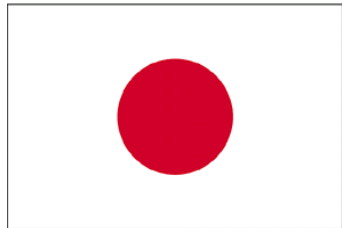
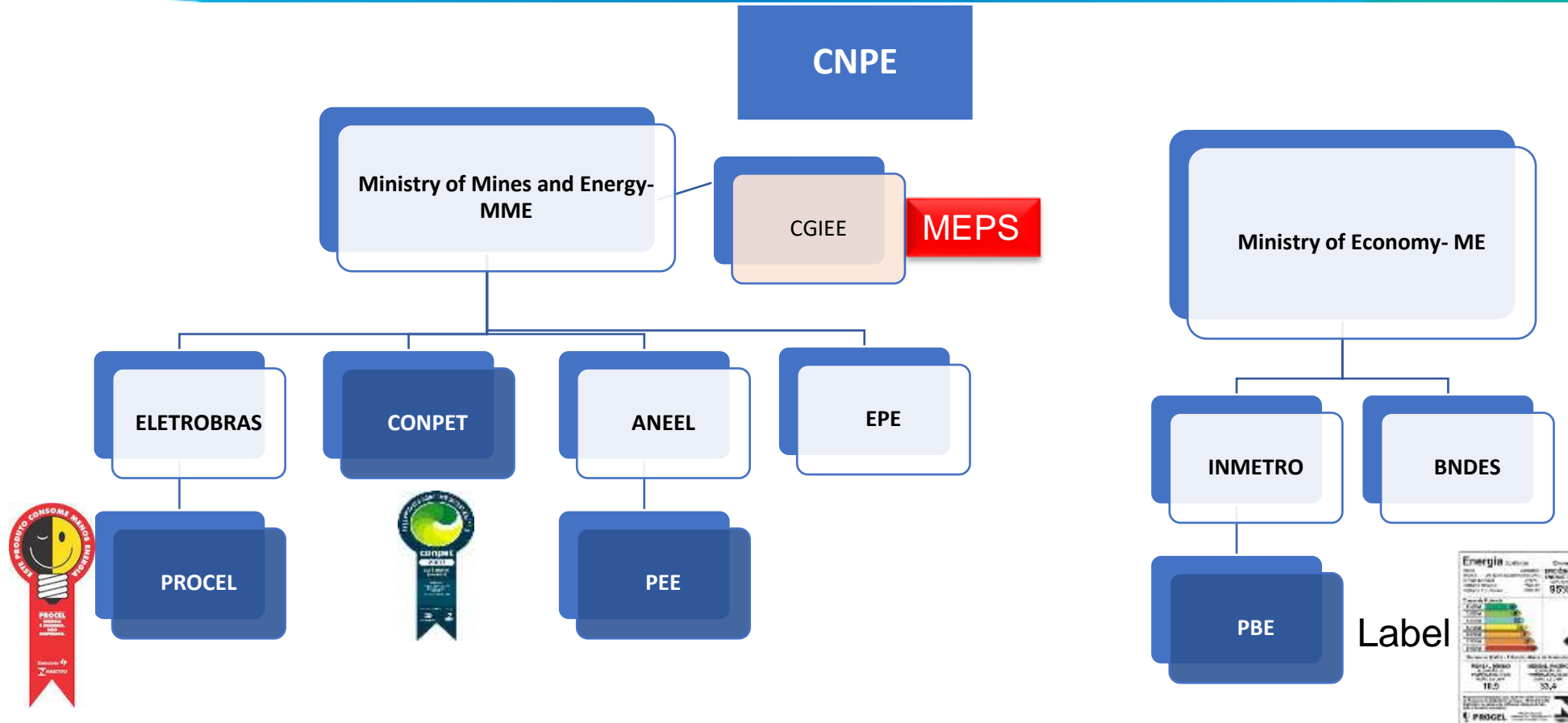


Japan – Brazil

Cooperation on Energy Efficiency and Conservation



Energy Efficiency – Institutional Framework



- **MEPS:** The criteria are defined by **CGIEE**. Inmetro and Procel only make suggestions to **CGIEE**
- **PBE:** The criteria are defined by **Inmetro**. CGIEE e Procel only make suggestions to **Inmetro**;
- **Procel Seal and Procel Gold Seal:** The criteria are defined by **Procel**. Inmetro e CGIEE only make suggestions to **Procel**.

PROCEL Seal : Concept, framework and adopted criteria

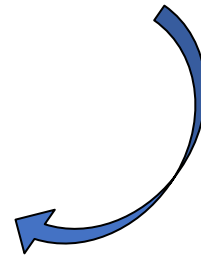


[DECREE PUBLISHED IN DECEMBER 8th, 1993.](http://www.planalto.gov.br/ccivil_03/DNN/Anterior%20a%202000/1993/Dnn1931.htm)

http://www.planalto.gov.br/ccivil_03/DNN/Anterior%20a%202000/1993/Dnn1931.htm

Its purpose is to be a simple and effective tool that allows the consumer to know, among the equipment and appliances available on the market, the most efficient and the ones that consume less energy.

