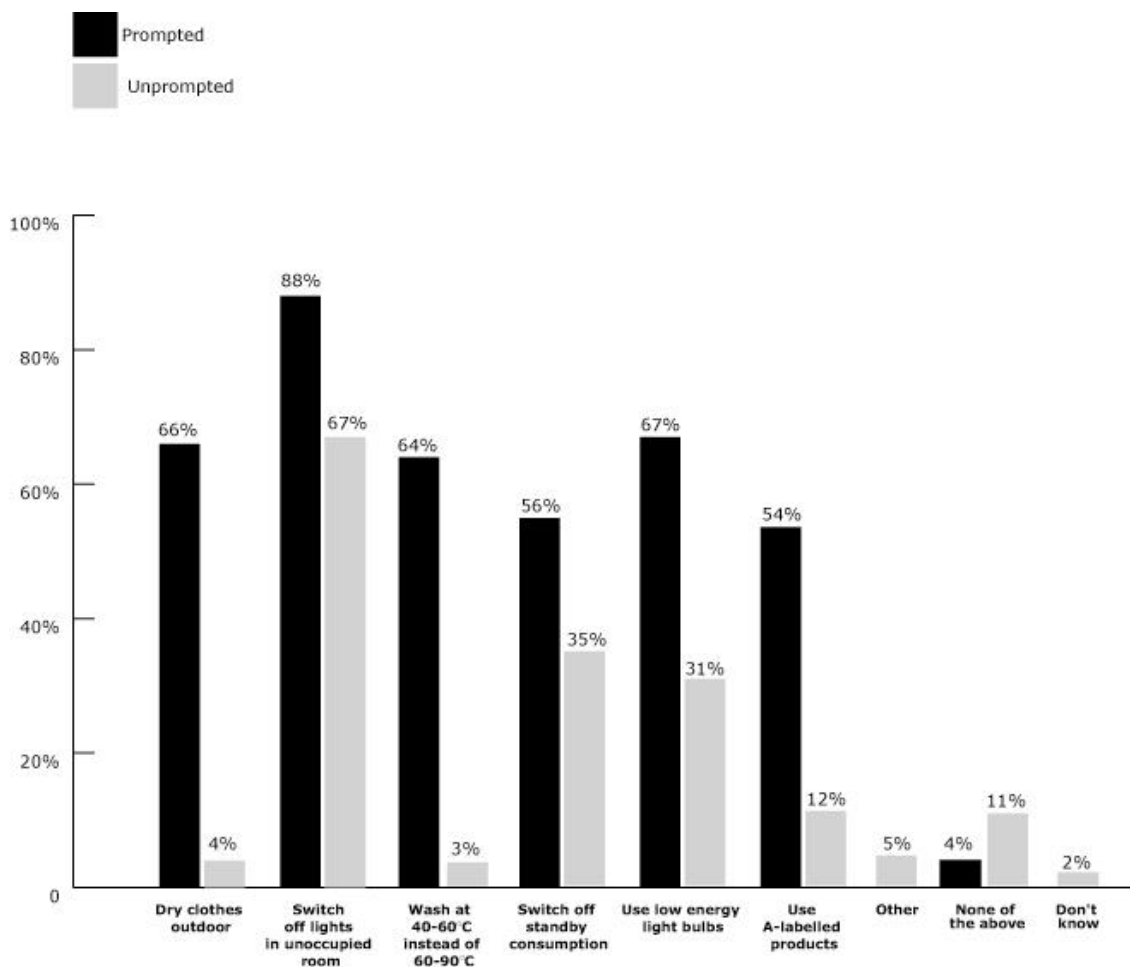
The price of energy-efficient appliances was identified as the barrier by most consumers (27%), but 44% answered “don’t know” to the question “What is the greatest barrier that prevents you buying energy-efficient appliances?” This indicates either that consumers purchase appliances they consider to be the most energy-efficient, or that energy efficiency is not a parameter in the purchasing situation.

Energy-saving behaviour

Consumers’ specific energy-saving behaviour was investigated as one element of the consumer research. As shown in the table below, the primary energy-saving activity was to turn off the lights in an unoccupied room.

The research also revealed that a number of energy-saving activities are now such an integrated part of fixed routines that they are no longer considered to be part of energy-efficient behaviour. When consumers are asked unprompted what they do to save energy only 3% and 4% respectively answer that they wash clothes at 40–60°C instead of 60–90°C and dry their clothes outdoors. When prompted, two-thirds of consumers said they did these things. This indicates that many behavioural patterns have become a part of our daily routines, and that it is possible to foster energy-efficient habits through information campaigns (both types of behaviour were part of the campaigns).

Figure 7.1 Consumers’ energy-saving behaviour (N=995 consumers)



7.2.2

Barriers identified in the public sector

In connection with the Trust's work targeted at the public sector (A-Club and office campaign), a new barrier has emerged in the form of the organisational structure of local authorities and public institutions.

Firstly, many public-sector organisations are characterised by a lack of operational incentives as a result of:

- box mentality – e.g. separation of capital and operating budgets
- investment and return factors not being considered in public sector financial management
- conflicts between centralised and decentralised decision-making competences

Secondly, the overview of the technical solutions is seldom in the hands of those that have the competence to take the financial decisions. The circumstances surrounding public sector target groups are the reason that even very financially advantageous incentives are ignored.

The Trust is addressing these barriers with targeted information to many parts of the organisation. Additionally, as a matter of principle, it delegates the political signing of the A-Club agreement to a single person or department with decision-making abilities.

To elucidate these barriers in greater depth, a survey was carried out of those responsible for energy and procurement functions in public-sector organisations. The survey results confirm the significance of these organisational barriers.

Knowledge, attitude and behaviour experienced by public-sector consumers

Those responsible for public-sector energy and procurement functions have a certain amount of basic knowledge about electricity consumption. Thus, 89% know the level of consumption at their work place, and 95% can identify the trend in consumption over the past couple of years.

This group of employees keeps up to date on the many developments that may reduce consumption. For example, 60% of them are aware of the possible subsidies available for light fittings, while 72% are aware of the office campaigns.

A high level of energy efficiency has a very varied priority in public-sector organisations. Thus, 59% of those questioned state that energy efficiency was an important or very important factor influencing their choice of electrical appliances.

However, 34% stated that this is relatively or completely unimportant. The reasons for this can primarily be categorised as 'organisational barriers' that the Trust has identified, for example:

- Has no influence
- Centralised purchasing of energy appliances
- No budget available
- Short-sighted financial thinking in connection with purchases – no particular emphasis placed by local authorities on being 'green'
- There are 'many' purchasers and no purchasing policy.

7.2.3 *Summary of barriers*

In summary, it can be concluded that the Trust takes a progressive approach to the barriers to energy-effective technologies, and that with this approach it has identified the most important obstacles for spreading these technologies.

7.3 **The Trust's work with barriers and initiatives**

Based on the aforementioned identification of barriers, the Trust has developed a palette of initiatives. This section sketches out and describes the initiatives used and assesses how they match the barriers identified.

