

# “Bright North Rhine-Westphalia”: A joint LCP-project of 80 utilities, the Ministry of Economics and the Consumer Protection Agency of North Rhine-Westphalia

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## Summary

A detailed description of a joint LCP-project being conducted in 1996/97 by 80 electric utilities and led by the Ministry of economics in North Rhine-Westphalia (Ministerium für Wirtschaft, Mittelstand, Technologie und Verkehr (MWMTV)) together with the Consumer Protection Agency North Rhine-Westphalia. The project aimed at electric energy savings, CO<sub>2</sub> reduction and environment protection by distributing more than 1 million compact fluorescent lamps (CFLs) to household customers of electric utilities.

## 1. Introduction

The electricity sector in Germany chose the word “Least-Cost Planning” as the “phrase of the year” in 1995. Never the less the breakthrough of the underlying idea could not be reached yet. In Germany more than 400 LCP-programs are currently being conducted by more than 100 large and small utilities, but most of them are small scale or carry the item “test”- program. One better known and evaluated large LCP-project can be reported: the “KesS”- program, a project of RWE Energie AG, the biggest German electric utility located in Essen, North Rhine-Westphalia.<sup>1</sup>

## 2. Background

In 1992 RWE Energie AG started with its “KesS”- program. This program gave a 100,- DM incentive to the buyers of efficient electric appliances with a certain limited electricity consumption. The 100,- DM rebates were granted with the purchase of a dishwasher, a refrigerator, a freezer or a washing machine. A single family could get 400,- DM if they had bought all four devices. The total budget of the program was 100 million DM. The program was at first heavily criticised by different societal groups. The Ministry of Economics of NRW put up a round-table whose aim was to collect all criticism and carry it to a productive discussion including a consensual outcome.

This first round-table “Least-Cost Planning” (RT LCP) was headed by the price regulation unit of the MWMTV NRW and included representatives of the following groups: The Association of Municipality Owned Utilities (Verband kommunaler Unternehmen (VKU))—where RWE Energie is not a member of—, the Consumer Protection Agency of NRW (Verbraucher Zentrale (VZ)), the Wuppertal Institute (as scientific advisor), the Electric Appliances Manufacturers Association (Zentralverband der Elektrotechnischen Industrie (ZVEI)) and the RWE Energie AG itself, as well as changing guests as far as necessary.

When the MWMTV tried to get a breakthrough in LCP in 1996 this was partly due to coalition talks between the Social Democrats and the Greens in NRW after the 1995 election in NRW. The two parties built a coalition for the government which is in presently. In the coalition-treaty the promotion of energy savings and renewable energies have been given priority. So on the political stage a broad consensus for fostering LCP was already ensured. To get a breakthrough a country wide joint LCP-project was needed. The planned LCP-project attempted to achieve a number of multi-criteria-goals. These goals included expressively the reduction of energy use and with-

in that CO<sub>2</sub>- reductions. But behind these goals lay a couple of closely related and positively correlated interdependent goals. So it seemed to be important to educate and foster the idea of energy saving behaviour of private households. Another goal was to establish the LCP-idea with all electric utilities which are still reluctant about LCP. The utilities should become service providers and not electricity distributors. They should build up and strengthen customer relations, doing marketing and publish advertisements. Public relations and corporate identity should not remain exotic to them. After all, starting with the program with nearly zero lead time should be a good training for the participating utilities for an upcoming more competitive environment which will be in force in the near future due to EU-rules and a new national German energy law (see below). The utilities succeeding in the planned project should also be better market performers in the future.

To get a minimal consensus with all possible co-actors at the start, a new round-table was set up by the price regulation unit of the MWMTV NRW. This new round-table got the first invitation including a raw sketch of the planned program in January 1996 from the Ministry. As members of the round-table the following participants were invited : the Association of German Electric Utilities (VDEW), the VKU, the VZ NRW, the Association for a Rational Electricity and Water Use (ASEW), a scientific light institute, a number of guests according to the respective state of the project and Wuppertal Institute as scientific consultant. This round-table had its first meeting in February 1996.

