# *Lietuvos Energija*
# *Customer Energy Efficiency*
# *Program Plan*

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# 1 Introduction

This report provides a review of the current energy situation in Lithuania and initial energy efficiency activities at Lietuvos Energija (LE) Lietuvos Energija has made considerable progress in the last two years to develop a consumer services function within the organization and to start promotion of energy efficiency to its customers These efforts have also been conducted in cooperation with the local electric networks The report further recommends a plan to expand LE's current efforts with activities that will promote awareness and encourage adoption of energy efficiency measures by the general public This energy efficiency plan should also form the foundation upon which LE can build other efficiency programs and activities in future years

The Customer Energy Efficiency Program Plan, contained herein, is designed to assist the Consumer Analysis and Services Department in its quest to provide energy efficiency programs to its customers The plan provides foundation of energy efficiency information and education activities, designed to increase the public's awareness of energy efficiency measures and their benefits, to improve public perceptions of LE, and to encourage the implementation of low cost and no cost efficiency improvements This report is organized as follows

Section 2 reviews the relevant tasks included in the USAID workplan and provides an overview of the current electric energy situation in Lithuania In Section 3 four possible energy efficiency program options are outlined and the results of an economic screening analysis are discussed Section 3 also presents a discussion of market transformation, an approach to energy efficiency implementation currently gaining momentum in the US, and presents recommendations for Lietuvos Energija The next section describes the three components of an initial energy efficiency program, efficiency information, pricing, and theft reduction, and discusses why these three activities make sense for Lietuvos Energija at this time and are essential first steps to build a foundation for further energy efficiency initiatives Section 5 then provides a more detailed outline of the energy information program plan The team of Electrotek/CMPI will assist the CAS Department with the implementation of the program described in this section Finally, Section 6 raises issues related to planning future phases of an energy efficiency program that Lietuvos Energija should examine in parallel with implementation of this plan

# 2 Background

In May 1996 a new department, Consumer Analysis and Service (CA&S), was formed within Lietuvos Energija's Energy Sales Center In addition to assuming ongoing functions such as meter research and testing and the coordination of customer service policies and procedures, the new department was given responsibility for developing and implementing energy efficiency programs for LE's customers

## 2 1 USAID Workplan

To encourage and support the development of energy efficiency programs and improvements in customer service, the U S Agency for International Development (USAID) is providing assistance to LE through its contract with Electrotek Concepts, Inc CMP International Consultants, a subcontractor to Electrotek, has been working with the Consumer Analysis and Service Department, since its inception, on two tasks

**Task 1**

The first task includes the development of a department implementation plan and an energy efficiency program plan, assistance in the development of new and revised customer service policies, identification of ways to reduce losses due to theft, and training on energy efficiency and customer service This document provides the Customer Energy Efficiency Plan under this task

**Task 2**

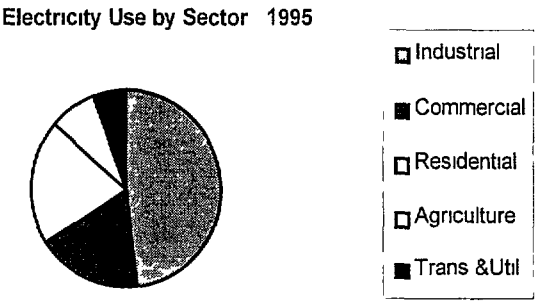
The second task involves a targeted demonstration program with a budget customer, the Santariskiu Hospital Under this task, Electrotek and LE are working with the hospital to conduct an energy audit, analyze potential energy savings, and install energy efficient equipment that will be purchased with USAID funds Activities under this task will not be addressed in this document These activities will be detailed in a separate deliverable, the Budget Customer Implementation Program

## 2 2 Current Situation

Electricity Consumption

Annual electrical use in Lithuania is currently at a level of 11 6 TWh/year, and is projected to grow to 12-14 TWh by 2005 Lithuania also has enjoyed a substantial electricity export market, which in 1995 amounted to an additional 5 2 TWh Electricity consumption is primarily lighting and motor load, there is very little use for electric space or water heating

The customer base can be considered as five main groups of customers, industrial, commercial, agriculture, transportation and utilities, and residential households The annual electricity consumption of each segment is shown in Figure 1, below




As can be seen, the largest electrical use is in the industrial sector, accounting for 48% of Lithuania's annual consumption Almost 80% of industrial energy use is motor power, lighting and other uses accounting for about 10% each The commercial sector (17%) and residential households (21%) are the next two largest electricity consumers In the commercial sector, there are two primary uses for electricity Lighting is the dominant electrical consumer, accounting for 42% of sector use, while miscellaneous uses (plug load and motors) represent another 38% of sector electrical consumption In the residential household sector most of the electrical consumption is also for one of two purposes, Lighting accounts for almost one half of all electrical use, and refrigeration another one quarter The agriculture sector accounts for about 8 % of annual electricity use, and transport only 4%, both primarily energy used by motors

Customer attitudes

Customer attitudes are generally favorable toward energy efficiency, with some lack of information regarding how to take advantage of efficiency opportunities Attitudes toward LE are mixed, with the company being held responsible for recent increases in the price of electricity There is also some ambivalence regarding payment of electric bills on the part of the public, given LE's experience with customer theft and non-payment of bills

