

# Case Study 6

## EnERLIn programme

### Latvia



[www.energychange.info](http://www.energychange.info)



Project co-funded by the European Commission within  
**THE SEVENTH FRAMEWORK PROGRAMME**  
**THEME ENERGY.2007.9.1.2**  
Energy behavioral changes



## Changing Behaviour



Work package 2  
Development of the conceptual model: Analysis of success factors,  
underlying models and methods in target group interaction

### Case Study 6:

EnERLIn programme, Latvia

Agris Kamenders (Ekodoma)

March, 2009

Grant agreement no: 213217  
Project acronym: CHANGING BEHAVIOUR  
Project full title: Contextualising *behavioural* change in energy programmes involving *intermediaries*  
and *polycymaking* organizations working towards changing *behaviour*

[www.energychange.info](http://www.energychange.info)

# Content

Summary of the case .....	5
Step 1: Context of DSM programme .....	6
National context in general .....	6
Local context.....	6
Specific context of the project .....	7
Step 2: Focus of EnERLIn programme.....	8
General issues .....	8
Initiator and partners .....	8
Problem definition.....	8
Goals and objectives .....	8
The targets and target group.....	8
Step 3: Design of the programme .....	10
What knowledge and ideas informed the design of the programme? .....	10
Research conducted on target group .....	10
The intervention methods/instruments and activities used .....	11
Participation .....	12
Commitment .....	12
Communication.....	12
Learning, evaluation and monitoring.....	12
Link to other programmes and policy .....	14
Step 4: Process of the programme.....	15
Interaction between the different participants.....	15
Reaction of the project manager to issues/problems.....	15
Step 5: Outcome of the process.....	16
Objectives/goals/outcomes .....	16
Effectiveness .....	16
Social learning.....	16
Follow-up of the programme .....	16
Step 6: Analysis and conclusion .....	17

## Summary of the case

In the context of the European Union efforts to find cost-effective solutions to reduce CO<sub>2</sub> emissions and combat climate changes, European Climate Change Programme (ECCP) was carried out. During its implementation, cost-effective actions that contribute to CO<sub>2</sub> reduction and residential lighting were identified as an important activity area. Based on this, a programme called 'European Efficient Residential Lighting Initiative' (EnERLIn) was created by University Toulouse 3 specialists in France. The University is also one of the programme coordinators.

An important objective of the project is to identify all possible reasons of rejecting compact fluorescent lights (CFLs) , to develop good answers and then to translate them into clear and understandable statements for the non-specialists. The next step is to develop and validate functional, efficient scenarios for CFL promotion campaigns on European, national and regional levels. At the same time, the aim is to disseminate a quality charter among all the stakeholders to assure that the CFL can deliver long-term savings and meet the customer expectations of high quality lighting. The ultimate objective of this programme is to substantially increase the efficiency of residential lighting.

The objective of EnERLIn project is to address a large number of target groups and key actors, which are esteemed essential in fulfilling the aim of the project. The main target groups are: National Energy Agencies, lighting manufacturers, consumer defence associations, individual consumers, lamp and light retailers, policy makers, and politicians. In addition, an 'advisory committee' was organized, which consisted of European Lighting Companies Associations, Electric and Joint Research Centre in Ispra, and national institutions such as ADAME in France.

To achieve the objectives that were defined by EnERLIn programme, the following five phases were completed: adapting the current European CFL Quality Charter and investigating quality and efficiency issues to be included in the new version; designing common CFL promotion campaigns; implementing national/regional promotion campaigns; summarising campaign results and developing general assessment about campaign efficiency; and creating a dissemination package for those countries/regions/stakeholder that do not participate in the project so that they could benefit from the results and experience obtained during the project in order to design, carry out and evaluate CFL promotion campaigns.

This EnERLIn programme was implemented in Latvia. The CFL promotion campaign was organized in the municipality of Jelgava. This campaign can be considered successfully implemented based on the fact that during its implementation, the amount of CFL sales quadrupled. In addition, the residents' attitudes towards the municipality of Jelgava and towards energy saving has changed dramatically.