The original idea was to have the CFLs installed in the flats of the families by teams of utility staff or students to guarantee the proper installation of the lamps. This idea was rejected at the first session of the round-table as not practicable and counter to the suggested goals of the project.

The Consumer Protection Agency NRW argued that this would remind the customers too much of the methods of travelling salesmen and open the possibility of abuse, especially with elder single people. Other members of the round-table agreed with these arguments.

The price regulating unit had also introduced the idea to form a workteam of young “bright” people to perform coordination and advisory tasks within the project, the KOBRA-Team. This idea survived and proved to be very successful.

### 3. Methodology

The Wuppertal Institute as a member of the new round-Table was called upon to develop a concept for the running of the project “Bright NRW” taking into account the arguments of the first session of the new RT LCP. The word “bright” has a double meaning in German as well as in English language. The slogan “Bright North Rhine-Westphalia” means light and clever.

The complete logo is “Bright NRW: Better light for bright heads”. The graphical design is the work of a specially selected advertisement and marketing agency.

After two more sessions of the new round-table a raw sketch of the program design from Wuppertal Institute was approved by all members:

- at least 500.000 lamps should be distributed directly by the utilities (free of charge; “way one”)
- at least 500.000 vouchers should be delivered to the utilities customers, so that those were enabled to buy CFLs at reduced prices at the local electric light stores (“way two”). This meant that at least one million new CFLs should be introduced into the market.
- at least 20-30 utilities—out of 120 in total in NRW—should participate in the joint LCP-project.
- for all necessary assistance, advice and other software services the Ministry set a budget of 1,6 million DM.
- a management team, the KOBRA-Team - Coordination and advice-Team - should be set up, led by the Consumers Protection Agency (VZ NRW).
- the Ministry would hold last decisions in important matters.
- the round-table LCP would serve as a consulting, advisory and assisting institution to the Ministry as the project leader.
- about 500.000 brochures should be printed and distributed in a marketing campaign.

These were the principal elements of performing the project.

## 4. Project implementation

The first problem was “how to give the message to the main actors?” That means all 120 electric utilities had to be informed about the planned joint LCP/-project. The MWMTV had invited all 120 utilities and talked about a somewhat mysterious joint project in the invitation.

That invitation for a meeting at 12th of April 1996 was followed by nearly all utilities. In a conference room of the Ministry the projects rough outlines and goals were presented to the utilities. They were informed, what should be done, what should it cost and in which time the schedule must be set up. Everybody was expected to take part in the project. All software e.g. marketing- and advertisement-design were to be paid by the Ministry. The utilities had to pay for the lamps, their own advertisement and other hardware. This presentation was a kind of a “surprise attack”. Indeed it was part of the unwritten concept to proceed in such a manner to prevent unproductive critics and “coalition building” of unwilling utilities against the project..

There were only two dates in the beginning of the schedule. The Start of the project in the public was the 26th of October 1996, the end of the campaign was the 31st of March 1997.

After two further discussions and information-sessions with the utilities it seemed clear, that the minimum number of participating utilities was ensured. These two sessions took place at 3rd of June and at 20th of August 1996.

## 5. The KOBRA-Team (Coordination- and advice-team)

At the end of June the formation and staffing of the KOBRA-Team began. It was sited in the building of the Consumer Protection Agency NRW. Members of the KOBRA-Team were three persons of the consumer agency, one person of the BEM Consultant Group (advisory group for energy and marketing) and one person of ASEW (an association of municipal utilities). The goals of the program and the total budget of 1,6 million DM were fixed in an agreement between the MWMTV and the VZ NRW.

## 6. Marketing:

Intensive marketing was of extreme importance for the success of the project. The awareness of the customers, the demand for additional CFLs and their installation were to be maximised. The economical and ecological advantages of the CFLs in comparison to conventional bulbs had to be communicated to the public in order to persuade to CFLs, even CFLs at that time were much more expensive than conventional bulbs (about 20-30 DM compared to 2 DM).

