



**Workshop**

**Guidelines for Procurement of  
Energy Efficiency Services**

**Final Summary**

**Brasília – April 30, 2002**  
*Kubitschek Plaza - Salão Ouro Preto*



**RSC Tecnologia e Serviços  
em Energia LTDA**

# Final Summary

## Workshop on Guidelines for Procurement of Energy Efficiency Services

Brasilia – April 30, 2002

### Theme of the Workshop

The Moving Market for Energy Efficiency (MMEE) project, a USAID initiative, being implemented by Nexant Inc. of USA has been working with PROCEL to develop guidelines for the procurement of ESCO services to implement energy efficiency projects in public facilities. The primary purpose of this study was to develop guidelines for project implementation and standardized contract documents.

The theme of this workshop is to discuss contractual and legal issues relating to the procurement of ESCO services and guidelines for implementing a public-sector energy efficiency program, and use the discussion as a basis for developing an action plan for furthering the objectives of the project.

### Objectives of the Workshop

The objectives of this workshop are to:

- Discuss public policy for energy efficiency in the public sector.
- Present the results of the comprehensive study conducted by the project.
- Discuss and debate contractual and legal issues as they relate to procurement of ESCO services, performance contracting, and payment to ESCO's.
- Discuss guidelines for implementation of a public-sector energy efficiency program.
- Develop an action plan for implementing a market-driven energy efficiency program for public facilities.

### Program Summary - Wednesday, April 30, 2002

Session	Time	Topic
1	9:00	Welcome and Introduction
2	9:30	Public Policy for Energy Efficiency in Public Facilities
	10:20	<i>Coffee break</i>
3	10:45	Market for EE/ESCO Services & Contractual Issues
	12:45	<i>Lunch</i>
4	14:00	Legal Issues in Contracting
	15:10	<i>Coffee break</i>
5	15:30	Guidelines for EE/ESCO Program Implementation
6	16:40	Workshop Closing & Conclusions
	17:30	<i>Cocktail</i>

## **Sessions**

### ***Session 1: Welcome and Introduction***

This session introduces the theme, purpose and organization of the workshop. Speakers from Nexant and USAID will speak on the relevance of the theme and objectives of the debate and USAID policy and vision for Brazil.

The questions raised here will also underlie subsequent sessions in the workshop: *Why conduct this workshop now? Are new policies and/or legislation required to promote implementation of energy efficiency projects through ESCO? What are USAID's policies with regard to promoting efficiency in Brazil?*

#### **SESSION 1:**

**9:00 AM - 09:30 AM**

<b>Presentation</b>	<b>Speaker/Institution</b>	<b>Minutes</b>
Welcome and Overview of Workshop objectives	Nexant - Anand Subbiah	10
What is USAID's policy with regard to promoting energy efficiency?	USAID - Alexandre Mancuso	20
<b>Total</b>		<b>30</b>

### ***Session 2: Public Policy for Energy Efficiency in Public Facilities***

Regulation and policies is key to the promotion of energy efficiency. The MME and PROCEL will make presentations leading to a debate on key recent developments in regulation of the energy sector with particular emphasis on policies relevant to the efficient use of electricity in the public sector.

The questions to be debated are: *How can regulation and policy impact the market for energy efficiency? What should be the scope and criteria for regulators to promote energy efficiency? What is the government's policy on improving energy efficiency in public facilities? What is PROCEL's role and objectives with regard to promoting energy efficiency in public buildings? How does PROCEL plan to use the World Bank and GEF funds to stimulate the market for energy efficiency?*

#### **SESSION 2:**

**09:30 AM - 10:20 AM**

<b>Presentation</b>	<b>Speaker/Institution</b>	<b>Minutes</b>
MME Policies for Energy Efficiency	MME – Paulo Roberto	20
PROCEL's role in stimulating the market for energy efficiency	PROCEL – Antônio Varejão	20
<i>Debate</i>	<i>Moderator – Marina Godoi</i>	<i>15</i>
<b>Total</b>		<b>55</b>

### ***Session 3: Market for EE/ESCO Services & Contractual Issues***

The MMEE project team has examined the market for energy efficiency and ESCO services in the public sector of Brazil, and has also conducted a thorough review of contractual issues as they relate to ESCO services for the public sector. This session will present results from this comprehensive study. Contractual issues relating to procurement of ESCO services will be discussed by a distinguished panel and by participants.