7.3.1 *Initiatives used*

As previously described, the Trust operates on the basis of its slogan that it should be 'simple, safe and cheap' to act in an energy-efficient way. Additionally, the Trust has adopted a push-pull strategy¹¹ as a fundamental element of its work to promote electricity savings and counter the barriers identified – especially the fundamental obstacle to acting in an energy-efficient way: limited availability of energy-efficient products. These elements are supplemented with several other elements in keeping with the experiences gained by the Trust during the process. Thus, part of the Trust's strategy includes highlighting electricity consumption and the possibilities for making savings as well as 'activating' and utilising market dynamics. In general terms the Trust's overall strategy consists of the following elements:

- It should be simple, safe and cheap
- Push-pull mechanism
- Visibility
- Utilisation of market dynamics

In its work to promote electricity savings, the Trust uses a number of different initiatives to counter the identified barriers. In the terminology of the Trust, an 'initiative' is a type of overall *approach* which may include a combination of different instruments. The primary initiatives are listed in the table below, which also specifies the different instruments that are generally used in connection with the initiative in question, and the general principles governing the use of the initiatives.

Table 7.6 Overview of the most significant initiatives of the Trust

Initiative	Instruments	General principles
Reducing the cost	<ul style="list-style-type: none"> ▪ Direct subsidy to private consumers. ▪ 'Listing fees'¹² to retailers. ▪ Subsidies to public and other large-scale consumers. ▪ Framework supply-side agreements (e.g. plumbers). ▪ Complementary subsidies, waiving of connection fees etc. from other players ▪ Price pressure 	<ul style="list-style-type: none"> ▪ These instruments cover a fixed period ▪ Subsidies are primarily used to kick-start the market ▪ Subsidies from the Trust must be geared to supply-side contributions from market players. ▪ Push effect (influencing the supply side)

¹¹ See 6.1 Push-pull mechanism.

¹² A listing fee is a form of incentive payment to retailers to market a wide range of quality low-priced light bulbs. The money is shared amongst companies that sell bulbs from the low energy light bulb list. Retailers receive the same percentage of the funding pool as their percentage sales' share of approved low energy light bulbs during the campaign period.

Table 7.6 (cont.) Overview of the most significant initiatives of the Trust

Initiative	Instruments	General principles
Information and campaigns	<ul style="list-style-type: none"> ▪ Marketing (e.g. mass communication) ▪ PR (production of articles) ▪ Websites, highlighting of elec. consumption, and benchmarking of key numbers ▪ Teaching aids and materials ▪ Free 'Incentive kits' – e.g. elec. meters ▪ 'Ambassador strategy' – retailers, installers, etc. acting as ambassadors in relation to customers (incl. training of sales staff) ▪ General facts and information 	<ul style="list-style-type: none"> ▪ Assist with positive launch of energy-efficient products on the market ▪ Close cooperation with manufacturers and retailers ▪ Not just information, but tied to initiatives offering the consumers actual advantages ▪ Pull effect (influencing the consumer side)
Market transparency	<ul style="list-style-type: none"> ▪ PR and marketing. ▪ Approved lists, price and product comparisons, websites (www.hvidevarepriser.dk, www.a-paere.dk, www.radio-tv.sparel.dk etc.) 	<ul style="list-style-type: none"> ▪ Exerting supply -side pressure in relation to prices and product availability (push effect) ▪ Help to reduce consumer barriers in relation to price and availability (pull effect)
Concept development and market maturing	<ul style="list-style-type: none"> ▪ The Trust funds development and offers the concept free to all interested manufacturers. ▪ Product endorsement (Trust logo) ▪ 'SparOmeter' (SavOmeter) and the 'ElsparOmeter' (auto power saver plug bank) ▪ Cooperation on bulk purchasing (A-club, SKI (State and Municipality Procurement Services)) 	<ul style="list-style-type: none"> ▪ Comprehensive range of new products on sale at very low prices
Voluntary agreements	<ul style="list-style-type: none"> ▪ Agreements on phasing out less efficient electrical equipment ▪ Marketing of energy-efficient products 	<ul style="list-style-type: none"> ▪ Intensive dialogue with manufacturers and any other players on the supply side ▪ 'Give and take'
Advising and servicing large-scale consumers (public-sector organisations, offices etc.), procurement partnerships	<ul style="list-style-type: none"> ▪ Certified testing (ventilation). ▪ Websites (self-help systems, product and price overviews, remote advice) ▪ Cooperation on bulk purchasing (A club, SKI (State and Municipality Procurement Services)) 	<ul style="list-style-type: none"> ▪ Can be combined with other initiatives, e.g. subsidies

The present analysis of the initiatives used takes as its starting point the perception of the barriers and initiatives in relation to electricity savings, as presented in 6.1 and 6.2 above.

The completed activities were previously targeted towards private households, whereas current activities primarily focus on the public sector. This also means that initiatives used in the strategies have changed. Hitherto, the Trust's

efforts¹³ focused mostly on squeezing the price down and ‘kick-starting’ the market, but current activities¹⁴ focus more on visibility. Nonetheless, the overall slogan that it should be simple, safe and cheap to act in an energy-efficient way remains the basis for the initiatives taken by the Trust.

The larger campaign activities¹⁵ are all based on a push-pull strategy. This is a new approach within the field, including several non-traditional elements compared with the more traditional efforts using subsidy schemes. One of the new elements is to squeeze manufacturers and retailers on price, while simultaneously insisting on a better and more comprehensive range of energy-efficient products. Another element has involved cooperation with manufacturers and retailers on marketing and public endorsement of their energy-efficient products (push effect on the supply side). Hitherto, the Trust has tried to kick-start the market through the use of subsidies and information to consumers (pull effect on the consumer side) – in short, a push-pull mechanism.

Development of products and market maturing: ‘SparOmeter’ (SavOmeter) and ‘Elspareskinne’ (auto power saver plug bank) are also new elements in the initiative palette. The ‘Elspareskinne’ (auto power saver plug bank) is naturally a good example of a concept idea that makes it simple, safe and cheap for consumers to act in an energy-efficient way. The product is not only easy to use, but has been tested and is thus safe and cheap, particularly because the Trust funded the development of the product and made the design freely available to manufacturers.

7.3.2 Match between barriers and initiatives

The following table provides a general picture of how the different types of initiatives match the previously identified barriers.

Table 7.7 Barriers and initiatives

Barrier	Description of barriers identified	Initiatives/instruments used
Lack of knowledge		
	Lack of knowledge and information	Campaigns and information on websites: Mass communication, supplying meters, benchmarking/key numbers, information-sharing groups, general facts/information, ambassador strategy
Contrary attitudes		
	Interests, function and finances more important than electricity savings	Influence on purchasing and decision-making situation: Ambassador strategy, push-pull strategy

¹³ White goods campaign (1999); Low energy light bulb campaign (2000/2001); Standby campaign (2001); Automatic power saver (2003); School and SavOmeter campaigns (2002-2003).

¹⁴ Electric heating conversion; Lighting project; Ventilation project; A-Club; Office campaign (incl. consumption awareness); Websites (over and above campaign-specific Self-test and Lighting sides); plus marketing and PR (included in most of the activities).

¹⁵ Electric heating conversion; White goods; Low energy light bulbs; Standby; Lighting and Ventilation campaigns.