## Step 1: Context of DSM programme

### *National context in general*

After the Soviet Union collapsed, the consumption of electricity in Latvia decreased dramatically, because many industrial enterprises were closed down. Nowadays, however, electricity consumption is actively increasing because of the development of the industrial sector, but mostly because of income growth that allows households to purchase new electric equipment more often. As in other countries, households are the main electricity consumers in Latvia.

As Latvia is located in the north, there are more dark hours per day and more electricity is used for lighting than in southern countries. About 20% of consumed electricity in households is used for lighting. Most of the electric bulbs used are incandescent. These are some of the reasons why households switch to CFL slower than expected:

- Price difference - one incandescent bulb costs 0,14 EURO in Latvia, whereas the price for the simplest CFL bulb is 2,1 EURO. The consumers do not consider long-term benefits from the bulb's cost-effectiveness. The purchase decision depends only on the price of the bulb;
- Lack of information - There is no basic information available at CFL bulb points of sale about which parameters and behaviour are important when using this type of bulb. Very often, even sellers are not competent and cannot answer questions asked by customers;
- Behaviour - Although the tariffs for electricity are increasing, the majority of Latvian inhabitants does not think about energy savings.

Latvenergo, the public liability company responsible for electricity supply and maintenance in Latvia, is not interested in electricity savings. The company runs the Energy Efficiency Centre that provides information mostly on savings from electronics equipment operation, and less on lighting systems. Each year Latvenergo organizes competitions for school students on the theme of electricity, but only a very small part of their topics is related to lighting. Latvian government is more oriented towards ensuring energy demand with energy production and accomplishment of environmental aspirations related to the implementation of EU directives. There is a chapter on housing policy in the Latvian Sustainable Development Strategy, which includes information about households. One of the housing policy objectives is energy savings and energy efficient usage, which also includes savings from changing the electric bulbs. However, generally, there are no laws, rules or other terms developed in Latvia that regulate the use of lighting systems.

There has only been one programme related to lighting that was implemented in Latvia: ELI - I in 2002. Energy efficient lighting campaigns were implemented in the framework of the programme in all the largest cities of Latvia including the capital city, Riga, but excluding Jelgava town. The activities were similar to those that were included in EnERLIn programme. In addition, energy efficient lighting manufacturers have been active in the last seven years in the information dissemination about CFL and the promotion of CFL use.

In general, the average people in Latvia are conservative and do not easily adopt any changes. It is also hard to convince people to use new technologies only because it is better for the environment. At the same time, the younger generation is more open towards new information, and a good way how to get positive results from programme realization is to involve children, as was done in EnERLIn programme.

### **Local context**

An energy efficient lighting campaign was implemented in the municipality of Jelgava within the framework of EnERLIn programme. The municipality was selected for three reasons:

- Location - the town is located near Riga, the capital of Latvia. To organize all scheduled activities, it was important that the distance between both cities is relatively small, since the project partners are located in Riga.
- Population - the population of the municipality is similar to other average towns in Latvia. Project implementation in Jelgava was an opportunity to see if such a campaign could also be implemented in other cities.

- Attitude - Several energy efficient projects such as street lighting reconstructions and building energy efficiency projects have already been implemented in Jelgava. Some other projects are being prepared. This factor did not influence the project outcomes directly, but influences the responsiveness of the inhabitants of Jelgava to some project activities indirectly, such as better information appreciation about CFL bulbs in lighting stores. However, there are no concrete, visible results of this influence.

The following parties participated in the project: lighting manufacturers (Osram, Philips Latvia, and Plaza Ltd.); lamp and light retailers (10 lighting shops in the municipality of Jelgava); the municipality of Jelgava represented by the Directorate of Education; and the Regional adult education centre of Jelgava.

There is an Environmental commission of the municipality of Jelgava that is responsible for environment improvement in the city, but its objectives relates more to nature protection, not to energy efficiency.

There are no supporting groups or stakeholders who are interested in implementing or developing a project that could be related to energy savings, nor companies that are ready to invest money in lighting improvements. There are several people who are changing their behaviour towards a more energy efficient way, but they almost never upgrade the knowledge they have.

### *Specific context of the project*

The programme specific context is that almost all planned activities in the framework of the programme are aimed at residents and households. The use of electric bulbs is growing as many people move from apartments to private houses, but still use incandescent bulbs, not CFLs.