Electricity Prices

Electricity prices in Lithuania have been on the rise, as LE and the government bring prices into line with full cost recovery for the utility Currently, residential and small commercial customers pay 0 20 Litas (Lt) per Kwh ($0 05/Kwh) for a standard single-price tariff, the two-price tariff is 0 20 Lt/kwh ($0 05/Kwh) on-peak and 0 014 Lt/Kwh ($0 035/Kwh) off-peak Large high voltage customers pay 0 125 Lt/Kwh ($0 031/Kwh) for service from the 110 kV network LE expects to increase prices 25% in the next year, due to increased cost per kWh and reduced exports from Ignalina

Electricity Supply

The current electricity supply/demand balance is one of over-capacity The least cost plan, funded by EBRD and prepared by the Lithuanian Energy Institute, and LE, indicates that Lithuania will have excess generating capacity well beyond the year 2000, the exact duration of the situation depending on the growth rate of the Lithuanian economy and the future of the Ignalina nuclear power plant (NPP) Lithuania is currently exporting electricity to neighboring countries (Belarus, Latvia, Russia) These exports will continue as long as sufficient output from Ignalina is available and LE maintains its favorable price position

The Ignalina NPP is currently the primary supplier of electricity to Lithuania, producing over 80% of the nation's annual electricity needs The current cost of electricity produced by Ignalina is 0 024Lt/Kwh ($0 006/Kwh) This energy is supplemented by production at the nation's hydro and pumped storage hydro plants, and from production at various thermal plants (TPP and CHP) Marginal electricity (fuel) cost at the largest thermal plant is currently 0 10Lt /Kwh ($0 025/Kwh)

The future of the two units at the Ignalina NPP is uncertain, with studies underway contemplating closure at 15 or 20 years of use This equates to a possible closure of Unit 1 as early as 1998 or as late as 2003, while Unit 2 could close between 2003 and 2008 Even in the event of such a shutdown, there is sufficient thermal generating capacity to meet the country's electricity needs, at higher cost, although some of this capacity will require refurbishment

# 3 Energy Efficiency Program Options

## 3 1 Program Options

Four options were examined for energy efficiency activities in the short term These options are

- Conduct a residential lighting program
- Conduct a commercial lighting program
- Conduct a residential refrigerator replacement program
- Initiate a broad market transformation program

The first three options were selected based on market segment, total end use energy consumption, and the existence of previous energy efficiency initiatives The fourth option was added based on current energy efficiency work in the US, which indicates the potential benefits of market transformation efforts In the residential household sector, the primary electricity uses are lighting and refrigeration, while in the trade and service sectors, lighting is the predominant use, thus programs which target these end uses are selected for further examination

Efforts targeted at industrial and large institutional customers are not included here They are being addressed in Task 2 of this workplan The nature of these market sectors, comprised of fewer, larger customers, with somewhat unique site-based energy issues, lends itself better to an energy service company approach, which would address efficiency on a customer by customer basis

A residential lighting program could be conducted to promote the use of compact florescent lights (CFL) The objectives of the program would be to increase public awareness of CFL's as an alternative to incandescent bulbs in long hours applications, and to encourage initial installation of these bulbs Typically, such a program would involve subsidized introduction of CFL's through one or more distribution channels, with concurrent promotional activities

A specific case was analyzed where LE would distribute coupons for a 75% rebate on the cost of a CFL to its residential customers The customer would then redeem the coupon when purchasing a CFL at the local customer service center or bill payment location The objective would be to secure the installation of 100,000 CFL's per year over a five-year period, displacing an equal number of standard incandescent bulbs The priority would be to displace that segment of the residential lights that operate for the longest periods (Since each CFL has a 10,000-hour life, it would actually replace 10 or more incandescent bulbs over its lifetime ) Results of this analysis are discussed below

A commercial lighting program would involve promotion of energy efficient florescent lights, ballasts, and controls to replace existing standard florescent and incandescent systems The objectives of such a program would be to increase awareness among energy decision-makers in the trade and service sectors regarding the benefits of efficient lighting and to encourage installation of efficient lighting systems Such a program would involve incentives, paid either to manufacturers, distributors, or customers, for the installation of qualifying systems, and concurrent promotional activities

In the case analyzed here, rebates would be offered to support the added cost of installing energy efficient fluorescent tubes and ballasts, as replacement for standard tubes The goal would be to displace a half million tubes over five years Results of this analysis are also discussed below

A residential refrigerator replacement program would improve the average installed energy efficiency of refrigerators, the second largest component of residential electricity use, by promoting purchase and installation of more efficient models Such a program would involve incentives to manufacturers (similar to the Super Efficient Refrigerator program in the US) distributors, or customers (similar to several refrigerator buy-back programs), which would subsidize the added cost of an efficient refrigerator over a standard model One difference here is

that the average European refrigerator tends to be smaller that its American counterpart, and uses less energy initially The program analyzed contemplates the encouraging the purchase of a model that is about 25% more efficient than standard, with a goal of achieving 20% of the annual replacement market Again, results are discussed below