Table 7.7 (cont.) Barriers and initiatives

Barrier	Description of barriers identified	Initiatives/instruments used
Actions		
	No back-up from distributors/retailers	Information and campaigns: Dialogue, servicing supplier/retailer segment, educating shop staff, ambassador strategy, developing promotional material
	Organisational conditions in local/public-sector institutions	Highlighting electricity consumption, A-Club/procurement guidance/pilot projects
Limitations for action		
	Difficult to act in energy-efficient way	Information, market transparency and 'new' products: Websites/product groupings, approved lists, concept development/maturing, market launch, transparency
	Uncertainty surrounding energy-efficient products	Market transparency and concept development/maturing: Websites, approved lists, certified approval, recommendations, promotional material
	Prices of energy-efficient products	Conditional subsidies/listing fee, price pressure, supply, web-based price groupings, framework agreements, push-pull strategy
Not categorised		
	Electricity consumption is low-priority area	Information and campaigns: Focus on purchase and finance ahead of environment, mass communication, generally highlighting electricity consumption and specific appliances, tools and websites, trigger in form of subsidies or supply of meter/'SparOmeter' (SavOmeter)

As shown in the table above, the initiatives used by the Trust are well matched to the barriers identified. All the barriers identified are simultaneously and systematically addressed.

7.4 Effect of match between barriers and initiatives

It is one thing to identify the barriers, but dealing with them – and thus whether the initiatives used have had the required effect – is altogether a totally different matter. Evaluations, impact research, interviews, etc., can provide an indication. However, because initiatives are often used in packages, then it follows that evaluations must also be grouped in packages for each activity.

The conclusion is that, by and large, the initiatives taken have worked well.

This can be attributed mostly to the basic push-pull strategy used by the Trust. Traditional initiatives (e.g. subsidies and information) targeted at consumers and new initiatives (e.g. price pressure and involvement of ambassadors) targeted at the supply side have proved to be a necessary combination that has worked well. Furthermore, the use of traditional initiatives has further reinforced the effectiveness (e.g. kick-start via conditional subsidies and gearing of subsidies to encourage all parties to contribute). For the most part, the completed activities have confronted the barriers and produced results. Only one completed initiative (Standby campaign) failed to achieve the desired effect.

A possible reason in this case was that not enough supply-side demands were made in comparison with those made in connection with the other activities where the same combination of initiatives had been used to great effect and where supply-side demands were sufficiently strict.

Furthermore, local authority/public-sector inertia was greater than the Trust had anticipated, which meant that ongoing activities such as office campaigns started off somewhat more slowly than expected.

8. Effectiveness

This section describes and analyses the quantitative results of the Trust's efforts with particular focus on comparing the effectiveness of the different initiatives. An assessment will be made of the reverse situation.¹⁶

8.1 Background to key indicators of effectiveness

The effectiveness of the Trust's campaigns can be measured on the basis of the following parameters:

- Energy-economic effectiveness – Energy saving
- Enviro-economic effectiveness – CO₂ reduction
- Cost-effectiveness – Costs of initiatives
- Socio-economic effectiveness – Socio-economic costs
- Microeconomic effectiveness – Aggregate user savings

Two reservations need to be taken into account when assessing these key indicators:

1. The assessment only includes results from 12 of the Trust's project activities. Among the Trust's activities there are a number of additional activities that cannot be measured directly on the basis of the above key indicators. For example, this applies to the A-Club and part of the office campaign. These activities contribute to promoting the Trust's results and have independently influenced electricity savings. However, their effect cannot be separated or assessed in specific terms.
2. Other players, such as energy companies, have also been active in the electricity savings area and thus have contributed to the savings achieved (e.g. in the low energy light bulbs area). However, it has not been able to isolate the Trust's share of the result.

Definition of major indicators	
Electricity savings	Electricity savings are calculated in GWh saved as a result of the Trust's activities. These are shown both as a figure for accumulated savings as well as anticipated savings in 2007.
Fuel savings	Fuel savings are calculated in TJ saved as a result of the Trust's activities. These are shown both as a figure for accumulated savings as well as anticipated savings in 2007.
Enviro-economic impact	The enviro-economic impact is calculated on the basis of the so-called CO ₂ shadow price, which is defined as the cost to society of saving one ton of CO ₂ . The shadow price is a measure of the enviro-economic effectiveness of the activities, and this can be calculated using two different methods – the classic and the welfare-economic models. The latter subtracts tax/duties from the kWh saved. Unless otherwise stated, this report uses the welfare model to calculate CO ₂ shadow prices. A negative shadow price reflects the fact that the benefits of the measure exceed the costs.

¹⁶ Note that the financial assessment of the actual initiative is limited by the amount of data collected based on the available time and resources during the evaluation. The calculations are based on the Trust's own data (incl. data from previous evaluations) as verified by the evaluator.

Definition of major indicators	
Cost of initiatives	The cost of initiatives is calculated as the initiative cost in kroner per kWh saved (i.e. how much it costs to save one kWh). The figure illustrates the relative effectiveness of each campaign. The cost of initiatives is one expression of cost-effectiveness.
Socio-economic costs	The socio-economic costs are based the costs of investment, initiatives and administration less the cost of fuel savings.
User savings	This figure shows the total user savings calculated as the total amount of electricity saved for each project over its total lifespan less the energy tax levied at Dkr 0.006/kWh. The key indicator measures the microeconomic effectiveness of the activities.

Table 8.2 shown on the following page provides an overview of the key financial indicators and the effectiveness scores for the Trust's activities.

Table 8.1 Assumptions for financial calculations

General assumptions	
Discount rate	6%
Time	Varies between projects – long enough for all important advantages and costs to be included
Price	Fixed 2004 prices (market price)
Base year (discounted back)	Start year for activities (varies from project to project)
CO ₂ content of electricity	Anticipated CO ₂ content for Danish elec. Production (ENS) at 0.4 kV level
Displaced elec. production	Anticipated electricity price (ENS) at 0.4 kV level
Private elec. price	Dkr 1.50/kWh
Welfare-economic analysis and calculation method ¹⁷	
Net tax factor	17%
Tax distortion	20%
Electricity tax	Assumed at Dkr 666/MWh at fixed 2004 prices
SO ₂	Dkr 3/MWh
NO _x	Dkr 26.10/MWh (inflation-indexed)

¹⁷ Welfare-economic calculations are a development of socio-economic calculations. This adds an extra tax in the form of a 20% public sector tax element and the lost tariff tax. The amount not calculated at the market price is assigned net tax element of 17%. The positive environmental side effects in the form of a reduction in SO₂ and NO_x emissions are assigned a positive value.

Table 8.2 Overview, financial effectiveness

	Elec. saving in 2007, GWh	Actual elec. saving, total GWh	CO ₂ shadow price Dkr/ton	CO ₂ shadow price (welfare method) Dkr/ton	Initiatives and subsidy in Dkr/kWh	Socio-economic costs/kWh saved	Actual fuel saving in 2007 in TJ	Actual fuel saving, total in TJ	Aggregate consumer saving in Dkr m including VAT
Current and completed activities									
Lighting	23	343	234	425	0.153	0.18	209	3,090	261
'Elsparreskinne' (auto power saver plug bank)	42	336	-223	-96	0.003	-0.18	378	3,024	418
School campaign	14	74	-149	33	0.098	-0.12	126	662	84
Standby campaign	0.1	2.6	5,987	8,371	3.795	4.80	1	24	3
Ventilation campaign	11	141	-24	201	0.126	-0.02	95	1,265	119
Low energy light bulbs	295	2,950	-577	-450	0.008	-0.46	2,655	26,546	3,327
Electrical-heating conversion – gas	111	2,220	435	595	0.059	0.24	408	8,155	714
Electrical-heating conversion – district heating	333	6,665	194	354	0.060	0.15	812	16,244	1,496
White goods campaign	112	1,340	-552	-423	0.016	-0.44	1,005	12,062	1,376
Total/weighted average	941	14,070	-48	121	0.073	-0.04	5,689	71,072	7,799
New measures									
Voluntary IT agreements	40	160	-134	-15	0.047	-0.11	360	1,440	195
Pump campaign	10	391	-119	15	0.025	-0.09	93	3,518	279
New white goods campaign	33	399	-163	5	0.117	-0.13	299	3,591	396
Total/weighted average	84	950	-142	3	0.104	-0.11	753	8,549	870
All activities: Total/weighted average	1,024	15,020	-55	112	0.075	-0.041	6,441	79,620	8,669

8.2 Assessment of effectiveness

Has the Trust achieved the electricity savings expected?