No energy efficient lighting campaigns have been implemented in the municipality of Jelgava for inhabitants until now. Lighting distributors organized several actions in lighting stores to promote use of CFL bulbs.

In practice, all institutions appreciate the necessity of environmental and energy efficiency improvements, but other important areas that have to be financed and adjusted become of higher priority when it comes to action implementation. Lack of supportive initiatives and legislation provide an important barrier to the implementation of such programmes.

## Step 2: Focus of EnERLIn programme

### *General issues*

The EnERLIn programme is still ongoing, but the main activities have already been completed. The programme started on 1 January 2006 and will be finished on 31 December 2008. The budget is defined and divided between the programme partners depending on the size of the country's population. Latvia has a budget available for campaign activities and because of it some additional efficient lighting activities will be implemented in September. This programme can be considered ambitious. The primary aim of the programme is to promote and to motivate inhabitants to buy CFLs, but another is to increase of the number of CFLs per household by 50%. In the case of Latvia, these aims can be regarded as ambitious because of inhabitants' unresponsiveness and old-fashioned thinking about the necessity of energy savings.

### *Initiator and partners*

The initiators of the programme were specialists from Universite Toulouse 3 in France. In developing the programme, also other participants were involved, who were responsible for forming some of the Work Packages: Agencia para a Energia (ADENE) from Portugal; Berliner Energieagentur GmbH (BE) from Germany; Ente per le Nuove Tecnologie l'Energia e l'Ambient (ENEA) from Italy; and Respect Europe (Respect) from Sweden. They were also the most important partners. Intelligent Energy - Europe (IEE) was financing the programme.

### *Problem definition*

Latvia is currently experiencing a difficult economic situation, in which problems related to the environment are not relevant, nor those that are related to energy efficiency. Additionally, from the government's point of view, the country is already consuming less than other European countries, so there is no need for energy efficiency. The attitudes of the Latvian population follow the same lines as the government's attitudes. So the main problem that has to be solved is the behaviour change of the inhabitants in relation to environmental problems.

### *Goals and objectives*

The goal of the project is to increase the efficiency of residential lighting and the amount of CFLs in households by approximately 50%. To achieve the goals the following objectives were reached: all possible reasons of refusing CFLs were identified; quality charters for stakeholders to ensure the quality of offered lighting bulbs were promoted; and a promotional energy efficient lighting campaign was implemented. From Latvia's point of view, the objectives are clearly defined and are not ambitious.

### *The targets and target group*

In the programme description, the developer decides to involve the following target groups: lighting manufacturers, consumer defence associations which are regarded as an important target group, individual consumers (the final target group), lamp and light retailers, engineers working on building construction, policy makers, and politicians. In the programme implementation in Latvia, the following target groups were involved:

- Lighting manufacturers - Philips lighting in Latvia, Osram, and Megaman. Their tasks were to provide information stands in lighting stores in Jelgava with lighting, to participate in the workshops and information days at schools, to prepare the presents for competitions. The involvement was voluntary and the results depended on the companies' attitude.
- Lamp and light retailers - 10 lighting stores in Jelgava participated in the campaign. Their task was to organise information stands and posters, and participate in one of the workshops.
- Individual consumers - a large number of individual consumers were involved. Three types of competitions were organized for children at schools: a drawing competition for pupils from the 1st to the 4th class; a com-

ics competition for pupils from the 5th to the 7th class; and a calculation lottery for pupils from the 8th and 9th class; as well as information days for pupils at secondary schools. In total, 605 pupils were targeted. 20 000 leaflets about energy efficient lighting were distributed during the campaign on the streets. There are 66 000 inhabitants in the municipality of Jelgava and they were all involved in the project activities. Nearly 10 000 more people were informed about the campaign in Jelgava and about the benefits of energy efficient lighting, as a TV broadcast was shown on the national television after the campaign.