A market transformation program would be somewhat different from the three direct action programs outlined above The objectives of this program would be to change the customer perception and product composition of entire market so that efficient products are the norm and do not need to be promoted directly with incentives A specific case was not analyzed in the same manner as the above options because the nature of the program contemplated does not lend itself to a formal benefit cost study Market transformation programs are discussed further below

## 3 2 Options analysis

Preliminary benefit/cost analyses were conducted for implementation cases developed for each of the first three options outlined above Results were examined using the common energy efficiency tests described in the California Standard Practice Manual ("Economic Analysis of Demand-Side Management Programs" California Public Utilities Commission, December 1987 ) In particular, results were compared using net present value calculations for the Total Resource Cost (TRC) Test, Rate Impact Measure (RIM) Test, and Participants Test

The results indicate that none of the three energy efficiency technologies examined would provide a clear benefit to warrant implementation at this time Impact on utility rates was substantially negative for all three technologies Total resource cost test net present values (npv) were also negative The most promising program was residential lighting, which was marginally uneconomic from a TRC perspective with a benefit cost ratio of 0 95, but from a rate impact perspective, the results were much more unfavorable (B/C of 0 23)

In financial situations similar to that currently existing in Lithuania (where the utility is trying to improve its financial wealth and hold costs down in the face of a high proportion of fixed costs) the rate impacts of any proposed action are particularly important and should be given more weight than TRC results

| | | NPV | 10^6 LT ($mill) |
|---|---|---|---|
| Program | RIM | Participant | TRC |
| Residential Lighting | -76 9 (-19 2) | 75 6 (-18 9) | -1 3 (-0 3) |
| Commercial Lighting | -57 4 (-14 2) | 36 4 (-9 1) | -21 0 (-5 2) |
| Residential Refrigeration | -40 2 (-10 0) | -5 4 (-1 2) | -45 6 (-11 4) |

These results appear to be driven by the near term availability of relatively low cost energy from the Ignalina NPP, and the fact that LE will have a capacity surplus for the next 10 years As the time approaches for the retirement of the two units at Ignalina, electricity supply cost projections will rise and these efficiency technologies will become more economically attractive

In the short term, there are a number of low cost/ no cost measures, including operational changes (sometimes referred to as "organizational measures") that can be implemented by customers to reduce their cost of electricity and heat Implementation of these measures can be encouraged and supported by LE through the implementation of a program to increase customers' awareness of energy efficiency measures and their benefits Such a program should position LE and its customers to expand their efficiency efforts in the future, when supply costs increase

## 3 3 Market Transformation Programs

Energy efficiency activities in the United States have a relatively long track record, some extending back twenty years or more The majority of these activities have focussed on directly encouraging individual customers to adopt specific energy efficiency measures, through some combination of information and incentive programs Recently, some energy efficiency experts have begun to focus on improving the fundamental structure and functioning of energy efficiency markets, and permanently removing the market barriers impeding the adoption of energy efficiency measures and technologies Their belief is that these efforts, which are being referred to as market transformation, will ultimately result in greater levels of energy efficiency in society at lower overall cost

The objective of a market transformation program is to achieve a change in the structure of a market or the behavior of participants in a market which results in an increase in the adoption of energy efficiency products or measures, that lasts after the program has been completed

Market transformation programs have different characteristics than direct intervention programs, including

- The results of market transformation efforts may take longer to manifest themselves, compared to direct intervention programs However, the results may be more permanent in nature
- Program results can be more difficult to quantify and measure Results are not as easily defined as numbers of measures installed or kWh saved by direct program action over a short period
- Program efforts can address a wider range of market barriers than a typical direct incentive program
- Successful programs can require the collaborative efforts of several parties Permanent market change may require the cooperative efforts of the utility, government, manufacturers and others to achieve the desired result

Initial efforts have begun in some parts of the U S to assess the potential and benefits of market transformation, compared to direct intervention programs Belief in some quarters is that programs aimed at accomplishing fundamental market change will produce greater long-term results at lower cost than direct incentives

The current Lithuanian energy situation makes this type of approach particularly attractive Lithuania does not have a current capacity shortage, and marginal generation costs are relatively low Yet at some point in the future, the combination of economic growth and the closure of Ignalina will cause electric demand to increase to the point where additional capacity is needed and the cost of electricity will rise By starting now to address the market for energy efficiency, Lithuania will be in a better position to meet future energy needs

## 3 4 Recommendations

LE should implement a market transformation program to induce fundamental, permanent change in the energy and energy efficiency market in Lithuania This effort should be implemented in a phased approach, starting with broad programs aimed at the majority of residential household customers, and expanding to the service and trade sector, industrial sector, agriculture, and budget customers This first phase program would consist of three main elements, information, pricing, and theft reduction, as discussed below Subsequent phases should focus on changes in more specific markets

Market transformation is the preferred course of action in Lithuania for the following reasons