Table 8.2 shows that of the Trust's activities that can be measured quantitatively, electricity savings of approximately 15,000 GWh were recorded over the projects' total lifespan. More than half these savings (approximately 9,000 GWh) can be ascribed to electrical-heating conversions. In addition, the low energy light bulb campaign also contributed substantial energy savings (approximately 3,000 GWh).

In 2007, all the activities are expected to contribute to electricity savings of approximately 1,000 GWh. This figure should be viewed in the light of a savings target in 2007 of 750 to 800 GWh as set out in the explanatory notes to the legislation (remarks on the Bill). Bearing this in mind it may be concluded that the Trust has considerably surpassed expectations.

Has the Trust achieved the fuel savings expected?

Table 8.2 shows that of the Trust's activities that can be measured quantitatively, fuel savings of approximately 80,020 TJ (80 PJ) were recorded over the projects' total lifespan. With a saving of 26.5 PJ, the low energy light bulb campaign was the activity that contributed the largest fuel saving.

In 2007, all the activities are expected to contribute to fuel savings of approximately 6.4 PJ. This figure should be viewed in the light of a savings target in 2007 of 2.7 PJ as set out in the explanatory notes to the legislation. Bearing this in mind, it can be concluded that the Trust's results have far exceeded expectations. The reason for this is that conversions to other energy types have played a much smaller role in the Trust's activities than expected.

What have the Trust's electricity savings cost society, and has the investment been effective from an environmental perspective?

Most of the Trust's activities have had a negative socio-economic cost per kWh saved, i.e. they produce a profit for society. On average, the socio-economic cost has been Dkr - 0.04 per kWh saved.

Clearly, from a socio-economic perspective the activities have been a sensible investment in overall terms. The Low energy light bulb campaign had the greatest impact, closely followed by the White goods campaign.

Conversely, four activities – the Standby campaign, Lighting campaign and the two Electrical-heating conversion campaigns – have positive socio-economic costs. However, from a socio-economic perspective, the Lighting campaign and the two Electrical-heating conversion campaigns were only marginally positive.

When comparing the socio-economic effectiveness between the current and completed activities on one hand, and the planned activities on the other, one can see that, on average, the planned activities have a lower socio-economic cost (Dkr -0.11 against Dkr -0.04). From a socio-economic perspective, this indicates that the Trust's effectiveness is moving in a positive direction. This trend is the result of less focus on subsidies (including discontinuation of all subsidy schemes for conversions from electricity to gas), and greater focus on agreements.

From an enviro-economic perspective, there have been extremely large variations in the CO₂ shadow price obtained by individual activities (see Table 6.24). The low energy light bulb campaign achieved the best results with a shadow price of Dkr -450 per ton. The Standby campaign accounted for the highest shadow price of about Dkr 8,400 per ton. Apart from the Standby campaign, the subsidy-related campaigns were the most expensive. The average CO₂ shadow price (weighted average) is Dkr 112 per ton when calculated using the welfare-economic method, and Dkr - 55 per ton when calculated using the classic method.

The starting point for the Trust's activities was Energy 21's efficiency benchmark of Dkr 600 per ton as calculated using the classic method. The Trust's average CO₂ shadow price (weighted average) of Dkr - 55 per ton using this method therefore represents an excellent result.

Likewise, the Trust's results are equally as favourable when compared with the previous subsidy scheme (converting older houses to district heating), which was the Trust's primary function following its establishment. Under this scheme, the CO₂ shadow price was Dkr 726 per ton (calculated using the classic method).

Comparing current and completed measures with the new measures shows that the average CO₂ shadow price is falling, and that the enviro-economic effectiveness is thus on the increase (Dkr 3 against Dkr 121 per ton calculated using the welfare-economic method).

The Trust's activities have therefore been excellent and effective investments from both socio-economic and enviro-economic perspectives.

How well has the Trust its your money – cost of initiatives and cost-effectiveness

The cost of the initiatives is a yardstick for how well the Trust has used its money, i.e. how much money has it had to invest to achieve one kWh of electricity savings or a reduction of one ton of CO₂.

The Trust's investment was expected to be twice as effective as the previous conversion scheme (converting older houses to district heating). The effectiveness of this scheme was a price of 419 initiative kroner per ton of CO₂ reduced. The aggregate price achieved by the Trust is a price of 90 initiative kroner per ton of CO₂ reduced, which is 4.6 times cheaper.

There are relatively large variations between the different activities in their cost-effectiveness per kroner saved. The 'Elsparreskinne' (auto power saver plug bank) was the most cost-effective activity at Dkr 0.03 per kWh saved. The least effective campaign was the Standby campaign at Dkr 3.80 per kWh saved. On average the Trust spent Dkr 0.075 per kWh saved.

When one compares the cost-effectiveness of the current and completed activities on one hand, and the planned activities on the other, one can see that the planned activities are less cost-effective on average (Dkr 0.10 cf. Dkr 0.07), mostly because in the future the Trust will have to invest more per kWh saved. However, this is offset by an overall socio-economic improvement as well as a greater savings potential.

User savings – microeconomic effectiveness

It should be noted that a high level of microeconomic effectiveness is not included as an element of the legal targets.

However, the Trust can be seen as a mutual fund, in which Dkr 0.006 per kWh of electricity consumption in dwellings and the public sector is invested. This electricity savings charge contributes a total budget of approximately Dkr 90m per year. During the eight years from 1997 to 2004, the Trust's budget amounted to approximately Dkr 0.72bn.

Total user savings are arrived at by deducting the total proceeds of the electricity savings charge levied from the electricity savings in kroner achieved by the Trust over the projects' lifespans. Our calculations show that the aggregate user savings are of the order of about Dkr 7.8bn for current and completed measures, i.e. consumers have received a more than tenfold return on their investment.

The Trust's activities have been very effective when analysed from a microeconomic standpoint – and also represent good consumer policy.

8.3 Benchmarking with other players' activities

Under the terms of the evaluation remit, the evaluator was asked to compare the Trust's activities with traditional public-sector initiatives in Denmark and abroad.

It was not possible to obtain comparative figures from abroad, and in terms of traditional energy policy initiatives in Denmark, it was only possible to find comparable numbers in relation to CO₂ shadow prices.

Because of the large discrepancy in terms of target groups and what constitutes the incentive structure, etc., and because the activities were not directly concerned with electricity savings, the results should be interpreted with a degree of caution and primarily be seen as one among several indicators that can elucidate the Trust's effectiveness. The comparisons are mostly used in order to assess the performance of the Trust.