The questions to be debated are: *How large is the actual market for EE/ESCO services in the public sector? What are the barriers to ESCO operations and performance contracting for delivery of energy efficiency services? What are the contractual needs for a public agency wishing to procure the services of an ESCO? Is there a need for standardized contractual documents? If so, is it possible to develop standardized documents? How to select an ESCO?*

#### **SESSION 3:**

**10:50 AM – 12:30 PM**

<b>Presentation</b>	<b>Speaker/Institution</b>	<b>Minutes</b>
What is the Market for Energy Efficiency	Dan Ramon	15
What are the Barrier to EE/ESCO	Fredrico Hackerott	15
Contracting With ESCO's	Reynaldo Sigilião	20
<i>Debate</i>	<i>Moderator – Antonio Varejão</i>	<i>50</i>
<b>Total</b>		<b>100</b>

### ***Session 4: Legal Issues in Contracting***

The MMEE project conducted a detailed and comprehensive review of the legal issues as they relate to the procurement of ESCO services and performance contracts. This session will present results from this comprehensive study. Legal issues relating to procurement and contracting of ESCO services will be discussed by a distinguished panel and by participants.

The questions to be debated are: *Are there legal barriers to the procurement of ESCO services? Are there any legal issues relating to payment for ESCO services under the performance contracting mechanism? Are there workable mechanisms for contracting with ESCO's under the existing law? Is new legislation required?*

#### **SESSION 4:**

**2:00 PM - 3:10 PM**

<b>Presentation</b>	<b>Speaker/Institution</b>	<b>Minutes</b>
Legal Issues in Contracting	Warfield Tomaz	30
<i>Debate</i>	<i>Moderator – Dan Ramon</i>	<i>40</i>
<b>Total</b>		<b>70</b>

### ***Session 5: Guidelines for EE/ESCO Program Implementation***

The MMEE project has developed guidelines for the identification, implementation and evaluation of energy efficiency projects in the public sector. The guidelines define the roles of various stakeholders and provide a relatively simple procedure for the procurement of ESCO services to implement energy efficiency projects in the public sector. This session will discuss the implementation procedure and guidelines.

The questions to be debated are: *Is there is for standardized guidelines for the procurement of ESCO services for the public sector? What is the role of various stakeholders? Do public agencies need the support of some central agency to implement ESCO projects? Is there a need for creating a database of ESCO project implementation in the public sector? Who should conduct monitoring and evaluation studies?*

#### **SESSION 5:**

**3:30 PM - 4:40 PM**

<b>Presentation</b>	<b>Speaker/Institution</b>	<b>Minutes</b>
Guidelines for Program Implementation	Anand Subbiah	30
<i>Debate</i>	<i>Moderator – Augusto Juca, UNDP</i>	<i>40</i>
<b>Total</b>		<b>70</b>

### ***Session 6: Workshop Closing & Conclusions***

This session will summarize the discussions and conclusions of the workshop. It is also designed to be a brainstorming session to debate and reach broad consensus on and Action Plan and the Next Steps to be taken to advance the objectives of the workshop.

The questions to be debated are: *What is the next step in developing ESCO projects in the public sector? What is the role of various stakeholders? Is a federal agency willing to participate in the procurement of ESCO services to implement EE projects? What is the most effective means of disseminating the guidelines and standardized contract documents developed by the project?*

#### **SESSION 6:**

**4:40 PM - 5:30 PM**

<b>Presentation</b>	<b>Speaker/Institution</b>	<b>Minutes</b>
Workshop Conclusions and Action Plan	Panel – Project Consultants	50
<i>Moderated Panel Discussion</i>	<i>Moderator – Alexandre Mancuso</i>	
<b>Total</b>		<b>50</b>

## **Presentations and Debates**

### “PROCEL’s role in stimulating the market for energy efficiency”

**Antonio Varejão de Godoy**

Development of Especial Projects Department Chief - Eletrobrás

The moment is quite unique for those who have roles at the energy efficiency because we all have the same objective, the creation of a self-sustainable market. The role of PROCEL is being increased with new responsibilities regarding the government compromises in developing and regulating the needed aspects regarding performance contracts and the access to them by the public building managers.