1 The current situation does not justify implementation of direct incentive programs, at this time
2 There is sufficient lead time for transformation programs to produce changes to the efficiency marketplace before electric generation capacity additions are needed in Lithuania
3 A program can be structured to increase customer awareness of and confidence in energy efficiency programs by accomplishing the easy, low cost and no cost savings first
4 Lithuania is currently in a situation of substantial excess generating capacity, a situation that is expected to continue for several years Even with, the uncertainty surrounding the future of the Ignalina Nuclear Power Plant, sufficient thermal capacity is available to meet the needs of the country into the next century This removes from consideration one of the primary reasons utilities typically engage in energy efficiency programs, to avoid constructing new (expensive) power plants Power plant investment in the near future (beyond efforts already underway) will either be for safety considerations, or to rehabilitate existing facilities, not based on growth in demand for electricity As indicated in the above analysis of more traditional utility efficiency programs substantial investment in energy efficiency by LE is not warranted at this time Still, the time will come when additional investments electric capacity will be needed, and LE is in the position of being able to take a longer-term approach to energy efficiency

This program is designed to improve the customers' awareness of energy efficiency, their understanding of its short and long term financial benefits to them, its environmental impacts, and increase their propensity to implement energy efficiency measures, where appropriate This will position the Lithuanian marketplace and LE to move to more aggressive energy efficiency programs, should load growth or the closure of Ignalina warrant such action

The proposed program will also have some immediate benefits for LE By improving customer awareness of energy efficiency, and their ability to exert some control over their expenditures for energy, LE should position itself positively with its customers as a source of efficiency information All this should help LE overcome some of the negative public opinion created by pricing and theft reduction activities

# 4 Overall Energy Efficiency Program plan

## 4 1 Program Objectives

The long-term goal of this program is to modify the structure and operation of the energy market in Lithuania such that energy efficiency products and measures are an integral, substantive portion of this market This goal includes the following subsidiary objectives

- Improve customer access to energy efficiency information, improve customer attitudes toward LE as a provider of electricity, and information regarding energy efficiency and safety
- Improve customer attitudes toward, and willingness to adopt, energy efficiency measures
- Increase customer awareness of the true costs of energy use, insure that customers are paying fairly for the energy they use

## 4 2 Program Concept

This program consists of three main elements

- An energy efficiency information program
- A pricing policy which recovers the full costs of supplying electricity
- An aggressive theft reduction program

The energy efficiency information program is designed to increase customer awareness of energy efficiency and its benefits, and improve attitudes toward LE Initially it will accomplish this by providing residential household customers with readily available, easy to understand information on energy efficiency measures and by encouraging the implementation of low cost efficiency measures A parallel effort will introduce energy efficiency and electrical safety as topics in the public school system These two activities will result in an increased public awareness of energy efficiency as a desirable alternative to increased use It will provide positive reinforcement through the adoption of efficiency measures, which have low cost, and quick return in terms of reduced use and increased comfort Finally, it will begin educating the next generation of Lithuanians to understand the overall economics of wise energy use

In its second phase, the information program should expand to the trade and service sectors Again the focus is on providing readily available, easy to understand information on energy efficiency measures and encouraging the implementation of low cost efficiency measures This effort will build upon the work in the residential sector Although small business managers want

their utilities to recognize that they are businesses, they also can relate information regarding energy efficiency for business to the information provided for residential customers

The pricing policy will continue the current efforts to achieve price levels that provide for the full recovery of electricity costs and tariff designs that promote wise use of energy and encourage load modifications Such tariffs include time of use or two-part tariffs, interruptible tariffs, and higher fixed monthly customer charges Currently, electricity price levels are sufficient to recover the marginal operating costs of the power sources used to supply load (primarily Ignalina), but do not generate enough revenue to fully cover LE's costs Further, LE is expecting to require a 25% price increase this year, in order to recover the fixed costs associated with Ignalina while that plant is operating at a reduced level of output LE and the electricity price regulation commission need to continue to set price levels at levels sufficient to produce full cost recovery At the same time, tariff design should reflect cost of service, and encourage wise use of energy and desirable load modifications, such as load shifting, valley filling, and peak shaving LE has initiated some efforts in this regard with the introduction of time-differentiated or two part tariffs Use of such tariffs by customers should be encouraged LE also needs to review the allocation of revenue recovery between energy, demand, and fixed customer charges Currently 70% (Lt 1 billion) of LE's annual expenses are fixed, (400 million Lt is fuel related and 470 million Lt is due to costs of Ignalina), while the tariff structure, revenue is comprised of primarily of energy charges This tariff design creates a situation where LE is financially vulnerable to swings in electricity consumption levels, and therefore LE's customers are at risk to potential swings in the price of energy as the regulatory system tries to compensate for fluctuation in utility revenue The financial risks of tariff design and energy consumption level fluctuations for LE and its customers should be explored further

Continued, aggressive efforts to reduce electricity theft are an integral part of increasing customer awareness of the real cost of energy use and the real value of energy efficiency LE still suffers from a substantial electricity theft problem, they have made progress in addressing the problem, reducing theft by 30 million Lt, through better metering and another 70 million Lt through controls, enforcement, and intersystem metering While efforts to reduce theft through improved metering, billing, and collection systems are not typically considered part of an energy efficiency program they are a necessary part of a Lithuanian efficiency program Customers who are currently paying little or nothing for their energy consumption have no motivation to implement even simple low cost measures or changes in operation that could result in energy saving Thus part of increasing customer awareness and willingness to act must be an increase in efforts to require customers to pay fairly for the electricity they use