Table 8.3 Benchmarking of the Trust's activities with other energy-savings activities (The numbers in brackets () are CO₂ shadow prices calculated using the classic method).

	CO ₂ shadow price Dkr/ton	Ranking
Current and completed activities		
Lighting	425 (234)	14
'Elspareskinne' (auto power saver plug bank)	-96 (-223)	6
School campaign	33 (-149)	10
Standby campaign	8371 (5987)	16
Ventilation campaign	201 (-24)	12
Low energy light bulbs	-450 (-577)	3
Electrical-heating conversion – gas	595 (435)	15
Electrical-heating conversion – district heating	354 (194)	13
White goods campaign	-423 (-552)	5
New measures		
Voluntary IT agreements	-15 (-134)	7
Pump campaign	15 (-119)	9
New white goods campaign	5 (-141)	8
Other energy-saving campaigns		
Window norms ¹⁸	-590	1
Gas boiler norms ¹⁹	-500	2
Circulation pumps norms ²⁰	-446	4
Elec. tax for domestic trade ²¹	64	11
Former electrical-heating conversion ²²	726 ²³	-

¹⁸ Government's climate strategy p.22.

¹⁹ Government's climate strategy p.22.

²⁰ Cost by CO₂ reduction by selected measure, Danish Energy Agency 2001.

²¹ Cost by CO₂ reduction by selected measure, Danish Energy Agency 2001.

²² Rambøll Management's evaluation of subsidy schemes: subsidy for conversion of older houses to district heating.

²³ Calculation based on classic method and thus excluded from ranking.

The comparison shows that norms as initiatives are more effective than initiatives that the Trust can implement, but that seven of the Trust's initiatives are more effective than the charge, and that the overall activities are almost all more effective than the classic subsidy schemes.²⁴

²⁴ Key indicators for this scheme calculated using the classic method.

9. Innovation and development

One important parameter in setting up the Trust was to establish a dynamic and creative player. Innovation and development are important parts of the Trust's set-up.

Interviews with the players and studies of recent policies in the energy-savings area clearly indicate that in particular the Trust's push-pull concept has been innovative in developing energy policy initiatives. Other players have previously tried to involve manufacturers – amongst others, pump, ventilation and gas boiler manufacturers. Approved lists and subsidies have also been tried earlier, but the Trust achieves far better results because it combines these initiatives and sets them in other frameworks, and ultimately because of its focus on gearing of subsidies – i.e. that all players contribute.

The Trust wins recognition from other players in the electricity savings area for its use of the push-pull concept.

Visibility is another example of (further) development of initiatives, even though electricity consumption awareness is not new. Key indicators, benchmarking and comparative readings have long been featured by the Danish Electricity Management Scheme (ELO) and by the electricity supply companies. However, the problem has been that consumers only see the consequences of their habits up to a year after the actual use of electricity. This makes it difficult to trigger a reaction with the electricity bill. Individual meter companies have developed online consumer monitoring concepts. What is new about the Trust's concept is that benchmarking is instantly available in real time over the Internet, and that ambassadors (e.g. consultants and installers) are invited to use and share their know-how when meeting customers.

Subsidy initiatives also have a new slant:

1. New on the energy policy scene is the kick-start subsidy, which can be used short-term, and which mostly works as an attention-grabbing and approval mechanism, as opposed to straightforward financial compensation.
2. The conditional subsidy is also new. This sets terms for the different players governing how customers can receive a share of the subsidy pool. The gearing used by the Trust has contributed to substantial consumer price reductions – especially electrical-heating conversions.

The Trust also deploys a wide range of more traditional initiatives, as well as campaigns, classic subsidies and approved lists. The Trust is able to manage the many types of initiatives because it outsources a considerable proportion of its tasks, including operational type tasks.

The use of innovatory initiatives has likewise been assessed by players outside the sector. This took place through a workshop with communication professionals and experts with experience of running campaigns in other areas with the aim of changing people's behaviour.

The campaign experts were generally positive in their evaluation of the main initiatives used by the Trust. Firstly, the experts stressed the importance of working with both attitudes and behaviour, which in their opinion are not possible to separate. Attitudes influence behaviour, and vice versa. In the experts' view, the Trust's use of a combination of initiatives makes a substantial contribution in terms of influencing both attitudes and behaviour – with attitudes influenced by PR and mass communication, and immediate behaviour influenced by subsidies and the launch of products like the 'Elsparaskinne' (auto power saver plug bank). The latter has obvious advantages and this makes the electricity saving message very functional and action-oriented.

Additionally, the experts judged the push-pull strategy to be appropriate. A result is hardly likely if you do not work very actively on the supplier side. This requires that the supply

companies (manufacturers, retailers, installers, etc.) not only have the right products on the shelf, but back-up the messages in attitudinal terms and work as ambassadors for the campaign.

The Trust aims to create a win-win situation on both the supply and the demand sides. The supply side involves the Trust's negotiating with a whole industry or individual players within the sector. In interviews with the stakeholder group conducted as part of the evaluation, we found that in a few cases the win-win situation had resulted in losses for other players. For example, where a 'win' situation was mostly a lower price, this often meant that individual retailers and manufacturers felt that this was not a 'win' situation for them. The fact that campaigns and labelling do not always create a win-win situation is known from other areas and is not necessarily problematic. One such example is the 'Smiley' campaign run by the Danish Veterinary and Food Administration which aims to promote hygiene in places that handle food. The experience from this campaign has been that disagreements and dissatisfaction are not necessarily a bad thing. Often this results in media coverage that contributes to reinforcing consumers' interest in the campaign. Those falling afoul of the law often end up in the media, and the experience is that this type of PR is far more effective than an advertising campaign.

Several of the experts were surprised that two initiatives were absent from the palette used by the Trust. The first was regulation, which the experts conceded was an area with which they were not fully conversant in terms of the division of regulatory responsibilities. They simply wished to suggest that an organisation with a degree of autonomy such as the Trust could play an important regulatory role in relation to influencing behaviour. In general, the experts' view was that regulation can be very effective both for influencing immediate behaviour and for changing attitudes.

The campaign experts were also surprised that the Trust had not tried to influence people's attitudes towards the need for different electric appliances, but focused solely on promoting the most energy-efficient appliances. The experts recognised that there could be many valid reasons for this choice, but emphasised that this should be a very calculated choice. Their assessment was that campaigns that questioned the need for the many available electrical appliances might be effective.

By and large, seen from a communication perspective, the evaluation shows that the Trust has used an appropriate palette of initiatives. Simultaneously, this could be described as a palette where development is both ongoing and innovative in the energy-savings activity area.

10. Organisation

This section analyses the Trust's results and effectiveness in the context of the organisational and financial frameworks as previously described in section 4 above.

Regarding the focus for this evaluation, two questions arise in terms of the organisational frameworks: 1) Can the results achieved be accounted for on the basis of the organisational frameworks? 2) Do the organisational frameworks support the Trust's future initiatives? The first question is clarified in the paragraphs below, but the second question will be discussed in section 11 that follows.

Section 7 above demonstrated that the Trust's completed activities have been very effective measured in terms of the kroner initiative cost per kWh, CO₂ shadow prices, socio-economic savings and microeconomic consumer benefits – especially the campaigns covering white goods, low energy light bulbs and electrical-heating conversions. The analysis in section 7 demonstrated that a very high proportion of this effectiveness can be attributed to improved availability of energy-efficient products and/or lower prices for consumers achieved through agreements, negotiated list prices and websites with price overviews.