A short history about the PROCEL’s fundamentals was presented, the programs being developed at moment, stressing the importance of the labeling program for electric appliances, PROCEL at School, designed to pursue consumption reduction of pupils and teacher though the understanding about energy efficiency and change in habits; Projeto Reluz, oriented to public lighting, aiming to replace 8 million bulbs for more efficient ones.

PROCEL has developed a very good relationship with the Brazilian municipalities, where different programs had been implemented, as “local energy management”, “Efficient Cities Net” and others. Especially on the water and sewage municipal systems large savings are expected. It was also commented on the program for solar panels in water heating and some public building as example as energy efficiency results.

All the programs results should be equivalent to at least 10% of the demand growth for the next years.

Specifically regarding the National Energy Efficiency Public Building Program – PNEPP, a program designed to all levels of executive administration, PROCEL intend to implement it trough the following strategic activities:

- training the buildings managers;
- pre-audits though Internet;
- demonstration projects.

As demonstration, the basic idea is to simulate performance contracts supported by real situations based on a traditional loan system. Many institutions have demonstrated large interest in applying their facilities to this program.

Some aspects were overviewed as present difficulties for establishing this program based upon performance contracts,

- Institutional:
  - . Law 8666/93 – the procurement law is considered a limitation;
  - . Federal annual budget; limitations on values and expenses to investment swap;
- Market uncertainties (finance agents and costumers);
- Insufficient finance capacity from ESCO’s;
- Insufficient Guaranties.

Possible solutions were raised as shown below:

- Changes in the law, or issuing a specific law supporting the program and evening the understanding about what is allowed to be done.
  - Competitiveness guaranties;
  - Market sustainability throughout government projects;
- Strategic partnership with researching centers, government, BNDES, INEE, ABESCO, USAID, European Union, CIDA, etc.

At end Varejão conveyed the Mahatma Gandhi says “We must be the change that we want for the world”.

### “MME Policies for Energy Efficiency”

**Paulo Roberto Vilela Pinto**  
Project coordinator - MME

The presentation was structured about the strategic plan recently issued by the technical Committee for Energy Efficiency, created by the GCE Resolution 26, as one of the measures to propose modifications to the nowadays structure of the Brazilian Electric Sector. This Committee has as objectives to combat the waste of electric power; to obtain savings of energy in an immediate way and in permanent character and to promote the market sustainability for energy efficiency energy, in four axes: legislation, business environment, specific projects and communication.

<p><b>LEGISLATION</b></p> <ul style="list-style-type: none"> <li>• <b>Efficient products offer</b> <ul style="list-style-type: none"> <li>• Energetic efficiency legislation on minimum indexes;</li> <li>• Implementation of the Law 10.295 and Decree 4.059.</li> </ul> </li> <li>• <b>Public services procurement</b> <ul style="list-style-type: none"> <li>• Adoption of performance contracts ( not foreseen in a specific law) - <b>Legislation to be proposed.</b></li> </ul> </li> </ul>	<p><b>BUSINESS ENVIRONMENT</b></p> <ul style="list-style-type: none"> <li>• <b>Risk Reduction</b> <ul style="list-style-type: none"> <li>• instruments for technical risks mitigation</li> <li>• guarantee fund</li> </ul> </li> <li>• <b>Funds raising</b> <ul style="list-style-type: none"> <li>• Finance conditions</li> <li>• Investment fund</li> </ul> </li> </ul>
<p><b>SPECIFIC PROJECTS</b></p> <ul style="list-style-type: none"> <li>• <b>Residential solar heating</b></li> <li>• <b>Efficient motors systems</b></li> <li>• <b>Public buildings</b></li> </ul>	<p><b>COMMUNICATION</b></p> <ul style="list-style-type: none"> <li>• <b>Consumers information/education</b> <ul style="list-style-type: none"> <li>• Assessment on electric equipment and appliances use and consumers habits.</li> </ul> </li> <li>• <b>Consolidation of the obtained savings</b> <ul style="list-style-type: none"> <li>• Contribution to the communication</li> </ul> </li> </ul>

Some aspects related to the difficulties to implement a National Program for Public Building efficientization were evaluated as barriers. The legal structure to support the performance contract should be clarified and made available in a single law.