LE must increase its efforts to reduce theft if changes in the marketplace are to occur Such a program should include

- Improved metering
- More frequent meter reading and billing
- Establishment of a customer database
- A more aggressive collections and disconnection policy

Experience with similar efforts elsewhere resulted in a reduction in energy use and an increase in revenue received by the utility involved This type of a program by LE would contribute to the improved efficiency of energy use and the improved financial health of LE

### 4 3 Synergy

The three elements of this program must work in concert to achieve the needed changes in the Lithuanian energy marketplace An information program without a full cost recovery pricing policy and/or an aggressive theft reduction program will not be as effective because customers will not receive the proper financial signals A pricing policy or theft reduction program without the information program will only create feelings of frustration and helplessness on the part of customers and foster resentment toward LE

Since the task at hand is the creation of an energy efficiency program plan, the remainder of this plan will concentrate on the information program activity The other two activities are equally important, however, and LE should engage in parallel planning efforts for them

## 5 Energy information program plan

As discussed above, one of the three foundation activities on which LE's market transformation efforts rests is implementing an energy efficiency information program This will be accomplished in two phases, phase one is targeted at the residential household market and the general public, including public schools, phase two will be targeted at the small to medium business person in the trade and service sectors

### 5 1 Information Program Objectives

This activity has four objectives,

- Improve customer attitudes toward energy efficiency
- Improve customer attitudes toward LE
- Influence customers to install low cost/no cost measures
- Position LE and its customers for post-2000 efforts

Results from the first three objectives should be measurable over time, through a tracking and evaluation effort The fourth task is more long term in nature and will be subjectively evaluated

## 5 2 Information Program Concept

This activity will consist of a multi-media communications effort, employing print as the primary information channel, using TV to increase public awareness, and a combination of phone-in and walk-in centers for fulfillment of customer information requests Concurrently, an energy efficiency and electrical safety education program will reach out to teachers and students, to increase their awareness of the subject matter and start re-positioning energy efficiency at an early age

The first phase of the activity will immediately focus on the residential household sector, with a second phase to expand efforts to reach the trade and service (commercial) and small industrial sectors in 1998 Efforts to communicate to small and medium-sized businesses should be easier because of the initial residential efforts While these efforts will have some spillover effects on the large industrial and budget customers, the plan does not contemplate efforts targeted specifically to them These customers should be addressed individually through an energy service company (ESCO) approach using the current efforts at Santariskiu Hospital as a pilot The content of the initial set of messages should focus on the general benefits of energy efficiency, efficiency measures associated with major end uses, such as lighting, and low cost/no cost measures Initial emphasis is on increasing public awareness and achieving some quick, easy successes, to demonstrate the benefits of energy efficiency Messages should contain simple, practical advice

Program results should be measured periodically to determine the effects of the efforts to date and allow for mid-course corrections based on customer feedback An initial evaluation should establish a baseline level of customer awareness and attitudes now, against which progress can be measured

## 5 3 Information Program Task List

This activity consists of six major tasks, as discussed below

Task 1 Printed material production

Efforts under this task will be to develop a series of brochures under the theme of energy efficiency The brochures will be tri-fold, colorful, easy to understand and customer friendly Initially, two brochures will be produced, building on existing LE efforts This will be expanded by adding a new brochure every 3-4 months over the next year Suggested topics include

| | |
|---|---|
| Benefits of energy efficiency | Efficient lighting |
| Benefits of time of use tariffs | Efficient Refrigeration |
| Low cost/no cost energy savings | Getting ready for winter |
| Energy and the environment | Home energy safety |

The specific sub-tasks required are development of the brochure message, creation of the piece, printing, and delivery to the designated distribution points

Task 2 Television advertisement

Under this task, one or two 30-sec TV spots will be developed, describing the benefits of energy efficiency and LE's interest in its customers The purpose of this concurrent television is to promote printed material and tell customers how to obtain it The spots should be aired in selected viewing periods (for example, before or after the evening news), which ensure high viewer awareness This task includes conceptual design of the ad, development of script and support material, and ad production

Task 3 Brochure distribution

Brochures will be available to customers through two main channels

- They will be made directly available to walk-in customers through the local electrical networks at network customer service centers e g the customer service center in Klaipeda), and at local payment agencies/banks, where customers come to pay their electric bills Distribution may also be made by electrical inspectors at customers' locations
- Brochures will also be distributed by mail, to customers who call local the electric network's, or LE's customer service telephone numbers, which are currently being established

This task includes distribution of the brochures to local networks and payment locations, training of local personnel, and establishing a procedure to fulfill telephone requests through the mail The task also includes establishing a central system to track customer questions

Task 4 Education program

Under this task LE will develop a curriculum for the schools, which promotes electrical safety and energy efficiency, in cooperation with the Ministry of Education The program will have a total elapsed time of 2-4 hrs, with a modular design, which will allow easy modification by the teacher It will be an activity-based program, designed to be interesting, informative, entertaining to a 10-12 year old audience The ultimate objective will be to deliver the program to all 10-12 year olds in Lithuania, such that each child has the opportunity to see it at least once

