



MINISTRY OF
INDUSTRY, FOREIGN TRADE
AND SERVICES



The Energy Conservation Center, Japan

ENERGY MANAGEMENT ACTION NETWORK FOR INDUSTRIAL EFFICIENCY (EMAK)

Session 1 – Showcases Established in Brazil (EnMs and EC)

Established Public and Private Network / B+P EE

Gustavo Fontenele (MDIC)

São Paulo, November 21st 2018 (EMAK9)

Session 1 – Showcases Established in Brazil

1) Established Public and Private Network (remarks).

2) B+P EE.



1) Established Public and Private Network (remarks)



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MINISTÉRIO DE
MINAS E ENERGIA



2) Brazil More Productive Energy Efficiency (B+P EE)

“Brasil Mais Produtivo Eficiência Energética (B+P EE)”

Apoio:



Parceria:



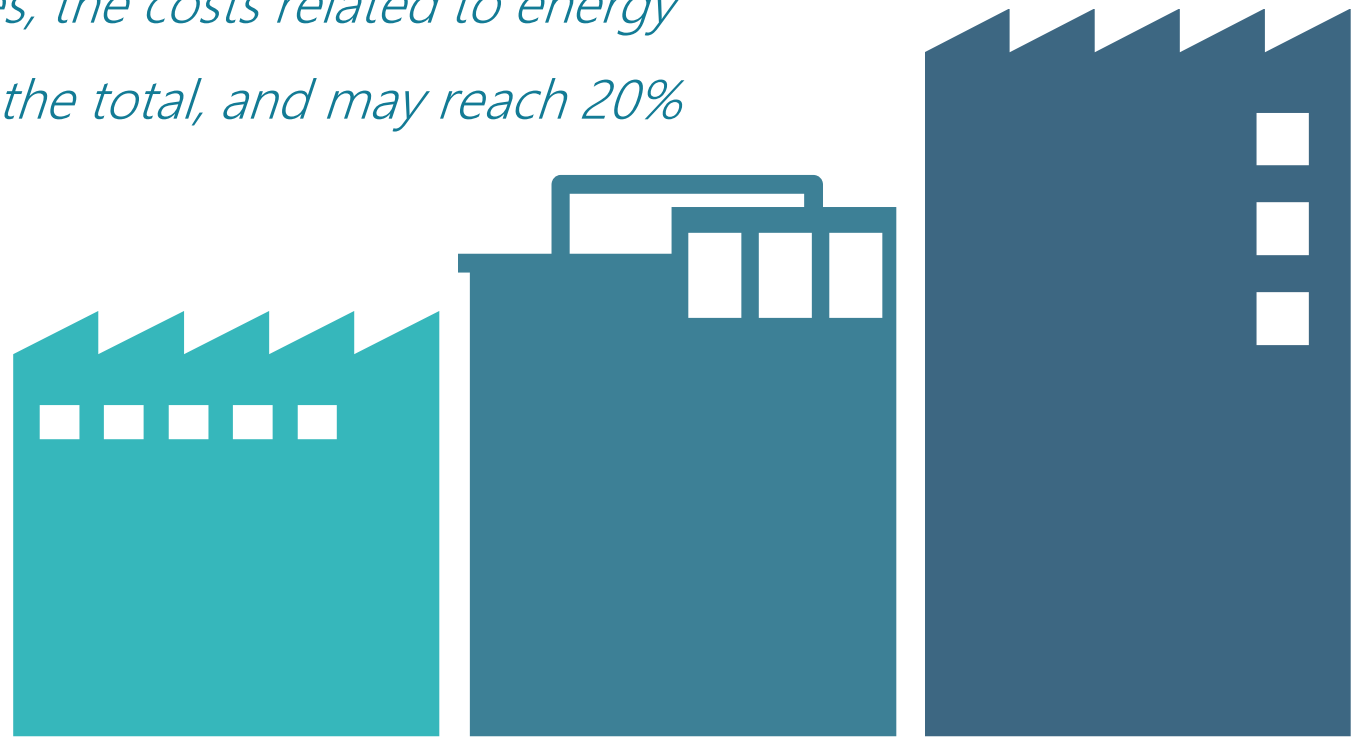
Realização:

