

## **ABOUT INEE**

### ***August 2013***

The National Institute of Energy Efficiency is a private non-profit organization based in Rio de Janeiro, founded in 1992 to foster efficient transformations and end uses for all forms of energy. INEE seeks to bring about a greater awareness of potential energy savings and their benefits by producers and consumers, as well as to reduce the many institutional and market hindrances to energy efficient and cost-effective measures. This market transformation requires the improvement of the quality of information on the subject, the development of standards, regulations and legislation.

INEE serves as a forum for communication among the key parties involved in optimizing energy usage. Its associates are professionals from the energy sector, industry, government and research centers throughout Brazil.

It has a tried and tested administrative infrastructure, provides networking skills and databases, as well as expertise in several issues. INEE is open to proposals and partnerships with other entities, be they Brazilian or international.

INEE is involved in the organization and development of seminars and large-scale events, and also provides information services and training. Its activities are coordinated (often in close collaboration) with other public and private entities.

### ***Background and Program Development***

INEE was created by an initiative of specialists in energy efficiency, as a nonprofit organization for the permanent discussion of energy efficient basis, not just as a means to cope with energy supply shortages.

Considering the large number of possibilities of energy efficiency improvement and its limited financial and human resources, INEE has oriented its activities to themes that are not focused by government agencies, such as PROCEL and CONPET, whose main concern has been electricity and oil derivatives end uses, respectively.

Initially, INEE's work was concentrated on the institutionalization of new agents, mainly Independent Power Producers (IPP) and Energy Service Companies (ESCOs).

The creation of IPPs aimed at cogeneration development in Brazil and also reducing market barriers that prevented the power sector from purchasing power generated from agro industry residues, particularly from sugar cane bagasse. Sugar cane is the second most important primary energy source in Brazil but, as an average, its efficiency may be considerably improved. INEE organized international workshops, local seminars and reports addressing these issues. IPPs were recognized as legal entities in 1996. Their legislation reflects contributions made by INEE, including reference to cogeneration and the creation of a specific market for the district cooling/heating business.

INEE also promoted many initiatives in order to divulge the Energy Service Companies (ESCOs). INEE promoted the discussion of this subject in order to adapt the international experience to Brazilian legal and fiscal conditions. Many ESCOs investors, nowadays set in Brazil, began their activities after participating on events promoted by INEE. After ABESCO (Brazilian Association of ESCOs) creation, INEE activities related to the theme were considerably reduced.

Recently, INEE's goals have been concentrated on four main subjects: equipment and appliances minimal standards definition and implementation; accelerating the adoption of electric drive vehicles (EV); implementing distributed generation, DG, including cogeneration; and measurement and verification standard procedures, as defined by EVO.

### ***Efficiency Regulation***

The Federal Law 10.295 / 2001 determined that the Ministry of Mines and Energy (MME) should define energy efficiency minimal standards. This law demands specific norms applicable to equipment and appliances. INEE understands that this work must be prioritized, and has been an active participant on the Inter-ministerial Commission (CGIEE) in charge of this development.

The first important action of this Committee was the definition of the Energy Efficiency Goals Plan for Three Phase Electric Motors that are presently responsible for approximately 30% of overall electricity consumption in Brazil. Minimal rates have been also set for Compact Fluorescent Lamps, refrigerators and freezers, stoves, gas ovens and air conditioning equipment.

### ***Distributed Generation (GD)***

INEE's activities addressing DG contributed to Federal Law 10.848 / 04 (the new power sector model) that instituted and regulated that generation.

INEE participated at the foundation and was a member of World Alliance for Decentralized Energy – WADE.

In October 2003, INEE created the PortalGD, in a partnership with CanalEnergia, an online journal that divulged, during two years, technical and institutional editorials, articles, opinions, interviews and news of great importance for influencing specialized public opinion. This portal reached 80.000 page views by month but insufficient sponsorship led to its closure.

### ***Measurement & Verification (M&V)***

Among the main difficulties to evaluate energy efficiency projects is that their acceptability and remuneration depend on a reliable evaluation of this energy consumption reduction. As these evaluations affect ESCOs - Energy Service Companies' contracts, a neutral entity, such as INEE, should evaluate the energy use before and after an energy efficiency action. INEE has been contracted by BNDES, among others, to supervise and certify M&V works.

### ***Electric Vehicle (EV)***

Since 2002, INEE has promoted the development and use of these vehicles in Brazil. It has organized many seminars and exhibitions, the last one, the 9<sup>o</sup> Seminar and Exhibition of Electric Vehicles, in São Paulo, in September 2013.

INEE created in April 2004 the PortalVE, in partnership with CanalEnergia that during one year and three months divulged editorials, articles, opinions and news about electric vehicles, reaching 54.000 page views by month. It was closed due to insufficient sponsorship.

### ***Publications***

In addition to discussion papers and events proceedings, INEE publishes studies and papers about energy conservation, available at its homepage ([www.inee.org.br](http://www.inee.org.br)).

## **Communication**

For more detailed information about the organization and INEE Program evolution, access homepage ([www.inee.org.br](http://www.inee.org.br)).

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## **Main Projects and Consulting developed**

**Cogeneration with wood residues** in a Mato Grosso native sustainable wood exploitation – Contractor: United Nations Foundation – 2002.

**Distributed Generation – A Business and a Complement to Centralized Generation** – Contractor: Brascan Investments – 2004.

**Consulting for implementation of an electric vehicles fleet** – Contractor: AMPLA – 2008.

**Green Charcoal Project - Fazenda São Domingos (São Domingos Farm)** – Building of a pilot fast pyrolysis plant to produce charcoal and bio-oils using elephant grass as input in Conceição de Macabu. The technology was developed and patented by Bioware Technology. The project was funded by the Rio de Janeiro State government and PRONAF – “Family Farming Strengthening National Program” - Ministry of Agrarian Development and Conceição de Macabu Town Hall – 2007/2009.