The program will be designed to be delivered by local teachers, who have been trained in energy efficiency and electrical safety by LE and the local networks Initially the program will train a cadre of 30+/- teachers, who can pilot the program and train their contemporaries This task also includes developing needed support materials and providing them for the pilot program

Task 5 Training

As part of LE's program implementation efforts, CMPI will provide training in support of the above tasks, as follows

- CAS department staff will be trained in energy efficiency program analysis, program management, and program evaluation
- Selected local network and LE personnel who will be responding to customers' energy efficiency questions will be briefed on the program and its objectives and trained as needed in customer response
- The pilot group of 30+/- local teachers will be trained in energy efficiency and safety education

Task 6 Program tracking and evaluation

An integral part of this program is the measurement of its progress toward the stated goals In this program progress will be measured by a series of customer surveys, conducted at regular intervals, which measure

- Customer attitudes toward energy efficiency
- Customer attitudes toward LE
- The number of installations of low-cost/no cost measures

The process employed will be a telephone survey, conducted in conjunction with the local networks, designed to yield a statistically valid measurement of the desired information Initially a baseline survey will establish the current level of awareness of, and attitudes toward energy efficiency This survey will be repeated at 6-month intervals to determine impact of the energy efficiency information program on customer attitudes and the rate of implementation of low/cost/no cost efficiency measures

## 5 3 Resource Requirements

The major external resource requirements for execution of this plan are as follows

| Task | Resources Needed | Budget | Notes |
|---|---|---|---|
| 1 Brochure Dev | Development and printing | 30,000 Litas/ brochure ($7,500) | Initial printing of 10,000 copies |
| 2 Television | Production of 1 min spot<br>Air time | 24,000 Litas ($6,000)<br>1,600 Litas/ min ($400) | |
| 3 Brochure Dist | | | |
| 4 Education Prog | Training Aids<br>Seminar | 20,000 Litas ($5,000)<br>10,000 Litas ($2,500) | Pilot program |
| 5 Training | | | |
| 6 Evaluation | | | |

These estimates do not include Lietuvos Energija (or CMPI) staff time

## 6 Future Plans

Information Program

In 1998, LE should expand the information program to the second phase, communications targeted for the commercial sector This effort can build on the success of the residential information program, but must recognize that business people want communications targeted specifically for them, and not just residential messages Many of the topics recommended for the residential sector will also apply to commercial customers Additional topics could include

| | |
|---|---|
| Electrical Demand | Energy Efficient Office Equipment |
| Power Quality | Efficient Motors and Drives |
| Commercial Lighting | Energy Efficiency Programs for Small Business |

Planning and analysis

The Consumer Analysis and Service Dept should continue to work jointly with the Strategy Dept to evaluate efficiency programs as the date of the potential closing of Ignalina approaches CAS should work with others inside and outside of LE, develop additional market transformation programs targeted at the major energy end uses, by sector, which would be implemented in advance of the need for added generation Such programs could include development of an energy efficient building code and efficiency standards

Evaluation and tracking

LC/CAS should continue to conduct periodic surveys of its customers to measure the ongoing success of its efforts These measurements should continue beyond the conclusion of the program outlined here, to determine the extent to which long lasting change in the market has been made

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- Load Data provided by J Amlin, Systematic Solutions, and L Rackauskaite, Consumer Analysis and Service Department Lietuvos Energiga

**Appendix B**

**Lietuvos Energija**
**Energy Efficiency Information Program**
**Brochure Series**

## Phase 1 Residential Sector

### Suggested Titles

Benefits of Energy Efficiency
Benefits of Time of Use Tariffs
Low cost/no cost energy savings
Energy and the environment
Efficient lighting
Efficient refrigeration
Getting ready for winter
Home energy safety

**Lietuvos Energija**
**Energy Efficiency Information Program**
**Brochure Series**

Title Home energy safety

Situation Analysis

- Energy prices will continue to rise
- Residential customers have an interest in reducing their energy cost
- Residential customers may not always pay all or a portion of their electric bill
- Residential customers may not always believe they have control over their energy use or know how to exercise that control
- Residential customers may not know where to go for information on energy efficiency

Communication objective

- Provide information on actions customers can take to make their homes and apartments safer from electrical hazards

Target audience segment

- Residential Customers in general
- Household energy decision makers
- Apartment cooperatives and managers

Target's primary need

- Customers want to keep themselves and their families safe

What does the target think about the product/service today?

- Customers concerned/unhappy with the increasing price of electricity
- Customers concerned about electrical safety

What do we want the target to think as a result of the communication?