- Policy makers, politicians - no policy makers or politicians were involved directly, because the campaign was organized on a local level. The deputies of the municipality of Jelgava can be considered involved in the project as they are the local authority. The Directorate of Education of the municipality of Jelgava provided informative support for the project. Their goal was to organize collaboration between schools in Jelgava and project partners.
- Engineers working within building construction - energy efficient lighting constructor 'Sinhro' Ltd participated in the workshop about energy efficient lighting for schools and companies of Jelgava. They presented a report about the benefits of lighting reconstruction in Latvian Sport Academy.

The only target group that was not involved in the project was consumer organizations. It was planned that Latvia's Consumer's protection association (PIAA) would be involved. However, there was no collaboration between the project partners and PIAA, because the association was not interested in the project: they did not respond to invitation letters. However, this factor did not affect the project successes, because PIAA is responsible for consumer complains about products. Their aim in this project was to inform consumers about the quality of CFLs, but the main factor that influences people's CFL purchasing capacity is the price, not the quality.

During the campaign, CFL bulbs were offered on discount at the points of sale so people would be more interested in buying them and so more significant financial savings could be achieved.

### Step 3: Design of the programme

#### *What knowledge and ideas informed the design of the programme?*

Light is vital for life. Light sources play an indispensable role in the daily life of any human being. Quality of life, health and even security, all depend on light and on its quality. An OECD estimation shows that, in the near future, the need for lighting will increase by a factor of 3 in the western countries. Light production needs energy: nowadays, more than 30 billion electrical lamps operate every day worldwide consuming more than 2,100 TWh per year (10-15% of the global energy production worldwide). Furthermore, the annual greenhouse gas (CO<sub>2</sub>) due to this energy production is estimated to be over 1,700 million metric tons.

There were approximately 140 million dwellings in the EU in 1995. It is expected that the number of dwellings will rise to 156 million in 2010. Almost 20% of the energy is consumed in the household sector. The average energy consumption of a dwelling in a country depends, among others, on many country specific circumstances, but the part concerning lighting is comparable information between countries. Today, on average, around 2 CFLs per household are used. Of course, this number is dependent on the country (in Nordic countries we can find more CFLs per household, whereas this figure decreases in the southern countries).

To ensure a sustainable growth and use of CFL, it is proposed that valid promotional arguments should be developed and coherent promotional campaigns implemented; and end-users should be trained in order to achieve a self-sustained CFL use growth.

#### *Research conducted on target group*

The project coordinators selected the target groups. All interest groups that could participate and could provide investments for better results were reviewed. Individual consumers were selected as the main group, because they are the CFL end-users, and without them the project could not be realized. The policy makers and agencies were considered the main part of the target group, but they do not have an important influence to the project realization in Latvia, thus, this part of target group was not involved in the implementation of the project.

Two kinds of questionnaires were developed before implementing the activities: one for individual consumers and another for lighting manufacturers to gather information about situation in the CFL market. Individual consumers in Latvia were asked questions about CFL usage and attitudes towards it, age, income, and living situation. Lighting manufacturers were asked questions about CFL quality charters, prices, types of CFL, and end-user preferences about CFL. There were 285 questionnaires filled altogether. No division was made as to gender; yet, the respondents were asked to indicate their age. In the results, the respondents younger than 21 years old filled 76 questionnaires (28%), 153 people were of age between 21 and 35 (56%), 23 between the ages of 35 and 50 (9%), and 23 respondents were older than 50 years (7%). A little less than 50% of the respondents in the age groups below 21 and 21-35 years, and over 50 years old use CFLs in their households, and 35% in the age group 35-50. The less informed group is the respondents who are older than 50 years. Almost half of the rest of the respondents consider themselves informed about CFL quality, the other half thinks that they do not have information on it. The questionnaire for lighting manufactures was filled by only four companies. The poor response rate is related to low interest in participating in the project, but mostly to a general attitude toward surveys (there is never time or will for questionnaire filling). The answers showed that only one company knew about CFL quality charters. The main lighting group preference of the end-users was incandescent bulbs.

As the questionnaire was made in Riga and as the aim was to gather information about the CFL market, the results of the questionnaire were not used in designing project activities. In addition, the activities were not set in advance. In the programme planning, the best practices of the previous energy efficient lighting campaign (ELI) were carefully taken into account.