The slogan “better light for bright heads” communicates the project’s aim and implies at the same time, that it’s clever to use CFL’s. The economical and environmental advantages of CFL’s were communicated by the projects print media:

- posters in different sizes
- radio spots
- advertisements in newspapers and magazines.

Advisory brochures and other media included:

- customer brochures with technical advice
- LCP-project description and explanation for interested citizen
- a sample case with different types of CFLs
- paper made calculator
- photo exhibition

## 7. Type and price of CFLs

With buying about one million additional lamps, the price was an important item. The local electric store price for a standard CFL lies around 20-30 DM before starting the project. It is expected (and will be evaluated after the end of the campaign) that the project will have a price-decreasing effect. The KOBRA-Team wanted to distribute reliable and best quality lamps. Therefore only high-quality brand producers were chosen. The lamp type was selected according to tests of the national test-institute.

The negotiations about price and volume of the CFLs were difficult and were performed under tight time pressure. The team reached an agreement for the delivery of about 200.000 lamps at the start of the project, for a price around 12 DM. This represented an important reduction against the regular price. Osram, Philips, Sylvania and Radium were chosen as suppliers. The volume was split according to present market shares. Each utility ordered via the KOBRA-Team. Only some utilities ordered themselves, most due to local supplier relations.

With wholesale and retail traders it was agreed, that they would get their share from the redemption of the issued vouchers. The numbers of the distributed vouchers are still not known at the time of writing.

## 8. Start

As scheduled the program started at 24th of October 1996 with a press conference of the Minister of economics, Mr. W. Clement at the Landeshauptstadt Düsseldorf who introduced the project to the press.

In the afternoon a big opening session took place in Bochum, organized by the local electric utility, the Stadtwerke Bochum AG. Speeches of the CEO's of Stadtwerke Bochum, Wuppertal Institute and KOBRA-Team were held in the town-hall of Bochum. Mr. W. Clement held a speech at the Bochum market place, where the public opening took place.

At the opening public session more than 3000 CFLs were distributed, radio, newspaper and television interviews were given. The project was launched in public.

## 9. Fortcoming events

The KOBRA-Team and the Ministry look forward to an evaluation of the project which is performed by Wuppertal Institute and others, after the project „Bright NRW“ ended at March 31, 1997.

## 10. Preliminary results

80 utilities participated in the project, 65 started in 1996 and 15 in 1997: this means a share of about 75 % of all electric utilities (120) in North Rhine-Westphalia. As only 20-30 utilities had been expected to participate this means an important step forward in implementing LCP-procedures in Germany. The press has edited more than 300 local news reports, television and radio have broadcasted numerous reports about the project.

Concerning the size of the utilities the result is also encouraging: the biggest German utility, RWE Energie AG, joined the project as well as some of the smallest municipality owned utilities in Germany. So the project has shown that neither the size, the ownership nor the characteristics of the electric utility (generating/distributing or only distributing utilities) are decisive for successful implementation of LCP-programmes.

Though the participation rate of the utilities has been high, the quality and local engagement in implementing the project differed substantially. Comparing the number of CFLs delivered with the number of customers - i.e. the participation rate - there seems to be a wide range (from about 1% to 60%). This participation rate does not depend on the size or the type of the utility. The main reasons for not being fully engaged in implementing the

project were twofold: some utilities (we estimate: about 20%) were not completely convinced that LCP programs are in their own interest. On the contrary, they felt that they had to join the project because the state wanted them to, and there could be disadvantages for them if they did not do so. The perceived disadvantages are: a more unfavourable situation when “bargaining” with the regulator on future rate cases or the fear of increased public local pressure if they were not engaged in the project. So these utilities reacted in a formal manner instead of struggling for a success. For other utilities (we estimate: about 30%) the tough time schedule of the campaign was the main barrier: time for preparation was too short for them or they couldn't obtain the decisions of their managing bodies quick enough, or the design of the project didn't fit in well with their other IRP/LCP activities which were still ongoing.