When price overviews were introduced, they were seen as a relatively new campaign measure. The fact that this was a new tool that could influence competition in the industries concerned made the measure extremely controversial and provoked considerable opposition from trade representatives and the energy supply companies. This resulted in both a media debate and appeals to the Danish Ministry of the Environment. The opposition was so great that it almost certainly would have led to the campaign's being withdrawn, assuming that it was politically possible to influence the decision. However, the Trust's independence guaranteed its survival. In this way the Trust's independence contributed to the effectiveness of the campaign.

Negotiating favourable schemes and price listings that the Trust had used particularly in connection with electrical-heating conversions is another example of market-aware behaviour. By having framework contracts included at the bidding stage, consumers were ensured favourable prices on both connection and installation, which positively influenced the demand side. However, the consequences were also that not all consumers were able to receive conversion subsidies.²⁵ If the Trust had not been independent, this breach of a principle of equal access to subsidies would obviously have been difficult to handle.

As previously mentioned, another situation that differentiates the Trust from the other players is the area covering the Trust's goal and result requirements. The unambiguous and long-term goals have meant that the organisation has been allowed to experiment with new areas, for example standby consumption. It has also been possible to work over the long term, which underpins the work with voluntary agreements where the impact takes longer to materialise compared with direct consumer-oriented campaigns.

The Trust's flexibility and freedom of action allows it move quickly when an opening occurs. This capability is the key to working with market-oriented players, for example in the case of industries that wish to enter into voluntary agreements on product offerings, and awarding a large part of the benefits accruing from successful results to the stakeholders. In general, most organisations are happy to work with the Trust, which is considered as an attractive partner, as witnessed by the conclusion of three voluntary agreements.

As mentioned, the Trust's introduction of a very supply-oriented strategy in the energy area has achieved very good results. However, it has simultaneously faced opposition from the

²⁵ In respect of conversions from electric heating, one stipulation of the subsidy concept is that the subsidy should be geared in such a way that the energy company also contributes to reducing the total conversion expenses. However, if, for example, it is not possible to obtain the stipulated rebate for the connection charge from the local district heating company, then the consumer in the area in question will not receive a subsidy.

different stakeholder groups (trade organisations, manufacturers, energy companies and consultants/partners). The dissatisfied players base their criticism on the following grounds:

- Price listings are open to amateurish 'backstreet' companies that offer products at very low prices that they cannot supply.
- Price listings have a lopsided focus on price in relation to quality. However, some players believe that changes in recent years have meant a higher quality of the price listings.
- The Trust has difficulty making compromises.
- The Trust finds it difficult to cooperate with organisations with a more bureaucratic and therefore slower decision-making process.

The evaluator's view is that part of the explanation for this criticism lies in a real conflict of interest in that greater market transparency puts pressure on the earnings of the dominant players in the market.

Part of the explanation also lies in the fact that both the Trust and the supplier-focused strategy represent a new way of thinking in the energy area that challenges the existing players and their way of doing things.

Some of the dissatisfaction is also based on the dialogue with the Trust. Since the evaluator, for good reasons, did not participate in the process referred to by the critics, it is difficult to evaluate the validity of the criticism directed at the dialogue. But the fact that the same powerful criticism was voiced by the range of stakeholders interviewed, showed that the Trust is considered to be a player with whom it has been difficult to cooperate hitherto.

In the meantime, what is interesting in relation to this evaluation is whether this criticism of the dialogue influences the Trust's results. As previously shown, the Trust's strategy of focusing intensely on the supply side has proved to be very effective. But could The Trust have achieved even better results through improved dialogue and involvement of the stakeholders? This question is not particularly easy to answer; positive and negative factors are weighed below.

On one hand, it is fair to assume that a number of activities would be delayed if the Trust were hesitant in involving other players. Simultaneously, full involvement of all the players has also meant that price listings might not have been used as initiatives. Both these situations have generally contributed to creating electricity savings in the short term. This situation, where the Trust is not afraid to take on the stakeholders, for example by publicly criticising a manufacturer, draws attention to the Trust and its activities. This certainly has a beneficial effect from a consumer standpoint, and contributes to reinforcing the Trust's image as an organisation that sides with consumers.

On the other hand, as mentioned, the consequence of the Trust's independent and combative behaviour is that it creates a certain animosity among some of the stakeholders. This means that they do not always fully support the activities. Consequently, the Trust risks losing a potential ambassador effect. Based on the testimonies of many of the stakeholders, the evaluator's view is that a better partnership climate, and thus greater support, can be achieved without detriment to the overall principles and approach. To what extent the animosity among some of the stakeholders will affect the Trust's future strategic negotiating ability is covered in section 11 that follows.

All in all, the evaluator's assessment is that the Trust's organisational framework has facilitated the successful deployment of a push-pull strategy with considerable focus on influencing the availability of energy-efficient appliances.

11. Change of policy and future activities

In the past one to two years, there has been a sea change in the Trust's activities. This section will analyse the change based on the effectiveness of the previous activities as well as the potential and barriers identified during the course of the evaluation's data collection.

11.1 Details of the policy change

There has been an ongoing development of the initiatives and strategies deployed by the Trust since its creation in 1997. Initially, subsidies were the primary initiative and most of the resources were thus used as direct subsidies to households that wished to convert from electrical heating. Later, subsidies were used in connection with white goods campaigns.

The use of subsidy initiatives has slowly been scaled back in favour of market and campaign-oriented schemes. The rationale behind the change has been the expectation that these initiatives are more effective in terms of generating electricity savings, environmental benefits and private and socio-economic savings.

The dominant initiatives in the current strategy are as follows:

1. Voluntary agreements
2. Concept development and maturing
3. Total advice concept

These three elements will be analysed three-dimensionally as follows:

- Effectiveness of savings potential in relation to current and previously used initiatives
- Correlation with the Trust's organisation and resources
- Legitimacy in relation to existing stakeholders

11.2 Voluntary agreements

One of the major initiatives in the Trust's future strategy involves the setting up of voluntary agreements with the industries involved. The key element in these agreements is that the sectors voluntarily undertake to withdraw less energy-efficient products from the market. Conversely the Trust undertakes to contribute to the marketing of the most energy-efficient products in the area. By and large, the rationale is that this has enormous potential for society. However, since the potential for individual consumers is spread across many appliances, the savings are difficult/expensive to achieve. Voluntary agreements shift the focus towards making it simple to act in an energy-efficient way. In return, the message that it must be cheap is toned down. Price listings and subsidies play no part in this instrument.

The effectiveness of this strategy relies on two major assumptions. The first is that it is still possible to find product offerings that are relatively energy-inefficient compared with other products within the product range concerned. The other assumption is that the industry wishes to enter into voluntary agreements with the Trust.

Three voluntary agreements have been made: one in the pump area, one for standard computers and monitors, and one applying to deep freezers. The evaluator's analysis shows that there is significant potential for voluntary agreements in the IT area. The financial calculations additionally show that in reality the initiatives are cost-effective.

Within the framework of the present evaluation, it has not been possible to produce a total list of the areas where a large savings potential exists.