The questionnaire was developed based on the example of a Bulgarian questionnaire and its guidelines. The questionnaire was adapted to Latvian circumstances. Its development was not based on only one sociological

theory. Special attention was paid to its structure and the questions were based on the experience and knowledge of project managers.

In Latvia, the research was small-scale and this was the reason why the level of knowledge of the target group was not reached.

#### *What barriers, motives and capacities did the programme aim to target?*

As the research was as a part of the project activities, the target group of the research was not incorporated in the development. Results of the research were not incorporated in the development of the energy efficient lighting campaign, because the questionnaire was not distributed in the municipality of Jelgava.

The aim of the programme targeted the following determinants:

- Attitude - changing the attitude towards environmental problems. Each person is responsible for the changes in climate. With small investments and strong motivation, each person can invest in global climate protection.
- Motivation - within the programme implementation, a cost-effective way of financial savings that lead to additional motivation for improvements of the environment was shown.
- Knowledge - leaflets about CFL usage were distributed among the inhabitants. Informative workshops were made for lighting sellers and companies in Jelgava to promote CFL usage.

In addition to the general aim of the programme - to increase of the number of CFLs in households to 50% - individual consumers also get other benefits such as increased light quality.

#### *The intervention methods/instruments and activities used*

The project consisted of the following phases:

- Phase one: reviewing the current European CFL Quality Charter, and investigating quality and efficiency issues to be included into the new version; [possibility to develop a similar charter for pin-based CFLs]. In this phase, the consortium also collects existing information and defines the questions to be addressed by the test facility.
- Phase two: designing a common CFL promotion campaign: target areas, customers, promotional messages. The design includes the development of common and well-structured information and dissemination material (e.g. correct user guidelines) and innovative financing schemes (ESCO, DSM, utilities). In organizing the Latvian campaign, emphasis was put on information of the target groups and their involvement into the campaign activities, while innovative financing schemes were not offered.
- Phase three: implementing national/regional promotion campaigns
- Phase four: collecting the campaign results and general assessment concerning the efficacy of the campaign. This phase also deals with developing methods to assess the 'real' energy and carbon value of the CFL campaigns to assign it to the regional/national CFL campaign promoter (utilities, private companies, etc.) for possible exchange with carbon credits or, where existing, white certificates. The project gathers all the information about the residential penetration of CFL and its market potential in order to develop the baselines (BaU scenarios)
- Phase five: creating a dissemination package to allow countries/regions/stakeholder that do not participate in the project to benefit from the results and experience produced in the project to design, carry out and evaluate CFL promotion campaigns. The package will be presented as printed materials.

The most important activity for Latvia was designing and implementing the promotion campaign. The project partners were free to develop and organize the campaign in their countries, yet, the programme implementation plan was clear.

### *Participation*

All project partners and a special 'advisory committee' - the companies and agencies that have experience with the lighting section - were involved in the development of the programme. Overall, the programme and all activities during the promotion campaign were addressed to the social environment. Competitions between schools and information days for pupils and their teachers were organized. In addition, parents were involved in the activities.

During the programme implementation, the promotion campaign introduced to different activities development for social environment. Several CFL promotion activities during the campaign were made:

- Drawing, comics, and energy saving calculations competitions for school pupils;
- Information days for secondary school pupils;
- Informative stands in lighting stores and a workshop for lighting stores employees;
- Distribution of booklets for Jelgava residents;
- Information dissemination about the campaign in mass media.

### *Commitment*

During the promotion campaign development, extra financial support was required by project partners for promotion campaign implementation.

### *Communication*

Accordingly each activity during the promotion campaign had various information approaches:

- Colouring books for pupils from the 1st to the 4th class;
- Information days for pupils of a secondary school;
- Workshops for lighting store sellers and companies in Jelgava;
- Leaflets for inhabitants of Jelgava included information about savings from using CFLs, technologies for CFL, addresses of lighting stores in which it was possible to buy CFL on a discount.

Posters, presentations, exhibition aids, tests, and small competitions with rewards were used to develop communication between the target groups. The best communication found during the information days was at schools when pupils and teachers could ask lighting manufacturers questions about CFLs. On the materials that were developed for the campaign, only the project logo was seen, but lighting manufacturer logos were not used because of fair competition.