**Biomass Gasification and Power Production Integrated System, for VSE** – Information retrieval, data update and proposal for Vale Energy Solutions –VSE, in order to retake the project development, interrupted by Eletrobras in the ‘90s.

**Well to Wheel Efficiencies in Brazil** – Study of the main energy transformation and transportation chains from primary sources to end use evaluating the main losses. Contractor: EPE Empresa de Pesquisa Energética (EPE - Energy Research Company) – 2009.

**Public lighting and electric vehicle transport in Paquetá Island (Rio de Janeiro)** – Contractor: LIGHT Serviços de Eletricidade S.A. (Light Electricity Services S.A.) – 2009.

**Cogeneration in Brazil** – Diagnosis of present status – Contractor: EPE Empresa de Pesquisa Energética (EPE - Energy Research Company) – 2010.

**Analysis Electric Generation Project using elephant grass** – analysis on the feasibility of the acquisition of a power generator company in Piauí using elephant grass as fuel feed-stock. Contractor: EVONIK – April 2010.

**Technical team training in increased energy efficiency** - Contractor: Casa da Moeda – November 2010.

**Challenge Bibendum** – INEE and ABVE support to the realization of the international Michelin event, in Rio de Janeiro, about clean mobility. – 2009.

## **M&V**

- M&V certification of energy efficiency project for the Water and Sewage Treatment Plants of CEDAE Guandu, Guaicurus and Andre Azevedo – Contractor: LIGHT Serviços de Eletricidade S.A. (Light Electricity Services) and CEDAE – Companhia Estadual de Águas e Esgoto (CEDAE – Water and Sewage State Company) - 2010.
- Preliminary analysis and certification of the technical and economical feasibility study to increase energy efficiency in the Pharmaceutical Manufacturing Plant of Osvaldo Cruz Foundation for BNDES Proesco Fund framework – Contractor: GERBIA / NANSEN – 2008.
- Invited by ABNT - Technical Norms Brazilian Association, participation in CEE/116 – Energy Management Special Study Commission, of the discussions of the ISO/CD 50006 e ISO/CD 501015 related to M&V in ISO 50001.

**International Performance Measurement and Verification Protocol (IPMVP)** – INEE has contributed with EVO – Efficiency Valuation Organization, translating the IPMVP, whose use is recommended by NPEE – National Program of Energy Efficiency of the MME – Brazilian Ministry of Mine and Energy. It follows the main activities:

- Translation of IPMVP from English to Portuguese (as spoken in Brazil), version 2010, from EVO – Contractor: UTENF.
- Translation of IPMVP from English to Portuguese (as spoken in Brazil), version 2012, from EVO – Contractor: UTENF.
- “IPMVP – International Performance Measurement and Verification Protocol” training – Contractor: BADOIN e CELESC - 2010.
- “IPMVP – International Performance Measurement and Verification Protocol” training – Contractor: SULGIPE – 2010.
- Participation in the IPMVP Technical Committee, permanent group for discussion of M&V in EVO.

**Consulting for implementation of an electric vehicles fleet** – Contractor: CPFL - Companhia Paulista de Força e Luz (São Paulo Energy Company) – 2009/2010

## **Governance of INEE**

INEE was founded at a meeting held on March 27<sup>th</sup>, 1992. Its structure is shown below.

### **General Assembly**

The General Meeting holds the highest authority, taking final decisions on all subjects, including the appointment of members of the Board of Directors and the Fiscal Committee.

### **Board of Directors**

The Board of Directors has up to ten members. It appoints the Executive Committee, sets the guidelines for INEE's activities, analyses and approves the work plans of the Executive Committee.

**President:** Marcos José Marques

Angelo Vian

Carlos Alberto Afonso

Luiz Augusto Horta Nogueira

Luiz Otavio Aleotti Maia

Marina Godoy Assumpção

Mário Fernando Melo Santos

Paulo César Coelho Tavares

### **Advisory Board**

The Advisory Board comprises professionals of recognized competence. Its members provide assistance and advice for the Institute.

Acher Mossé

Adilson de Oliveira

Almir Fernandes

Altino Ventura Filho

Antonio Dias Leite

Carlos Eduardo de S. Figueiredo

Carlos Feu Alvim

Carlos Roberto Silvestrin

Claudia Barroso Krause

Claudio R. Frischtak

Diogo Galhardo

Edison Tito Guimarães

Fernando de Castro S. Milanez

Gilberto de Martino Januzzi

Howard Geller

Isaías Macedo

Jerzy Lepecki

João Camilo Penna

João Carlos Mayrinck

José da Costa Carvalho Neto

José Israel Vargas

José Roberto da Costa Moreira

Julio Maria Borges

Luiz Pinguelli Rosa

Márcia de Andrade Sena Souza

Marcílio Marques Moreira

Mário Porto

Newton do Amaral Figueiredo

Orlando Puppim

Paulo César C. Tavares

Rogério Manso

Xisto Vieira Filho

### **Fiscal Committee**

The Fiscal Committee oversees and approves the Institute's accounts according to the existing laws.

Acher Mossé

Carlos Saboia Monte

Michael Vahrenkamp

### **Executive Committee**

The Executive Committee manages the Institute under the overall supervision of the Board of Directors. Its members are appointed by the Board of Directors for a two years period and can be reconducted. The existing Executive Committee, elected for the period 2012-2014, is the following:

**General Director:** Jayme Buarque de Hollanda

Fernando C S Milanez

Osório de Brito

Pietro Erber