What determines the cost-effectiveness of a voluntary agreement is primarily the relationship between the savings potential and the resources that the Trust has to put in place to achieve the voluntary agreement. These two factors will probably vary considerably from area to area. The three agreements implemented indicate, however, that the initiative is cost-effective in

comparison with other initiatives. The direct costs associated with putting the agreements in place are relatively modest in scale compared with the subsidy-based campaigns.

The work with voluntary agreements represents a departure from the way in which the Trust previously acted. Even though previous efforts were also based substantially on a push-pull strategy, and thus required the industry's participation and support, nonetheless the cooperation has mostly been structured on the Trust's terms, and with a greater focus on the 'pull' element. At least this is the experience of the majority of the stakeholders interviewed in connection with the evaluation. Meetings with the Trust and a review of the action programmes reinforce this image.

Entering into voluntary agreements requires a different and more equal partnership between the Trust and the trade representatives with whom it wishes to make the agreements. Hitherto, the three agreements in place have been negotiated to the satisfaction of both parties. The representatives from both sectors expressed their satisfaction with the process in the run-up to the agreements. They not only felt that they had been satisfactorily involved and appreciated, but also that the Trust had shown great flexibility and professional insight. In respect of agreements in the IT area, it was indicated that the Trust had understood the industry's conditions very well, amongst other things by setting the requirements for products' energy-efficiency at a level that encouraged the participation of most suppliers.

The current agreements demonstrate that it is possible for the Trust to enter into voluntary agreements. Time will tell whether the Trust will achieve similar success in other areas because, clearly, it will be harder to achieve voluntary agreements in some areas. This is due to the fact that potential partners are sceptical about cooperating with the Trust. As mentioned previously, this scepticism can partly be explained on the basis of some fundamental opposition by the stakeholders and its consequences in connection with previous activities. However, the scepticism is also based on the fact that these stakeholders had previously found dialogue difficult, and experienced the Trust as a player with fixed attitudes. Naturally, the evaluator finds it difficult to fully assess the fairness of these claims. However, the evaluator believes the extent of the scepticism make it necessary for the Trust to reflect on how, broadly speaking, it can strengthen its image as a partner and continue to use voluntary agreements as a dominant instrument in the Trust's palette of initiatives.

11.3 Concept development and market maturing

Concept development and market maturing is another major initiative in the Trust's strategy. Previously, this initiative had been used in various ways. The first element involved subsidising the development of fridges/freezers. However, the Trust does not expect to use this type again. The two other examples are:

- Development of meters 'SparOmeter' (SavOmeter)
- Development of 'Elsparoskinne' (auto power saver plug bank)

The Trust supported both initiatives by providing development support (blueprints, offered as freeware) and market maturing by guaranteeing sales of an agreed number of products and the marketing.

Development of concepts and products can serve different purposes. One purpose is to support the development of products that the market does not want to develop which offer savings on a scale that exceed the costs of developing and purchasing the products. In connection with the interviews with trade organisation representatives, manufacturers and suppliers, we asked for their assessment of the potential of this strategy. The replies varied considerably. Representatives of the major manufacturers are very sceptical of the strategy. Firstly, they consider that the resources required to develop products that can actually be sold to consumers far exceed the limited capacity available to the Trust. Secondly, they are concerned that this will create unfair competition. Conversely, smaller manufacturers without development resources are positive about the strategy.

Another purpose is to develop concepts and products in support of the attitude-building that takes place via the different energy-savings campaigns. The development and distribution of the 'SparOmeter' (SavOmeter) is one such example. The communication experts interviewed considered that the use of products like 'SparOmeter' (SavOmeter) and the 'Elspareskinne' (auto power saver plug bank) can be effective in a campaign context. On the assumption that they are actually used, the products can directly influence people's behaviour, and consequently have a more direct influence compared with behavioural stimulation associated with the attitude-building campaigns. The communication experts also considered that the direct behavioural influence that occurred by using the products equally contributed to strengthening the attitude-building associated with the communication activities.

The financial analysis shows that product strategies can be particularly cost-effective. Thus, seen in isolation, the 'Elspareskinne' (auto power saver plug bank) was the most cost-effective measure (see Table 6.19). Apart from the direct effectiveness, there is equally a more indirect, non-quantifiable potential in the form of attitude-building brought about by the 'Elspareskinne' (auto power saver plug bank). This may be a very cost-effective initiative with great potential, as long as relevant products can also be identified in the future.

The effectiveness of the concept development and market maturing efforts depends largely on the inherent value associated with the Trust's active endorsement of the product. This means that the Trust needs to be more recognisable to the public and also have a higher level of credibility.

Analysis among domestic consumers revealed the Trust's trustworthiness. Two out of three consumers were unaware of the Trust. Of the 35% that knew about the Trust, approximately 50% considered the Trust to be a trustworthy organisation. Only 1% of the sample considered the Trust to be untrustworthy.

Table 11.1 What is the perception of the Trust's trustworthiness?

	Percentage
Unaware of the Trust	65
Very trustworthy	5
Trustworthy	12
either trustworthy nor untrustworthy	8
Untrustworthy	1
Very untrustworthy	0
Don't know	9
Total	100

Note: N=995 consumers.

Consumers that were aware of the Trust were asked to score how they perceived the Trust's product endorsement.

Table 11.2 Perception of the Trust as guarantor for a product

	Percentage
Low electricity consumption	39
Low electricity consumption and high quality	20
High quality	2
No guarantee	21
Don't know	17
Total	100

Note: N=349 consumers that were aware of the Trust. Question: "If the Trust endorses a product, do you consider this to be a guarantee?"

As shown in Table 11.2 above, 39% of the respondents considered the endorsement as a guarantee of low electricity consumption; 20% considered this as a guarantee for both low consumption and high quality; and 21% considered that the endorsement was no guarantee.

The Trust's endorsement of a product was considered by 20% of the respondents to be a guarantee of low consumption. It is difficult to determine whether this figure is satisfactory because the evaluator was not able to discover comparable figures for other players concerned. However, it can be stated there is still potential in branding the Trust and thus increasing the degree to which its endorsement add value to selected products.

Conversely, another question is whether the Trust has the competence and capacity to manage large-scale concept development projects. Since the Trust's experience in this area is still limited, it may be difficult to assess this question unequivocally.

Taking the prevalence of the 'Elsparaskinne' (auto power saver plug bank) as an indicator, the evaluation shows that the Trust certainly is competent to identify possible product ideas.

Whether the Trust is geared up to develop new products is more difficult to determine. When the auto power saving plug bank was launched, some of versions did not fulfil the technical standards. The Trust was not to blame for the failure and was unaware that the manufacturer in question had made changes to the blueprint. Also, the Trust quickly demanded that the products be withdrawn.

Notwithstanding the above, it was still the case that the Trust had developed and endorsed a product that did not conform to the legal requirements. This may have negative consequences in relation to both potential manufacturers and consumers. It may be difficult to attract

suitable manufacturers if a rumour circulates that the development prototype is not legal. There is also the risk that the Trust's trustworthiness may be put at risk.

In relation to the granting of subsidies for the purchase of products and contributions to concept development, the Trust has tightened up its quality control of the activities involved. The evaluator's view is that the current work to develop work processes that can manage these situations should be assigned a high priority.

11.4 Total advice concept

A total advice concept for major consumers of electricity comprises the third element of the future strategy. This initiative is a natural extension of the activities implemented over recent years. Amongst other things, these involve the A-Club and the current office campaign. Seen from this perspective the advice concept is in keeping with the Trust's general concept and organisational set-up.