The aspects regarding operational aspects were also mentioned as weaken aspects to the implementation, as lack of criteria for energetic efficiency, measurement and verification and constancy of the annual budget level.

Some solutions and proposal for these barriers could be the creation of a new legal instrument, considering the need for training, pre-audits, and reference indexes. The need for a pilot project where all these could be tested before the program reaches all buildings.

For overtake the question regarding the budget constancy it was proposed a new PPA project (government multi-annual program) followed by a legislative decision in the budgetary law defining an irreducible value to be applied in the project.

The expected savings in a public building program are around 120 million Reais by year, valuable resources for social areas.

### “Market for Energy Efficiency”

**Dan Ramon Ribeiro**  
Vibhava Consultant

The market for electric energy efficientization was evaluated thru the BEU ( useful energy balance), a national statistics assessment based on average efficiency for each energy final use. The significant potential can be found on lighting (67% of total potential) and motors(14% of total potential) , especially at the public and residential sectors, with 18% and 15% respectively. The total country potential expectancy for energy efficiency sum up to 10%.

It was shown the amount and distribution of federal builds at the states and regions, resumed at the table below:

Buildings \ Regions	North	Northeast	Southeast	Central-east	South	Total
	Potentially attractive	811	1596	695	936	492
Others	1591	2516	2069	2828	1209	<b>10213</b>
<b>Total</b>	<b>2402</b>	<b>4112</b>	<b>2764</b>	<b>3764</b>	<b>1701</b>	<b>14743</b>

The Federal level share of total consumption is around 40%, which results in 2180 GWh/year or 300 millions Reais by year at present tariffs ( 140 R\$/MWh ).



## “Barrier to EE/ESCO”

**Carlos F. Hackerott**

FIESP/DEINFRA Director/ Lacaz at alli Lawyer

As a FIESP director, the colloquial presentation brought to the audience the point of view from the companies, here nominated ESCO's. Up to now, the greatest part of ABESCO members are not model ESCO's. Part of their activities fits in this definition. The trends leads to cooperation between different companies sectors, like designing with assembly companies, maybe even manufactures. They together compound a efficient solution for a bit proposal.

When a national program is designed, both sides need to be evaluated, the contracting party and the contracted. For a long time the public service developed an external image of problematic contractor, on the long term decision process, lack of capital for payments at right time, and a negative aspects of political behavior on redefining priorities during the project execution.

A performance contract is a kind if partnership, both sides need to keep their compromises while it lasts. The public budget is annually prepared, and during its execution often some cut-offs are done, bringing insecurity to the ESCO's on the regularity of the payments, once they will be used to pay loans.

By the other side, funds rising to efficiency projects at commercial banks are not some regular operation. The banks are not aware about these opportunities, and the present finance conditions make most of projects unfeasible. Alternative funds are necessary to make this process to move.

The legal questions are similar to any bidding process, some aspects need to be practiced and changed if they prove not being the best ones.

The moment is considered very special, where everybody perceives the need for a rational use of national resources, and although many believe that the energy crisis is overcome, since the new project are not at expected pace, the consumption reduction by investments on energy efficiency could be valuated and rewarded at the public building initiatives.

## “Contracting With ESCO's”

**Reynaldo Sigilião**

RSC Consultant

The presentation showed the proposed structure for a efficientization program at Federal level, exploring the steps, its importance and the main aspects that could not be overlooked.

The building is chosen either by a full database, as the one proposed by PROCEL, or from the own entity interest. A minimum value of energy bill can be used as a criteria by

PROCEL to select a building from the data base. At this initial stage, a training process on energy efficiency and the program roles should be offered. As the procurement law demands, before the procurement a technical description of the building should be available. Depending on the information available on the building a pre-audit should be conveyed, under standardized criteria and procedures. The tender documents, like the ones offered during the development of this task, published at the reports will make the selection process very ordinary.