Many utilities connected the program with an impressive variety of marketing actions and further LCP-oriented programs; e.g. many more energy audits were offered to the customers, and projects with pupils and teachers in schools have been started. 500.000 brochures explaining the action and giving more information how to save energy were handed over to the customers. Therefore, the global goal of the project, to create public awareness for the environment and for more efficient use of all kinds of energy consumption, has been reached.

It is estimated that at least 500.000 CFLs will be delivered to the customers directly. Evaluated CFL-LCP-programs in Germany show (e.g. in Freiburg or in Lower Saxony) that customers will be motivated to buy at least one more lamp as a reaction to successful program marketing. This would mean that overall about 1.000.000 new CFLs will be introduced into the market and 49 million kilowatthours and 360.000 tonnes of CO<sub>2</sub> could be saved. Therefore, we estimate that a small “conservation power plant” of about 10 MW could be built by the joint effort of the participants. The induced total investment of the project will be 6 million ECU. The total electricity bill for the customers will be reduced by about 5-8 million ECU p.a.

The cost effectiveness of the action seems to be guaranteed: it is estimated that the average cost of one kilowatthour conserved by successful CFL-LCP-programs is about 0.025 to 0.035 ECU/kWh (including program costs). Under German conditions this compares to supply costs being avoided of between 0.05 - 0.08 ECU/kWh. We expect that detailed valuated data and detailed results of cost/benefit-analysis will be available in July 1997<sup>2</sup>. 59 utilities chose the first way (free of charge) and 15 the second way (offering coupons of between 5 to 40 DM to the customers together with trade companies) to deliver the CFLs to their customers. 9 utilities connected the action with special information campaigns at schools. 2 utilities started only a social marketing campaign to increase public awareness for energy efficiency and climate protection.

As could be expected (see other successful CFL-projects, e.g. in Saarbrücken, in Freiburg or in Velbert<sup>3</sup>) high participation rates could only be reached through the first route. Although the total costs of the free of charge programs were higher, we expect that the cost-effectiveness of these programs is better than with coupon-programs.

## 11. “Bright NRW” in the setting of more competitive markets

The general barrier for the project has been that up to now in Germany there are heated debates on deregulation and more competition in the electricity sector (see below). On the other hand, the situation at the EU-level, too was also not clear when the project was started, because the directive on common rules for an internal electricity market<sup>4</sup> was not definitely decided and the debate on the proposed Rational Planning Techniques (RPT)- Directive<sup>5</sup> (a synonym for Least Cost Planning) is still going on.

However, the most important obstacles have been the uncertain perspectives of the German regulation system and extremely conflicting views of the political parties on future energy policy in Germany. In 1996 the German Ministry of Economics and the German Government proposed a new Energy Law<sup>6</sup> introducing full retail competition in one step, changing the regulative framework of the „Energiewirtschaftsgesetz“ (dating from 1935!) radically. On the other hand however there is strong opposition to the proposed law of the municipalities (about 900 utilities in Germany are owned by municipalities), environmental groups and all parties (SPD, Bündnis 90/Die Grünen, PDS) outside the CDU/CSU/FDP-coalition in Bonn. Therefore, on December 19th 1996 a broad majority

(including Bundesländer governed by CDU/CSU) voted against this law in the German Bundesrat (the political representation of the Bundesländer, where SPD/Greens-governments have the majority)

With this uncertainty about the future regulation system many utilities feared that it would be too risky to engage in LCP. Perhaps the most astonishing success of the project lies in the fact that it happened at such a time when concerns about environment, climate protection and more efficient use of energy in Germany to date are totally overwhelmed by discussions about how to decrease electricity prices (for industry) as far as possible. Though until now (and probably in the near future) electricity retail trade (for tariff customers i.e. households and small commercial customers) in Germany will not really be affected by competition, the dangerous psychological effect of the fierce deregulation debate in Germany has been, that up to now all utilities are hesitating about engaging further in energy quality (i.e. investing in LCP-programs/efficiency, renewables, CHP) if this could lead to more added value and higher prices. Therefore it was a really important fact that this growing psychological barrier against LCP in Germany could be overcome by the project, and a general set-back of LCP-activities could be avoided up to now.

