

**ENERGY
EVALUATION
EUROPE**



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Implementing an energy efficiency policy database in Latin America: methodology, lessons and findings

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Context

- Good information is crucial to define and evaluate energy efficiency policies.
 - BIEE* project initiated by UN-CEPAL: **monitoring energy efficiency trends** in Latin American countries using indicators.
- High potential of energy savings in Latin American Countries (LACs)
- Unbalance situation between countries in terms of energy efficiency policies implementation
 - Need for **exchange of good practices**
 - A 3rd phase (2020-21), called BIEE-ROSE, extended the project to renewables and energy access (OSD7) and to the **monitoring of policies**, within the EUROCLIMA+ programme (with AFD and ADEME).
- This paper shares our experience in implementing the Policies & Measures (P&Ms) database in LACs.

**Base de Información de Eficiencia Energética*
<https://biee-cepal.enerdata.net/>

Outline

- BIEE policies database
- Overview of policies by type
- Main policies by sector:
 - Cross-sectoral
 - Buildings
 - Transport
 - Industry
- Conclusions

Overview of BIEE Policy Database

- The BIEE P&Ms database has been developed on the model of the European database (MURE) but has been **customised**.
- It compiles all existing policies in LACs related to energy efficiency, energy access and end-use renewables.
- The database provides:
 - A **detailed description of the P&Ms**, which has been filled in and validated by national focal points, usually the **Energy Ministry**;
 - A **systematic characterisation of P&Ms** through a dozen of predefined descriptive parameters;
 - A **user-friendly interface** allowing users to **consult** and **extract P&Ms** according to various criteria they have selected.

<https://biee-cepal.enerdata.net/measures>

Classification of P&Ms:

Sector	<ul style="list-style-type: none"> • Horizontal, Households, Services, Industry, Transport
Type	7 main types <ul style="list-style-type: none"> • Mandatory information • Regulations • Financial • Fiscal • Information • Sectoral programmes • Others
End-use	<ul style="list-style-type: none"> • To which they are applied
Target	In terms of actors, end-use (e.g. low income households, public sector, SMEs...)
Status	On going, planned, ended
Other	Date of implementation Overview, impact evaluation (savings, cost), detailed description, references

Public interface:

Example of query: labelling of appliances

The screenshot shows the 'POLICY & MEASURES' interface. On the left, there are search filters: 'Sector' set to 'Households', 'Country' with multiple selections (Brazil, Mexico, Colombia, Argentina, Bolivia, Costa Rica, Ecuador, El Salvador, Honduras, Nicaragua, Panama, Paraguay, Peru, Uruguay), and 'Measure type' set to 'Mandatory information'. The main table displays 10 measures found, with columns for Country, Sector, Title, and Types. The 'Brazil' row is highlighted.

COUNTRY	SECTOR	TITLE	TYPES
Argentina	Households	Labeling for households appliances	Mandatory information
Brazil	Households	Procel Seal	Information
Colombia	Households	Energy Efficiency Labeling	Mandatory information
Ecuador	Households	Regulation of labeling of electrical appliances and highly consuming equipment	Mandatory information
Honduras	Households	Preparatory measure for EE labelling	Mandatory information
Mexico	Households	Energy efficiency labeling on energy-consuming equipment	Mandatory information
Nicaragua	Households	Energy Efficiency Labelling	Mandatory

Policy measures can be queried:

- by **key words** (e.g. “energy poverty”);
- by **sector**;
- by **type** (e.g. MEPS)

Additional **filters** can be used for a more refined query, with a search :

- By **sub-type**
- By **end-use** or type of appliance.

The screenshot shows the detailed view for 'Energy Efficiency Labelling - Refrigerators'. It includes a table of countries, a short description in Spanish, a reference link, and a table of key dates and impact.

COUNTRY	SECTOR	TITLE
Argentina	Households	Labeling for households appliances
Brazil	Households	Procel Seal
Colombia	Households	Energy Efficiency Labeling
Ecuador	Households	Regulation of labeling of electrical appliances and highly consuming equipment
Honduras	Households	Preparatory measure for EE labelling
Mexico	Households	Energy efficiency labeling on energy-consuming equipment
Nicaragua	Households	Energy Efficiency Labelling
Panama	Households	Energy Efficiency Labelling
Peru	Households	Energy Efficiency Labelling
Uruguay	Households	Energy Efficiency Labelling

Energy Efficiency Labelling - Refrigerators

Measure Code **Country**
 HOU-URY0030 Uruguay

Short description :
 El Programa de Normalización y Etiquetado de Eficiencia Energética consiste en generar normas y especificaciones técnicas que permiten clasificar a los distintos productos y equipos que consumen energía de acuerdo a su grado de eficiencia. Los equipamientos son testeados y clasificados de acuerdo a estos criterios, incorporándoseles una etiqueta que indica su nivel de eficiencia. Una de las principales ventajas de estas etiquetas radica en que permiten tomar mejores decisiones a los consumidores en el momento de la compra, pudiendo seleccionar aquellos equipamientos que les resultan más convenientes desde el punto de vista energético.