There is a considerable savings potential in this area. Previous evaluations have revealed a wide variation in consumption. Thus the most energy-efficient local authorities use approximately 16 kWh per m² per year in their office buildings, whereas the least energy-efficient local authorities use approximately 75 kWh per m² per year. In government departments, consumption ranges between 56 and 120 kWh per m² per year.

The advice concept idea is specially developed round a package that includes: highlighting electricity consumption, self-help systems on the Internet, and, as an extension of these, the option for individual advice via e-mail and telephone. The rationale behind the concept is that the consumers must be offered tangible options that match their situations.

This is undoubtedly sensible from a cost perspective because once the first systems are in place, and the current resources are assembled in one portal, the overall solution will require very few resources.

A cost-effective solution presupposes that consumer preferences and competences can be matched. But exactly how is less clear. Currently, work has started on analysing the advice concept's accessibility in relation to the different target groups.

It was stated in one interview that Internet-based concepts are more likely to appeal to larger organisations that are already dealing with problem issues. Thus the fear is that, in particular, small organisations will find the concept difficult to use. The evaluator is not aware of any systematic studies about the suitability of web-based concepts in relation to public-sector institutions.

The evaluator's own experience is based on the 'Best on the Net' project. The experience from that project was that it was also possible to engage the smaller public-sector institutions such as schools and libraries. This indicates that web media can be used to influence behaviour in both large and small public institutions. 'Best on the Net' attempts to promote interest by featuring top-10 listings and prices.

Additionally, there is also the problem of the incentive for using the web-based advice concept, i.e. a trigger-problem. Personal advice involves active canvassing and also locks the parties into the process. However, websites require much more active participation from the respondents. The Trust must therefore be aware that the tools should be supplemented by different trigger activities, which are important for the scope of the initiatives and the level of costs.

11.5 Websites

The Trust has gradually created a large number of websites in connection with its activities. This tool packs a big punch but also places great demands on the sites. The Trust is aware of this and is trying to ensure that the websites do not just contain price comparison information,

for example. However, price comparisons are what make both consumers and manufacturers take notice.

The advice concept is mostly predicated on Internet use. This means that the advice concept places demands on the Internet pages that contain the self-help systems.

As part of the evaluation we therefore carried out an assessment of all the websites controlled by the Trust. The evaluation was based on the 'Best on the Net' criteria²⁶ with a focus on the sites' user-friendliness.

The results are shown in Table 11.3 below, which details that all the sites bar one scored 2 'net stars' out of 5 possible. This clearly shows the need for improvements in terms of the websites' user-friendliness.

Additionally, although the individual websites could be improved, the evaluator's view is that an overall Internet strategy is lacking, for example the development of easier common access.

The quality of the websites also ought to be seen in the light of the fact that the Trust is still a relatively new player that is now under the spotlight as part of the efforts on the advice concept front. Simultaneously it should be emphasised that the 'hit rates' are high and that many of the pages contain information, for example price overviews, that are of interest to many consumers.

Table 11.3 Evaluation of websites based on 'Best on the Net' criteria

Websites	Categories in basic evaluation				
	Number of net stars	User friendliness – points	Usefulness	Accessibility – points	Total score %
Sparel.dk	2	56	16	0	29.0
A-klubben.dk	2	34	19	3	27.3
A-paere.dk	2	34	19	0	24.5
Belysning.SparEL.dk	2	51	22	5	36.7
Boliglys.dk	2	37	17	0	23.9
Farvelel.dk	2	36	17	7	30.3
Hvidevarepriser.dk	2	27	20	1	24.0
IT.SparEL.dk	2	28	17	2	30.5
Radio-tv.SparEL.dk	2	36	17	2	32.9
Se-Elforbrug.SparEL.dk	2	34	17	1	30.8
Selvtjek.SparEL.dk	2	36	14	2	29.6
Serverrum.SparEL.dk	2	46	11	0	26.3
Ventilation.SparEL.dk	3	51	17	7	45.1
Elsparefonden.dk	2	33	8	2	22.0
Max. possible points for portals		109	30	22	
Max. possible points for name, choice and the Trust		109	45	35	

²⁶ Information on these criteria can be found at: www.bedstpaanettet.dk

11.6 Organisation and future demands

As detailed in section 4, the Trust was established with the primary aim of working with electrical-heating conversion, where the administration of subsidies ranked as the most important activity. As detailed in the description of the Trust's current and future work tasks, the Trust's range of activities in recent years has expanded to include a broad spectrum of measures that include white goods campaigns, low energy light bulbs, standby consumption, campaigns targeted at the public sector, ventilation, IT, voluntary agreements, visibility of electricity consumption and an A-Club, with a number of interfaces with market players and consumers. Simultaneously the Trust is planning that these non subsidy-oriented activities will expand in the years ahead.

As previously demonstrated, taking care of these tasks will place other demands on the secretariat compared with the more straightforward administration of subsidies connected with electrical-heating conversions. The variety of initiatives demands project management and coordination that stretches the resources available to the secretariat. Previously, this has been dealt with by outsourcing a large number of tasks to external consultants. These include operational tasks such as the management of campaigns, specialist know-how and general project leadership and coordination functions.

The evaluator's view is that it is desirable to outsource the more operational tasks associated with the four secretariats and areas that require very specific technical know-how. Conversely the evaluator believes that it is not appropriate to outsource coordination tasks. Firstly, it means that the implementation know-how and results of initiatives are not systematically vested in the Trust. Secondly, it is hard to see how outsourcing of coordination tasks provides the Trust with greater value compared with the Trust's undertaking the tasks in-house. Because the costs of solving these tasks through outsourcing are typically more than double the amount compared with an in-house solution, the evaluator's view is that these tasks ought to be managed by the secretariat through an increase in the number of staff employed. This will ensure better knowledge retention and simultaneously free up resources for activities that can lead more directly to electricity savings.

11.7 Effectiveness of the policy change

The change of policy means the Trust is throttling back on subsidy schemes and moving into types of activities with greater socio-economic benefits. Simultaneously, the analyses reveal that the finances are becoming worse, i.e. the krone costs of the initiatives required to achieve electricity savings are growing. Amongst other reasons, this is because the public sector is a much more onerous target group in terms of barriers.

Set against this prioritisation, an important question arises: By targeting other groups, would it be possible to sustain potential large-scale savings, favourable development in socio-economic terms, and simultaneously reduce the costs of the initiatives?

The evaluator's view is that, irrespective of the target groups, the Trust will see an increase in the costs of the initiatives, because, to a large extent, the 'easy savings' have been achieved. Besides, from a political standpoint and in terms of potential, it may not be possible to overlook the public sector as a target group. Simultaneously, the savings potential and the socio-economic benefits are still considered to be favourable. However, the limit will always be decided politically, but in relation to the benchmark price of Dkr 120 per ton of CO₂ reduced, the Trust's efforts continue to be relevant.



THE DANISH ELECTRICITY SAVING TRUST

The Danish Electricity Saving Trust is an independent trust led by a Board appointed by the Danish Ministry of Transport and Energy. The Trust was established in 1997 with the purpose of ensuring electricity savings in the household and public sectors. The Trust is financed by a special electricity savings charge of DKK 0.006/kWh payable by households and the public sector. The total annual proceeds amount to approximately DKK 90 million.

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