## 12. Conclusions

In conclusion, the main results of the project are threefold:

First of all it shows that progress with LCP is possible in spite of unfavourable basic conditions when three prerequisites are fulfilled: a convincing leading idea and a common goal ("Leitidee") must be connected with strong political leadership and consensus building between all interested parties.

Secondly, there is still a remarkable number of utilities which could not be convinced that LCP is in their long-term economic interest. These utilities don't believe that LCP-programs would help them under competitive conditions to become more customer oriented and to improve their image. On the contrary, there is a growing fear that under fierce price competition it will be only the price and nothing else which counts.

In fact, these fears are the main obstacle to a broader diffusion of LCP-oriented activities in Germany. Until now, most LCP-activities have been started on a voluntary basis without any encouraging regulative basic conditions<sup>7</sup>. Therefore, it seems probably, that without competition rules and incentives to stabilise and foster LCP-activities there will be a standstill or backwards movement. On one side, therefore, implementation of the RPT-directive at the level of the EU is of strategic importance, because this would force utilities to engage in LCP, harmonise the conditions for end-use activities and neutralise otherwise negative effects of price competition for all utilities in the EU Member States. On the other hand, to engage in LCP could be demanded as a public service obligation by national energy laws implementing the directive for the common electricity market in Europe. As long as such public service obligations are not required at the national level, it could also be examined, whether voluntary agreements are a possible means in the same direction. In NRW, for example, the discussion within the round-Table LCP has just started on whether a voluntary agreement on investing for example 3% of the revenues from electricity in NEGAWatt-activities could be the next step after the successful program "Bright NRW" has been finished. Others argue that it would be a better idea to have a wire levy as in California or in the UK (non fossil fuel levy). Wuppertal-Institute has now come forward with the suggestion, to open up the option: either a utility invests 3-5% p.a. of his revenues into cost-effective LCP-programs or gives the same amount of money to a general fund. This fund should be administered by an independent institution (a German „Energy Savings Trust“) and distributed by a competitive scheme (bids) to energy service companies, contracting firms, utilities or other new "NEGAWatt"-actors, to open up the market for energy services.

## 13. Endnotes

1. See Wuppertal Institute for Climate, Environment and Energy and Beratungsgruppe Energie + Marketing . 1995. Evaluierung des KesS-Programms der RWE Energie AG. Wuppertal/Icking; Thomas, S. 1995. "Evaluation of RWE's KesS Rebate Programme for Efficient Residential Appliances". Proceedings of the 1995 ECEEE Summer

Study: Sustainability and the Reinvention of Government - A Challenge for Energy Efficiency. A. Persson (ed.).

The European Council for an Energy-Efficient Economy, Stockholm, Sweden.

2. Wuppertal Institut, Evaluierung des Programms "Helles NRW", forthcoming.

3. See Hennicke, P. and D. Seifried 1996. Das Einsparkraftwerk, Eingesparte Energie neu nutzen. Berlin, Basel, Boston.

4. See Amtsblatt der Europäischen Gemeinschaften. 1996. Richtlinie des Europäischen Parlaments und des Rates betreffend gemeinsame Vorschriften für den Elektrizitätsbinnenmarkt, Brüssel.

5. See Commission of the European Communities 1995. Proposal for a Council Directive to introduce rational planning techniques in the electricity and gas distribution sectors. COM (95) 369/4, Brussels.

6. See Bundesministerium für Wirtschaft 1996. Gesetz zur Neuregelung des Energiewirtschaftsrechts (Entwurf v. 29.8.1996), Bonn.

7. Again the price regulation in NRW is the exception: A 2% increase in the allowed profit rate has been offered to utilities for capital costs of NEGAWatt-programs compared to the capital invested in MEGAWatts.