### *Learning, evaluation and monitoring*

One of the EnERLIn programme phases includes Work package Impact Assessment. For this purpose, 219 824 EUR were allocated. It included the following tasks: quantitative assessment (number of CFLs acquired, variation of CFLs per household) number of people that has been trained and their opinion on the learning materials, and qualitative assessment (reaction of targets, change of attitude). Evaluation of the impact on energy saving and environmental issues is conducted using the data from previous tasks. It is then possible to translate the campaign results into achieved energy savings (and the associated environmental impact). These results will be used to evaluate the overall efficacy of each successful campaign. All other evaluations were collected and the report was sent to the project coordinator.

During the entire time, an interactive website was open for stakeholders: consumers, retailers, and producers. Reports about all promotion campaign activities from all partner countries were available. A questionnaire for surveys was developed for collection of feedback in Latvia in order to assess the impact of the EnERLIn campaign in Jelgava. Three surveys were planned:

- the first survey was carried out before the campaign (October 2007);
- the second survey was carried out 10 days after the end of the campaign (December 2007);
- the last survey was carried out 5 months after the end of the campaign (April 2008).

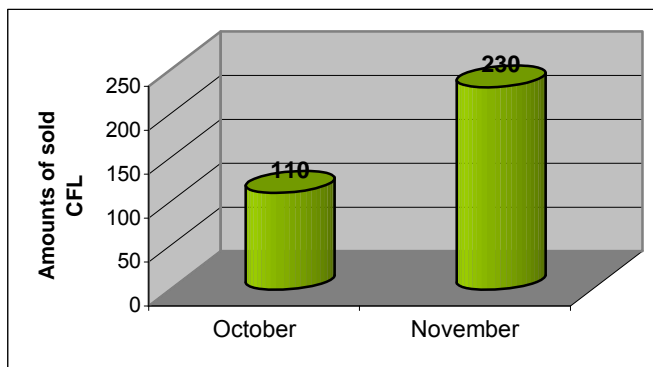
In addition, a specific questionnaire was made for students during the information days and the questionnaire for lighting stores consisted of simple tables in which to indicate the number of CFL sold in October (before the campaign) and then in November (during the campaign).

The programme helped to learn certain elements, and the most important ones are: which activities give the biggest impact to the results; how to motivate retailers and lighting manufactures to join the project; and what are the positive and negative sides of the implementation of the promotion campaign. All learning elements will be summarized and published in the project website later.

A research was conducted before and after the campaign implementation in order to define the campaign's impact and volumes of the bulb sales at the involved stores. In order to assess the impact of the EnERLIn campaign in Jelgava, a questionnaire for the surveys was developed. Then, three surveys were planned:

- the first survey was carried out before the campaign (from 22 to 26 October 2007),
- the second survey was carried out 10 days after the end of the campaign (from 3 to 7 December 2007);
- the last survey (results not available yet) was planned to be carried out in 5 months after the end of the campaign (planned for April 2008).

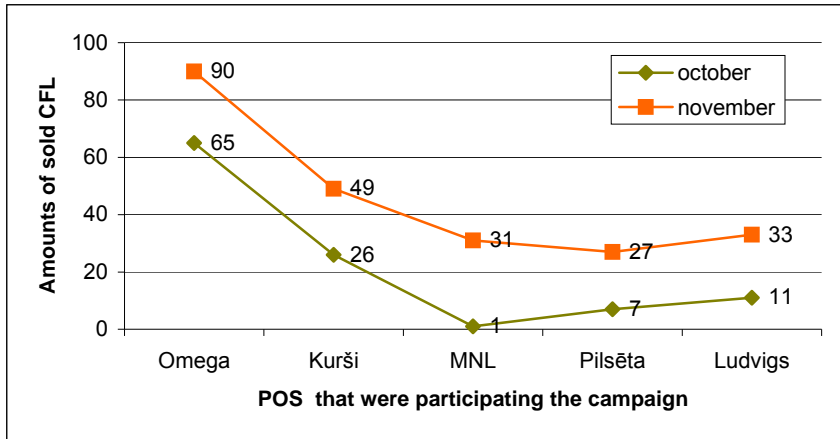
In the first questionnaire survey round, 1150 residents participated which comprises approximately 1,6% of all Jelgava population. 1034 inhabitants participated in the second questionnaire. To be able to see whether the energy efficient lighting campaign 'More light for less money' ('Vairāk gaismas par mazāku naudu') contributed to increase the usage of CFL, a questionnaire was distributed to the POS that participated in the campaign. The questionnaire consisted of simple tables in which the POS were to indicate the number of CFL sold in October (before the campaign) and in November (during the campaign).



