

ENERGY EFFICIENCY PROGRAMS



Eta Guandu



ETE Ampla



ETE Barueri



ETE ABC



Nestlé



Goodyear



Batalhão da Rota



Aeroporto Tancredo Neves



UniSantanna



UNG Guarulhos



Centenário Plaza - Robocop



Fiesp



Hosp. Albert Einstein



Hosp. Santa Marcelina



Hosp. HBP

ESCO

Energy Service Company or

Empresa de Serviços de Conservação de Energia

Concept

Ally technical and financial solutions to reduce expenditures with inputs.

(electrical energy, water, oil, glp, etc.)

ABOUT US



- **VITALUX** belongs to a select group of companies that have developed engineering solutions for highly complex projects combining entrepreneurial activities and technical skills;
- We develop solutions that provides operating earnings and also provides revenue gains;
- Integrated solution guided by three pillars of business: Creating demand (Prospect), modeling technical (engineering), financial modeling (fundraising);
- Implementation of energy efficiency measures in several niche markets, searching solutions that are not limited only to the study of energy inputs;
- Mitigation of major risks involved in performance contracts, which are: performance and risk Credit risk;

ABOUT US



- Due to the high technical level of our professionals, we take calculated risks during the various phases of projects, which enables us to implement performance contracts, compensation to the savings in the project, including the public sector;
- Although we act in specific areas, where currently only a few companies in the sector are able to act, we are also competitive in the conventional market as service deployment, development of diagnostics, monitoring and verification.

PROMINENCE FOR CONTRACTUAL PERFORMANCE

- **Own investment without cost for clients** – for realization of diagnosis and implantation of measures of efficiency energy.
- **Remuneration of Esco** - percentage of economy during the contractual period.

ACTUATION AREAS



MULTIDISCIPLINARITY OF SPECIALTIES FOR THE DIFFERENT SEGMENTS

Sanitation

Captation, Processing and Distribution Water
Captation and Treatment Sewage

Industrial

Utilities Compressed Air
 Steam
 Water of process
 Cogeneration
 ETA / ETE

Process Motriz Power
 Termic Process – Ovens
 Refrigeration
 Automation

Predial/Comercial

Air Conditioning
Illumination
Automation
Managemant of potable water and no potable

LINES OF BUSINESS

- PEE–ANEEL for Distributors – Complete management of projects, since prospection until M&V, with ANEEL Book agreement
- PURA – Programa de Uso Racional de Água para Sabesp
- Energy Diagnosis
- Consultancy of Specialized Engineering
- Projects
- Management and Implementation
- M&V – Management of performance
- Financing – with remuneration based on performance
- Carbon Credits
- Optimization of Input Contracts
- Management and Web Monitoring
- Generation of Renewable Energy – New Technologies – Solar Concentrate

ENERGY EFFICIENCY IN EXISTING BUILDINGS



1. BRAZILIAN SCENARIO

Data from EPE (2010)

- Power consumption of 455,189 GWh;
- Expected growth of 5.3% a.a;
- Expansion in generation (2010-2019): Requires an investment of \$ 175 billion;
- Investments in MEEs are 2-3 times smaller than investing in expansion;
- PEE- ANEEL cycles (1998 up to 2007): R\$ 1.934M invested and saved 5,591 GWh