- Customers can take action to make their homes and apartments safer
- Lietuvos Energija is interested/concerned about its customers

Key issues blocking success

- Split responsibility for building safety
- Lack of knowledge regarding hazards and safe procedures

Key customer benefit

- Awareness of what to look for in electrical hazards
- Positive actions the customer can take to make themselves and their families safer
- Awareness of where to go for more information

Key points to communicate

- Responsibility of each person to use energy wisely and safely
- Electricity is a great benefit to society, but it must be used with safety in mind
- Old worn out equipment and cords are dangerous and should be replaced
- Simple precautions can be taken to make homes safer for children
- No line is safe to touch ever!
- Overview of LE information program

**Lietuvos Energija**
**Energy Efficiency Information Program**
**Brochure Series**

Title Getting ready for winter

Situation Analysis

- Energy prices will continue to rise
- Residential customers have an interest in reducing their energy cost
- Residential customers may not always pay all or a portion of their electric bill
- Residential customers may not always believe they have control over their energy use or know how to exercise that control
- Residential customers may not know where to go for information on energy efficiency

Communication objective

- Provide information on actions to take to be more comfortable and save money this winter

Target audience segment

- Residential Customers in general
- Household energy decision makers
- Apartment cooperatives and managers

Target's primary need

- Customers need to reduce energy costs

What does the target think about the product/service today?

- Customers concerned/unhappy with the increasing price of electricity
- Customers interested in energy efficiency, but unsure of benefits or how to proceed

What do we want the target to think as a result of the communication?

- Customers can exercise control over energy use and their energy bill
- By implementing some reasonably simple building envelope improvements and changes in operation of electrical and heating appliances and lights, customers can realize financial savings
- Lietuvos Energija is interested/concerned about its customers

Key issues blocking success

- Split responsibility for building efficiency and heating bills
- Lack of knowledge regarding proper operation and maintenance

Key customer benefit

- Actual measures that will result in savings
- Awareness of where to go for more information

Key points to communicate

- Responsibility/ability of each person to use energy wisely
- By tightening up the building envelope, customers and cooperatives can save money on annual heating costs
- Operational changes, (like cleaning refrigerator coils) can save money at little or no cost
- Need to protect the environment
- Overview of LE information program

**Lietuvos Energija**
**Energy Efficiency Information Program**
**Brochure Series**

Title Efficient refrigeration

Situation Analysis

- Energy prices will continue to rise
- Residential customers have an interest in reducing their energy cost
- Residential customers may not always pay all or a portion of their electric bill
- Residential customers may not always believe they have control over their energy use or know how to exercise that control
- Residential customers may not know where to go for information on energy efficiency

Communication objective

- Promote the implementation of energy efficient residential refrigeration

Target audience segment

- Residential Customers in general
- Household energy decision makers

Target's primary need

- Customers need to reduce energy costs

What does the target think about the product/service today?

- Customers concerned/unhappy with the increasing price of electricity
- Customers interested in energy efficiency, but unsure of benefits or how to proceed

What do we want the target to think as a result of the communication?

- Customers can exercise control over energy use and their energy bill
- An energy efficient refrigerator will save energy over its lifetime
- Proper operation and maintenance of an existing refrigerator will cut operating costs
- Lietuvos Energija is interested/concerned about its customers

Key issues blocking success

- Lack of knowledge regarding the energy use of refrigerators
- Lack of knowledge regarding proper operation and maintenance

Key customer benefit

- Actual measures that will result in savings
- Awareness of where to go for more information

Key points to communicate

- Responsibility/ability of each person to use energy wisely
- Customers should look at the annual operating cost as well as purchase price when buying a refrigerator
- Operational changes, (like cleaning refrigerator coils) can save money at little or no cost
- Need to protect the environment
- Overview of LE information program

**Lietuvos Energija**
**Energy Efficiency Information Program**
**Brochure Series**

Title Efficient lighting

Situation Analysis

- Energy prices will continue to rise
- Residential customers have an interest in reducing their energy cost
- Residential customers may not always pay all or a portion of their electric bill
- Residential customers may not always believe they have control over their energy use or know how to exercise that control
- Residential customers may not know where to go for information on energy efficiency

Communication objective

- Promote the implementation of energy efficient residential lighting

Target audience segment

- Residential Customers in general
- Household energy decision makers
- Apartment cooperatives and managers

Target's primary need

- Customers need to reduce energy costs

What does the target think about the product/service today?

- Customers concerned/unhappy with the increasing price of electricity
- Customers interested in energy efficiency, but unsure of benefits or how to proceed

What do we want the target to think as a result of the communication?

- Customers can exercise control over energy use and their energy bill
- Energy efficient lighting is a smart way to save energy and money
- Lietuvos Energija is interested/concerned about its customers

Key issues blocking success

- Lack of knowledge regarding energy efficient lighting
- Inertia to trying something new, specifically CFL's

Key customer benefit

- Actual measures that will result in savings
- Awareness of where to go for more information

Key points to communicate

- Responsibility/ability of each person to use energy wisely
- CFL's make sense as cost effective replacement for regular bulbs where lights are on for long periods
- Operational changes, (like turning out lights in unoccupied rooms) can save money at little or no cost
- Need to protect the environment
- Overview of LE information program

**Lietuvos Energija**
**Energy Efficiency Information Program**
**Brochure Series**

Title Energy and the environment

Situation Analysis

- Energy prices will continue to rise
- Residential customers have an interest in reducing their energy cost
- Residential customers may not always pay all or a portion of their electric bill
- Residential customers may not always believe they have control over their energy use or know how to exercise that control
- Residential customers may not know where to go for information on energy efficiency

Communication objective

- Promote the implementation of energy efficiency measures as a benefit to the environment Provide information regarding the environmental impact of energy waste

Target audience segment

- Residential Customers in general
- Household energy decision makers
- Apartment cooperatives and managers

Target's primary need

- Customers need to reduce energy costs

What does the target think about the product/service today?