**Figure 1. The total amount of sold CFL from five POSs in October and November 2007**

Figure 1 shows how many CFL were sold in five POSs in October and November. There are not very many people who buy CFL, but it is obvious that in November the amount of sales in some POSs was at least four times higher than in October.

In the POS 'Omega', appliances and lightening accessories are sold. The store is located in the centre of Jelgava and it has is the highest CFL sales volume in comparison to all other shops. However, POS 'Kurši', 'MNL' and 'Pilsēta' are building material shops, in which the customers are more aimed at the building constructions, not purchasing CFLs, and the volumes are lower than in POS 'Omega'.



**Figure 14. The difference between CFL sales volumes before the campaign and during the campaign**

In addition, the number of CFLs sold depended on the attitude of the POS management and each of the sellers in the lighting department. Some of the POS only did what was asked of them without their own input and this was the main barrier for achieving better campaign results. If the input of two campaign weeks are compared with the acquired results, the achieved results are very successful.

*Link to other programmes and policy*

A trend analysis workshop is anticipated at the end of the project in order to apply the ‘fishbone approach’ in which all the partners and key actors are invited to individuate all the difficulties that still arise in order be more effective and efficient. The tools that can be used in order to overcome such difficulties are as proposed: further research and development; standards; extra legislation; complementary measures (education and outreach, for example).

## Step 4: Process of the programme

### *Interaction between the different participants*

It is difficult to separate the target group from stakeholders, because a part of the target group can also be taken as stakeholders such as the lighting manufacturers. They are interested in increasing the amount of CFL sold and in distributing the information about the production and the company. On the other hand, ordinarily they are interested in selling all kinds of lights, but during the programme, we are promoting them to focus on CFL bulbs. The target groups who participated in the project implementation in some cases met interaction problems. These were mostly between lighting manufacturers and retailers, for example in handling information: informative materials were sent to lighting stores before the campaign: posters, leaflets, and information stands with the description. It was agreed that the descriptions would be taken care of, but at the beginning of the first campaign week, the obligation was not fulfilled in some stores. The project manager visited all the stores and informed lighting manufactures about the situation, and then the problem was solved and did not affect the project implementation.

Activities performed in schools also involved the pupils' parents indirectly. For example, the children were asked to draw a picture about energy efficient lighting and it raised their interest about CFL in their homes, which pushed parents to buy CFL.

### *Reaction of the project manager to issues/problems*

Collaboration between the project partners was dynamic and activities were in accordance with the work processes. During the programme development, active discussions took place between the project partners. Some problems were revealed during them, but the project manager was able to deal with the problems in such a way that the project realization was not affected. The problems concerned conflicts of interest between the lighting manufacturers. They were interested in showing that their products are better than those supplied by the others. From the project manager's point of view, it was very important to provide equal treatment to all the manufacturers and limit their wishes to some extent. Problems related to project partner attitudes and accomplishment of obligations such as not participating in all information days were influencing the project results in a negative manner. It was not, however, necessary to change or vary the project goals or objectives within the framework of the activities during the entire duration of the project.

## Step 5: Outcome of the process

### *Objectives/goals/outcomes*

The project has not ended yet, so the final version of the results will be published at the website after the project is finished. All main objectives were achieved in Latvia; quality charters were developed and a promotion campaign was implemented. The first objective of revealing the reasons for rejecting CFLs was achieved only partly, because of lack of time.

Objectives for behaviour changes were not defined in the programme development process, but the implementation of the promotion campaign is directly connected to the behaviour changes of the residents. Because the campaign implementation was like a 'clap of thunder' for the inhabitants, it made them think in a more environmentally friendly way.