1. BRAZILIAN SCENARIO

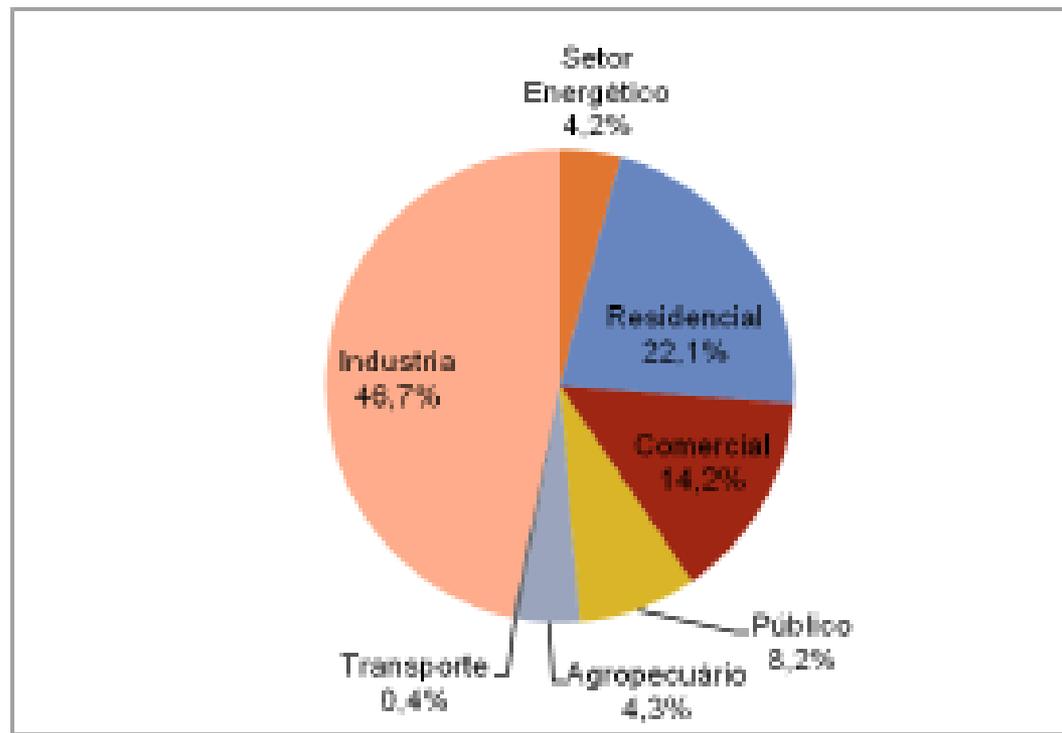
Comparisons:

- PEE ANEEL: saving 621 GWh / year;
- EPE: 24,125 GWh / year expansion of the system;
- 10% in EE: 2.415 GWh/year;
- PEE ANEEL: 25% of the amount proposed by EPE or 0.13% of total consumption.

1. BRAZILIAN SCENARIO

- PNEf: 23% of the consumption is related to commercial and public sector

Figura 8: Distribuição do Consumo de Eletricidade por Setores Da Economia



Fonte: BEN 2008 (Ano Base 2007)

2. STATE OF SÃO PAULO - SCENARIO

Data from EPE (2010)

- Power consumption is 118,062 GWh;
- PEE (ANEEL) - Total savings equivalent to 1,438 GWh and avoided a demand of 0.43 GW, ANEEL (1998-2007)

Financial Data (1998-2007):

- Energy saving R \$ 443.00 / MWh year (CEE);
- Demand avoided R\$ 1,477.00 (CED)

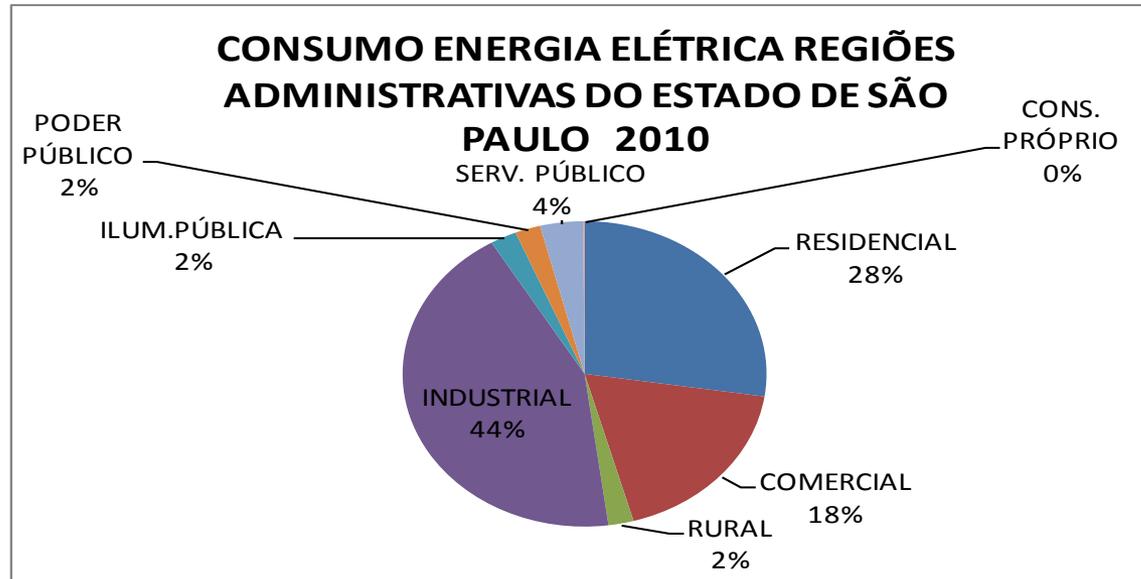
2. STATE OF SÃO PAULO - SCENARIO

Comparisons

- PEE ANEEL: 160 GWh / year;
- Expansion (based on the national system): 6257 GWh / year expansion of the system per year;
- 10% in EE: 625 GWh / year;
- PEE ANEEL: 25% of the amount proposed by EPE or 0.13% of total consumption.