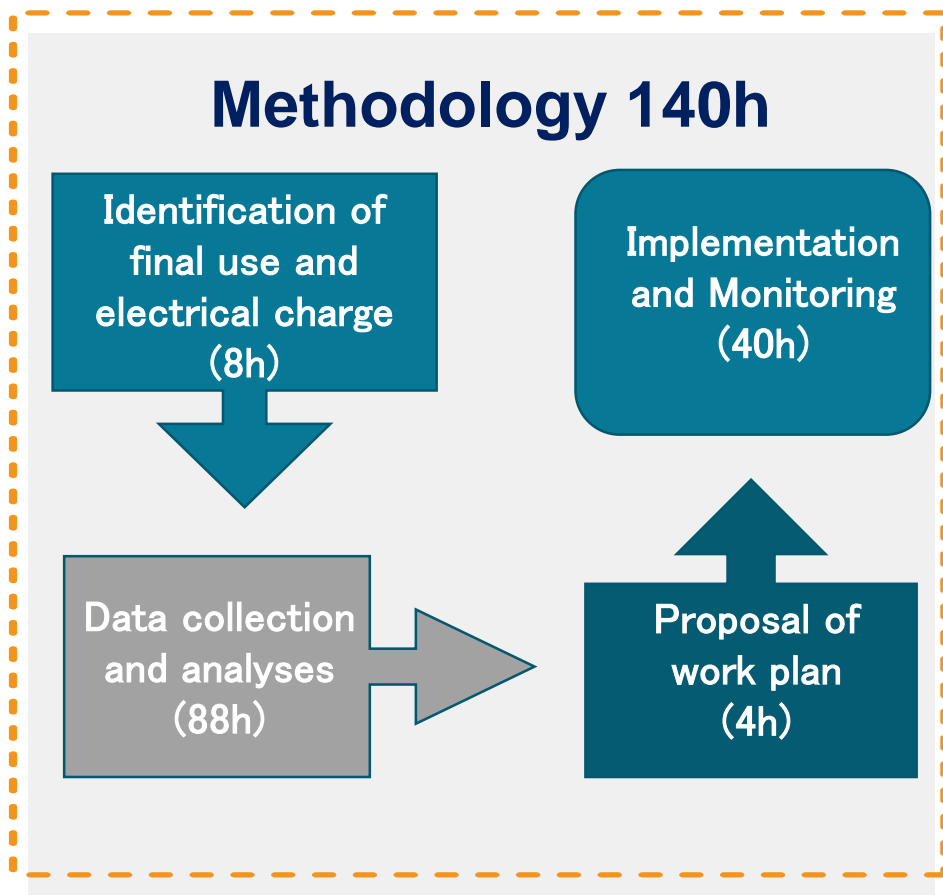


PROGRAM MOTIVATION

The industrial sector is responsible for more than a third of worldwide energy consumption (IEA, 2015) e for 34% of the total of the produced energy in Brazil (Energy Research Agency, 2015).

In discreet manufacturing companies, the costs related to energy consumption are from 6% to 8% of the total, and may reach 20% (HUIJBREGTS et al., 2010)





Areas of Action

Tariff Analysis

Lighting System

Drive System

Refrigeration and Thermal

Compressed Air

Cost: R\$ 21 mil / USD 5,600

USD 1,120 (Company Counterpart) + USD 4,480 (B+P)
R\$ 4,2 mil (Contrapartida da Empresa) + R\$ 16,8 mil (B+P)

* 1 USD = R\$ 3.75

PILOT IN 48 COMPANIES

SECTORS

Red Ceramic (8)
Metal-mechanic (8)
Plastics (Transformed) Products (9)
Textile (12)
Food (5)
Cosmetics (6)

STATES

BA, CE, ES, GO, MG,
PB, SC, RS

INDICATORS

Reduction of Energy Consumption
(*without investments*)

26,43%

Reduction of Consumption
Reduction
(*without investments*)

R\$ 47,92 mil

Average Payback
(R\$ 21 mil / USD 5,600)

4,71 months

RESULTS PER SECTOR



SECTORS	Total Energy Consumption Reduction (MWh/year) without investment	Total EnergyConsumption Reduction (MWh/year) with investment
FOOD	182	251
CERAMIC	5,724	1,752
COSMETICS	280	223
METAL-MECHANIC	585	804
PLASTICS (TRANSFORMED) PRODUCTS	196	175.4
TEXTILE	5,137	3,217
TOTAL	12,104*	6,422.40

* Energy Savings is equivalent to 6,724 houses (average per house 1.8 MWh/year)

Case 1 – Sector: Metal-mechanic



Targets

Lighting Systems
Compressed Air Systems

Main Actions

Elimination of leakages in the compressed air network;
Change of the Power Energy Contract;
Deactivation of one of the three substations at the company (oversizing);

Results/Achievements

Reduction of 55,9%	170.23 MWh/a
Economy per year	R\$ 127.032,81 (USD 33,875,42)
Program Payback	2 months

Targets

Lighting Systems
Drive Systems
Refrigeration Systems
Compressed Air Systems



Main Actions

Deactivation of 1 power generator at peak hour;
Change on the compressors operational systems;
Change on the chiller operational system (water cooler for the productive process);

Results/Achievements

Reduction of 65,4% 79.43 MWh/year
Economy per year R\$ 21.035,00 (USD 5,609.33)
Program Payback 12 months

300 companies

Beginning of the consultancy on September, 2018

CNAEs PRIORITIZED					
Foods and Beverages	Textile	Plastic (Transformed) Products	Red Ceramic	Cosmetics	Metal-mechanic
80	31	58	60	18	53

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