Some intermediate steps in between the ESCO winner selection and the proper contract may provide to the ESCO an opportunity to deep analyze the building conditions and confirm its initial proposal based only upon the procurement information and a short visit of the installations. It may give up its offer in case of fewer results than expected, when the selection moves to the subsequent ESCO in the same process. This is proposed to reduce the proposal preparation costs, if all proponents were audit the building. In other words it is not obliged to the ESCOs to do a detailed energy audit before the proposal evaluation. It could be done before the contract signature. Similar procedure has been used in USA.

All selection criteria must be simple and direct, considering the technical qualification, when the team experience rather than the company qualifications should be graded, since all Brazilian companies have few or none previous experience in performance contracts. One of the challenges of the procurement process is the commercial proposal evaluation. Criterias had to be established to compare different proposals that includes sometimes different equipment and scope. The tender document offered during the development of this task, include a way to do the commercial proposal evaluation. The commercial proposal evaluates not only the savings, but also other elements like the investment costs during the contract period, the responsibility for maintenance and operation if it is the case. The grades must be weighted accordingly the size and costs estimations, to magnify the overall projects benefits.

The base line construction and the measurement and verification procedures must be determined before the contract signature. The M&V must be kept as simple as possible. The M&V will also depends on the kind of contract, if it is a shared savings contract or guaranteed savings contract. For complexes schemes a third part, an independent consultant, to do the verification of the real savings may be the best solution for both parties. It should be pointed out that the base line definition must support opportunities to be redefined. For instance when occurs significant changes in the operational conditions of the building.

A schematic flowchart with the main steps were presented involving a central controlling agency, represented by PROCEL, responsible for identifying the buildings, elaborate pre-audits, trainings, model documents and global results record and communication. The agency after a agreement contract, prepare and issue the tender, choose the ESCO, inspect the project execution and provide results information. The ESCO is responsible for the project implementation, and an optional M&V consultant is present during the tender preparation and results testimony.

As conclusion the proposed program, like other countries as USA and Canada, is very important on the creation of a sustainable market for energy efficiency. Other social results as employment and consciousness about the need for energy efficiency will be based at the government initiative.

The stage we are demands more efforts in the validation of the proposed program and documents, through the implementation of at least one performance contract. Although legal aspects are not consensual, a pilot project will give the opportunity to check all the steps of the proposed process.

## “Legal Issues in Contracting”

**Warfield Tomaz**  
Wage Consultant

An energy efficiency process should have conditions that avoid the proposition of an excessive final price for the services, besides they give covering, with guaranties, to eventual uncertainties and make possible the contract, not just for ESCO, but also for the Public Agent. For that is considered as requirement to accomplish the process of bidding by technical and price criteria.

The reported studies covered the contracting aspects, and presenting a full set of standard documents that in a process of filling the blanks could be used by the building managers to bid for energy efficiency using performance contract. Some important conditions were discussed at the presentation:

Participation - Isolated companies; in Consortium and Mix Condition; reflects at number and price of proposals, fiscal and guaranties aspects.

Punctuation - technical: certificates of elaboration of studies and of execution of similar services; technical team; work plan; time schedule; activities flowchart.

- price: effective savings with electric energy; assets applied in EE; operation and maintenance costs.

The legal requirements are established in the Law 8.666/93 and its alterations (Art. 55), and for specific conditions from the procurement documents and federal regulation. The contracting structure should provide the following items: Object; Execution regimen; Prices; Periods; Financial resources; Warranties; Rights and responsibilities; Rescission; Link to the Bidding documents and Applicable legislation to the execution of the contract; Obligation of the contracted to maintain, during the validity of the contract, the qualifying conditions.

Some specific conditions as: Acquisition of equipments; Operational training; Measurements conditions and verification; Monitoring conditions; Payment conditions; Conditions of financing; Unexpected occurrences and its responsibilities must be presented at tender documents.