The project success was achieved step by step without interventions. The alterations are still going on, because according to the results of the final inhabitants questionnaire, the amount of people using CFLs is growing. The lighting manufacturers also confirmed that the amount of sold CFL has grown strongly. In addition, the energy consumption in households for lighting has decreased, but there are no options for presenting the energy consumption in figures. The programme can definitely be described as successful, because although the promotion campaign was active for only two weeks, the results in the case of Latvia are great and it is possible that the project effect will last several years.

### *Effectiveness*

The cost-effectiveness of the programme can be evaluated as [Eur/kWh] from changing incandescent bulbs to CFLs. However, it is important to include the costs for new CFLs in the calculation, but then it turns out that it is not so cost-effective any longer in the case of Latvia.

### *Social learning*

Learning obtained by the programme managers was very significant. It was an opportunity to learn about the target group's needs. During the implementation of the promotion campaign, different causes were identified, which allow organizing similar promotion lighting campaigns in the future. It became clear what information is needed to assure that the inhabitants participate in different project activities; how to get the best results of it; and how to deal with lighting manufacturers and retailers to raise their interest about the project.

Learning in the target group was significant. The programme allowed the target groups to learn information about the benefits of using CFLs, which can be transferred further, and a way to contribute to the sustainability of the project.

In the case of Latvia, all project partners were very satisfied. Even after the campaign ended, in some lighting stores, posters were kept in visible places to attract the residents' attention. In addition, lighting manufacturers were interested in implementing similar campaigns in other cities in Latvia.

Changes in attitudes toward everyday behaviours can be referred to as a major behaviour change. For example, there have been changes in switching off the light if it is not needed and other actions to which attention has not been paid before. These kinds of changes are sustainable and durable.

### *Follow-up of the programme*

As the environmental problems become more urgent and the cost of energy usage are growing strongly, people's behaviour change will last independently. Without this, it will not be possible to survive in the future.

## Step 6: Analysis and conclusion

The final outcome of implementing the EnERLIn programme (the main goal, the project objectives achieved and the level of achievement) in all participating countries will be evaluated after the project ends. The following five crucial factors that influenced the programme's success are to be mentioned after the analysis of implementing EnERLIn programme in Latvia:

1. ***Financial resources for the implementation of the promotional campaign*** - this is a relevant aspect for the implementation of the promotion campaign, because information distribution is related to high expenses. The more financial resources are spent, the more activities are possible to implement. This way, more people are involved and better results of project implementation are expected. For these types of activities, the financial resources were too low, which affected the project results negatively.
2. ***Number of target groups involved*** - In this case better results of the project implementation depend on the number of political institutions involved. In the case of Latvia, the results could be more effective if energy agencies or politicians were involved. Specialists from Jelgava council participated in the implementation of the promotional campaign providing support more in terms of organization not information distribution.
3. ***The situation between the implementation of a promotional campaign and the collection of the campaign results*** - There was a risk that the developed promotional campaign, the implementation of the promotional campaign, and the collection of the campaign results would have been less successful than expected. This could have happened due to various reasons, some internal and some external. The internal reasons are mainly linked to the fact that the concept of the campaign itself is targeting a less interested population or the selected arguments are less attractive. The campaign may also be a less fruitful event, if it is not well developed due to less efficient dissemination or disagreements with local retailers or even funding problems. Both situations are possible and they should not be neglected.
4. ***CFL quality charter*** - The objective to design a quality charter implicitly affected the project results positively. Those project partners among the lighting manufactures were selected who have a quality charter, Osram and Philips, for instance. The CFL operation time depends on the quality and it has an effect on the customer/user. If the first user experience is positive, distribution of information becomes easier and more successful.
5. ***Collaboration between target groups*** - collaboration between lighting manufacturers retailers and individual customer is a very important aspect in this type of programme. Each of the target groups influenced each other significantly. In the case of Latvia, the relationships between these target groups were considerably good, so they achieved very positive results.

## References

1. Programme EnERLIn website: [http://www.enerlin.enea.it/index\\_en.asp](http://www.enerlin.enea.it/index_en.asp)
2. Programme EnERLIn Key Actions - Type 1 Actions report