- Customers concerned/unhappy with the increasing price of electricity
- Customers interested in energy efficiency, but unsure of benefits or how to proceed

What do we want the target to think as a result of the communication?

- Customers can exercise control over energy use and their energy bill
- Customers can help reduce impacts on the environment by reducing the wasteful use of energy
- Lietuvos Energija is interested/concerned about its customers

Key issues blocking success

- Lack of knowledge regarding energy/environmental impacts

Key customer benefit

- Awareness of energy /environmental impacts

- Contribution to a better environment through wise energy use

Key points to communicate

- Responsibility/ability of each person to use energy wisely
- Need to protect the environment
- Environmental impacts of different types of energy supply
- Environmental impacts of energy efficiency measures
- Overview of LE information program

**Lietuvos Energija**
**Energy Efficiency Information Program**
**Brochure Series**

Title Low cost/no cost energy savings

Situation Analysis

- Energy prices will continue to rise
- Residential customers have an interest in reducing their energy cost
- Residential customers may not always pay all or a portion of their electric bill
- Residential customers may not always believe they have control over their energy use or know how to exercise that control
- Residential customers may not know where to go for information on energy efficiency

Communication objective

- Promote the implementation of energy efficiency measures that involve little or no investment

Target audience segment

- Residential Customers in general
- Household energy decision makers
- Apartment cooperatives and managers

Target's primary need

- Customers need to reduce energy costs

What does the target think about the product/service today?

- Customers concerned/unhappy with the increasing price of electricity
- Customers interested in energy efficiency, but unsure of benefits or how to proceed

What do we want the target to think as a result of the communication?

- Customers can exercise control over energy use and their energy bill
- By implementing some reasonably simple changes in to operation of electrical appliances and lights, customers can realize financial savings
- Lietuvos Energija is interested/concerned about its customers

Key issues blocking success

- Lack of knowledge of low cost and no cost efficiency measures
- Lack of time/skill to implement measures

Key customer benefit

- Actual measures that will result in savings

- Awareness of where to go for more information

Key points to communicate

- Responsibility/ability of each person to use energy wisely
- List of no cost operational changes that result in savings
- List of low investment measures with very quick payback
- Need to protect the environment
- Overview of LE information program

**Lietuvos Energija**
**Energy Efficiency Information Program**
**Brochure Series**

Title Benefits of Time of Use Tariffs

Situation Analysis

- Energy prices will continue to rise
- Residential customers have an interest in reducing their energy cost
- Residential customers may not always pay all or a portion of their electric bill
- Residential customers may not always believe they have control over their energy use or know how to exercise that control
- Residential customers may not know where to go for information on energy efficiency

Communication objective

- Promote the advantages of two part (time of use) tariffs

Target audience segment

- Residential Customers in general
- Household energy decision makers

Target's primary need

- Customers need to reduce energy costs

What does the target think about the product/service today?

- Customers concerned/unhappy with the increasing price of electricity
- Customers interested in energy efficiency, but unsure of benefits or how to proceed

What do we want the target to think as a result of the communication?

- Customers can exercise control over energy use and their energy bill
- By using energy at night, when prices are lower, customers can save money
- Lietuvos Energija is interested/concerned about its customers

Key issues blocking success

- Customer inertia to adopt a different tariff

Key customer benefit

- Understanding of the benefits of two part (TOU) tariffs
- Awareness of where to go for more information

Key points to communicate

- Responsibility/ability of each person to use energy wisely

Key points to communicate

- Current and short term future electricity situation
- Responsibility/ability of each person to use energy wisely
- Need to protect the environment
- Overview of LE information program

- Advantages of two part tariffs over single price tariffs
- Types of activities that can be shifted to night
- Need to protect the environment
- Overview of LE information program

**Lietuvos Energija**
**Energy Efficiency Information Program**
**Brochure Series**

Title Benefits of Energy Efficiency

Situation Analysis

- Energy prices will continue to rise
- Residential customers have an interest in reducing their energy cost
- Residential customers may not always pay all or a portion of their electric bill
- Residential customers may not always believe they have control over their energy use or know how to exercise that control
- Residential customers may not know where to go for information on energy efficiency

Communication objective

- Increase customer awareness of benefits of energy efficiency

Target audience segment

- Residential Customers in general
- Household energy decision makers

Target's primary need

- Customers need to reduce energy costs

What does the target think about the product/service today?

- Customers concerned/unhappy with the increasing price of electricity
- Customers interested in energy efficiency, but unsure of benefits or how to proceed

What do we want the target to think as a result of the communication?

- Customers can exercise control over energy use and their energy bill
- Energy efficiency measures can help hold down costs
- Some measures are not expensive to implement
- Lietuvos Energija is interested/concerned about its customers

Key issues blocking success

- Making customers aware that the information is available to them

Key customer benefit

- Understanding of the benefits of energy efficiency
- Awareness of where to go for more information