Some difficulties pointed need legal changes or a specific procedure definition, since the procurement law is not directly applicable to performance contracts, but have been interpreted differently by the many control institutions like TCU and lawyers departments at federal agencies.

The main difficulty pointed out was related to budgetary forecasts. The service of energy efficientization, including the material acquisition and equipments, of a public building is classified in to public budget as investment. There is no administrative procedure that allows shifting the budget of the expenses (like energy bill) to cover the investment bill (as that will give covering to the payment to ESCO, for the accomplishment of its service and acquisition of materials / equipments).

Obtaining of financings seems to be a second issue. ESCO's are responsible for the whole investment, including the acquisition of the materials and equipments, which reimbursement will only occur at the project implementation, after a quite long period. This will demand capital from ESCO's, if financed the need to present warranties that covers this financing. This is a process that soon surpasses the ESCO's liabilities.

Solutions are part of the proposed debate and will demand from all interested full compromise in the short term.

### “Guidelines for Program Implementation”

**Anand Subbiah**  
Nexant Consultant

A parallel of the Brazilian needs and the reasons to create the FEMP – the USA federal program for energy efficiency was made; by the way the suggested program steps were showed. Similar conditions but different reality on credit availability, consumption, energy costs, legal aspects brings a need to develop, using the gained experience, a new set of ordering structure and process for the program.

The FEMP program structure presented considers a pre-audit stage with steps analyzing the preliminary identification of potential for improvement in buildings energy systems; acceptance of preliminary proposal and invitation for detailed energy audit. The ESCO's invited were pre-selected based on capacities, past experiences credentials.

After a multiple ESCO selection, a detailed audit is requested and in a report proposal the measure description; a confirmation of preliminary audit findings; a revisions to energy consumption baseline, cost savings, guaranteed savings, and investment plan. It is also presented a monitoring and verification plan; operation and maintenance plan; ESCO/Contractor role; Federal agency role; payment plan; financing plan; management approach and past performance and project experience.

The proposal is evaluated considering the overall result on the technical, management; past performance and price realism factors. It may occur that the best price is not the chosen one.

The development of a Brazilian program will involve different governmental areas, the federal agencies and the ESCO's. Known solutions may be customized or new one developed. The work done up to now is a good foundation to be used.

## **Conclusions / Next Steps**

As the initiatives to implement public building are being avoided by the building managers for reasons like the lack of a specific law creating clear legal support to procurements based on performance contracts, and the fact that the interpretation of the present laws are manifold, the discussions occurred around the multiple different opinions of the present.

The proposed solutions like a new program at PPA, and isolated projects being developed do not reach a good agreement. Very specific aspects like the need or not for a detailed project at the tender issue, considered by law for engineering contracts may be unnecessary if the EE project is considered an ESCO service.

The finance questions will depend upon a more fluent finance sector or a definition of the government banks to finance performance contracts within a governmental program.

Questions raised regarding uncertainties at payment are ordinarily accepted by contractor for any kind of long term projects like roads, bridges and building construction, and should not be such hindrance for proposals.

Some very important experiences were shared during the debates specially regarding to the lower level of specific consumption, making the feasibility too much dependent on the interests rates and amortization period. That means for many buildings the savings will not reimburse investments if the pre-audit fails in correctly analyze the costumers habits.

The present building managers expressed their worries about the lack of a specific mandate for applying for energy efficiency, considering the scarcity of resources and the need to concentrate their capacities to their core business. That could be the hint for a need to either a specific law or governmental program not only a reference on the amount of demanded savings.

Many solutions or way form implementing a specific project was presented, but the whole program needs more involvement and discussion to be defined.

The MME and PROCEL shown their absolute interest in developing this program, considering their duties, the mandate of GCE resolution 26, and the results achieved by this workforce up to now.

Based on the need to have a national energy efficiency program implemented, PROCEL proposed a partnership with USAID, applying equally amount for each dollar expended on a joint taskforce to take the present results, validating them with a federal agency and analyzing and suggesting the regulations and procedures to program implementation.

## Attendance List

<b>Invitee</b>	<b>Company</b>	<b>e-mail</b>
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