2. STATE OF SÃO PAULO - SCENARIO

- Department of Energy: 26% of commercial and public sector consumption



- Considering that 50% of consumption refers to commercial buildings;
- Deploying to MEE's and obtaining 20% savings, there is a potential savings of approximately 3.000 GWh / year = R\$ 900 M / year – Investment R\$ 2.2 Bi
- Water opportunities Investment - R\$ 700M

Total Investment R\$ 2.9 Bi

3. ENERGY EFFICIENCY ACTIONS

- Replacement of lighting with more efficient (PL lamps, lamps with better reflectivity, electronic ballast);
- Lighting only on specific needs;
- Retrofit or upgrade the cooling systems (eg, HVAC and AC);
- Use of automation systems, allowing motor control;
- Replacement of energy input as electricity by solar energy in case of water heating;

3 ENERGY EFFICIENCY ACTIONS

- Using techniques of reuse, rainwater catchment, search for self-production;
- Reuse of energy dissipation in input, such as the use of thermal energy extracted in the process of heating the air as an input to pre-heat water, etc...

Fonte: ABESCO, 2011

EXPERIENCE

COMMERCIAL BUILDING / PUBLIC

PEE / PERFORMANCE CONTRACT

CONDOMINIUM EDIFÍCIO SÃO LUÍS (PROMON)

PEE ANEEL - AES ELETROPAULO

HVAC RETROFIT – MACHINERY ROOM 1600TR

Electricity

Investment
R\$1.800.000

Savings
42%

PERFORMANCE CONTRACT

PROGRAMA DE USO EFICIENTE DE ÁGUA

WATER

Annual expenses
R\$696.000

Savings
40%



AES ELETROPAULO - VITALUX

CONDOMINIUM EDIFÍCIO AVENIDA FARIA LIMA

- **Energy Efficiency Systems:**

Air conditioning

Lighting

Automation

Water and Wastewater

Optimizing Energy Use

ENERGY AND WATER

Annual Expenses

R\$1.800.000

Savings

48%



AES INFOENERGY - VITALUX

CONDOMINIUM BOLSA DE IMÓVEIS DO ESTADO DE SÃO PAULO



- **Energy Efficiency Systems:**

Air conditioning

Lighting

Automation

Water and Wastewater

ENERGY AND WATER

Annual Expenses

R\$900.000

Savings

28%

PERFORMANCE CONTRACTS

FEDERAÇÃO DAS INDÚSTRIAS DO ESTADO DE SÃO PAULO EDIFÍCIO SEDE FIESP

WATER EFFICIENT USE PROGRAM

Annual Expenses
R\$622.000

Savings
35%



EDIFÍCIO SÃO LUIZ GONZAGA

WATER EFFICIENT USE PROGRAM

Annual Expenses
R\$455.000

Savings
21%



CONTRATO DE PERFORMANCE

CONDOMINIUM CENTENÁRIO PLAZA (PREVI)

- **Energy Efficiency Systems:**

Air conditioning

Lighting

Automation

Water and Wastewater

Optimization of energy use

Savings

ENERGIA E ÁGUA

Annual Expenses

R\$1.800.000

35%



CONDOMINIUM EDIFÍCIO HSBC TOWER

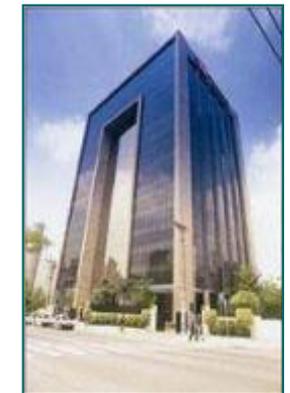
WATER EFFICIENT USE PROGRAM AND EFFLUENT

Annual Expenses

R\$500.000

Savings

32%



CONTRATO DE PERFORMANCE

CONDOMINIUM MORUMBI OFFICE TOWER (PREVI)

- **Energy Efficiency Systems:**

Lighting
Automation
Water and Wastewater
Optimizing Energy Use

ENERGY AND WATER

Annual Expenses
R\$1.350.000

Savings
15%





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