All products awarded with the Procel Seal must meet the specifications contained in the **regulation and manual available**



<http://www.procel.gov.br/main.asp?View={B70B5A3C-19EF-499D-B7BC-D6FF3BABE5FA}>

PROCEL Seal : Concept, framework and adopted criteria



Appliances	Lighting	Pumps and motors	Solar
Freezers	Compact Fluorescent Lamps	Pumps and motor pumps	Solar heating systems
Refrigerators	Sodium Vapor Lamps	Electric motors	PV Systems
Laundry machines	LED Lamps		
TVs	reactors		
Fans	LED lighting		
Air Conditioners			
Micro-waves			



- **Voluntary**
- Safety test and Performance test are the same applied at PBE-Inmetro

PROCEL Seal : Concept, framework and adopted criteria



Value of IDRS (Seasonal Refrigeration Performance Index)

Energy Efficiency (W/W)		IDRS (Seasonal Refrigeration Performance Index)	
Equipment	By 02/05/2022	From 03/05/2022	From 03/11/2023
Split	Level A of PBE	≥ 6,0	≥ 7,6
Window (≤ 17.500 Btu/h)	Level A of PBE	≥ 4,0	≥ 4,5
Window (> 17.500 Btu/h)	Level A of PBE	≥ 3,85	≥ 4,33

Power in stand-by mode

	Date
	From 03/11/2023
Power in stand-by mode (W)	≤ 6



Refrigerant fluid.

Levels of Ozone Depletion Potential and Global Warming Potential

Prazos	
From 03/05/2022	
ODP	0
GWP	≤2088

PROCEL GOLD Seal : Concept, framework and adopted criteria



It will be digital only and should not be fixed to the device

Q. If the Procel Gold Seal is digital, how customers can tell which equipment has Gold Seal? Can they distinguish between Procel Seal and Gold Seal easily?

Q. We understand that Gold Seal is not physically fixed to the device at the moment. Can this be changed in the near future or is this something you find it difficult to change? If difficult, please explain the reason why.

Equipment must already have the Procel Seal

Value of IDRS (Seasonal Refrigeration Performance Index)

Equipment	IDRS (Performance Index Seasonal Refrigeration)	
	From 03/05/2022	From 03/11/2023
Split	$\geq 7,6$	$\geq 8,2$
Window	$\geq 4,5$	$\geq 5,0$

Q. What are the main basis or reasons for each additional level?
Split +0.6 and Window +0.5

Refrigerant fluid.

Levels of Ozone Depletion Potential and Global Warming Potential

Dates	GWP and ODP	
	From 03/05/2022	From 03/11/2023
ODP	0	0
GWP	≤ 2088	≤ 750

Issues

- Develop a methodology to define when to re-evaluate the criteria of Procel Seal and Procel Gold Seal

Possible solution

- Procel is in partnership with an institution, one of the works is the development of the methodology

PROCEL Seal : Information of R&D - Expected EE and Timeline

Issues

Possible solution

PROCEL Seal : Methodology to Study, Propose and Authorize

Issues

- How to know that the manufacturer can offer a more efficient equipment?
- Companies, in general, do not have R&D centers in Brazil in the same way as companies in Japan

Possible solution

- Produce a study in other countries to monitor the evolution of air conditioners and the evolution of performance levels

PROCEL Seal : Collect / Analyze Data and Info

- Manufacturers must send to Procel the information in the Technical Specifications Spreadsheet (PET) and attend the regulation (test reports)
- Annually, Procel Eletrobras will promote the reassessment of the characteristics of the air conditioners awarded with the Procel Seal (Production Monitoring established in the current "RAC of Air Conditioners" of the Brazilian Labeling Program – PBE)

Issues

- Online system for the manufacturer to request the Procel Seal and Procel Gold Seal

Possible solution

- Procel through PAR is already working to create a website on which the manufacturer will request use for Procel Seal and Procel Gold Seal

Q. What does “PAR” stand for?

A. PAR- "Plano de Aplicação de Recursos"- Resources Application Plan (It is a year planning instrument that guides Procel on the application of its budget for energy efficiency initiatives and projects.)

PROCEL Seal : Data and Information to Incentivize Consumers

Issues

- Market survey

Possible solution

- To contract a company to evaluate the Market
- Advertising campaigns
- App for Procel Seal
- Procel Info website redesign

Costumers

Issues

Possible solution

Manufacturers

Issues

- How can a manufacturer know the benefits that the Procel Seal and Procel Gold Seal can offer?

Possible solution

- Surveys carried out by institutions in the area show that consumers prefer to buy the air conditioner that has the Procel Seal

Q. What are the reasons why Brazilian consumers prefer to buy air conditioners with Procel Seal?

Please clarify from the following viewpoints, if the survey identifies the reasons.

- Cost performance + price
- Awareness on environment including energy efficiency
- Others (Reliability, etc.)

A. Procel Seal is highly recognized by Brazilian citizens, and it means, in general: more efficiency and better performance. Procel's reliability reinforces that. Media campaigns were always very effective to make this understanding strong among people.

Some questions from Nobuko Tanaka

Q.: How can Brazil obtain sales data?

A.: Today, Brazil does not have a law that obliges the manufacturer to inform sales data. CGIEE, Procel and Inmetro do not have the power to force manufacturers to provide sales data. One possibility is market survey.

Q.: With regard to ACs, the recent revision dictates that the future revision can only be made after 03/11/2023.

A.: From this date it is possible that Procel will revise the criteria of the Procel Seal and the Procel Gold Seal.

Q.: What are the dates for new MEPS to AC?

A.: The MEPS will be deployed in three steps:

	Step 1	Step 2	Step 3
Date	31/12/2022	31/12/2025	31/12/2028

Q.: What are the Standards used in the air conditioner program?

A.: CGIEE and Procel use the same performance and electrical safety standards that Inmetro applies in its regulation.