Reference :
 Norma 1138:2011 - <http://www.eficienciaenergetica.gub.uy/documents/20182/26296/UNIT+1138+2011+-+Eficiencia+Energetica.+Aparatos+de+refrigeracion+electricos+de+uso+domestico.+Especificaciones+y+etiquetado.pdf/321fe07a-6a3f-471b-8b41-7d517ce19861>

Status	Issuing date	Starting date	Ending date	Semi quantitative Impact
Ongoing	2010	2012		Medium

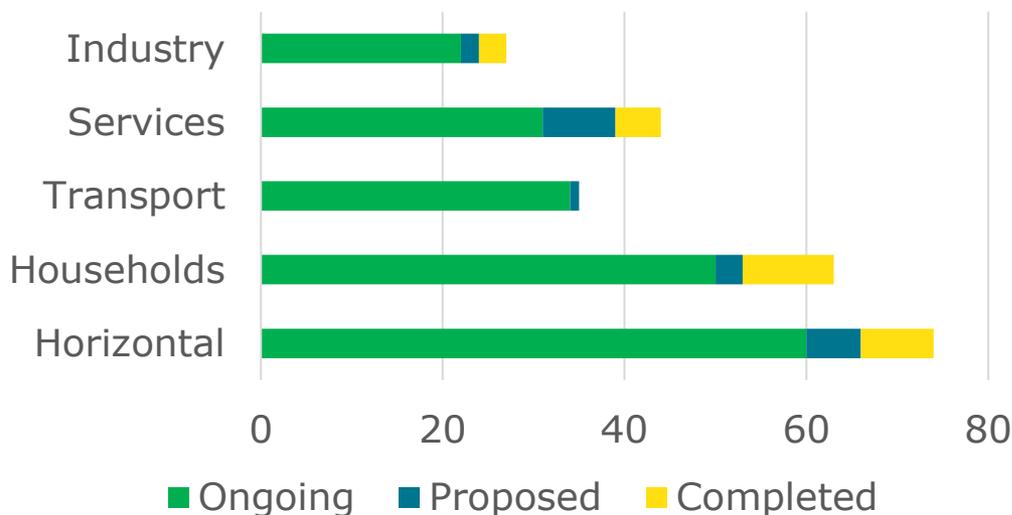


Example of P&Ms description: labelling of refrigerators in Uruguay

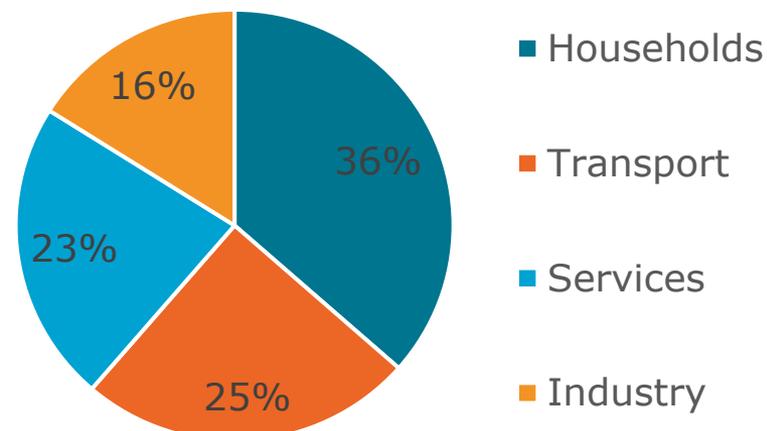
Overview of policies by sector

- Around 220 active measures* (~240 including proposed measures)
- $\frac{3}{4}$ of measures implemented **after 2010**
- The majority of measures are **horizontal**, i.e. not sector specific.
- **Buildings** (households and services) attract around **60% of all measures**. Measures on **renewables** and **energy access** are limited (15% and 5%).

Number of measures by sector



Distribution of sectoral measures**



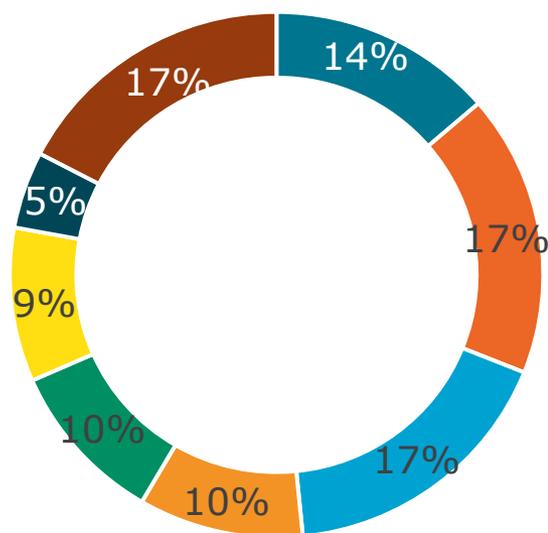
* 16 countries covered: *Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, and Uruguay*

**Horizontal measures excluded

Overview of policies by type

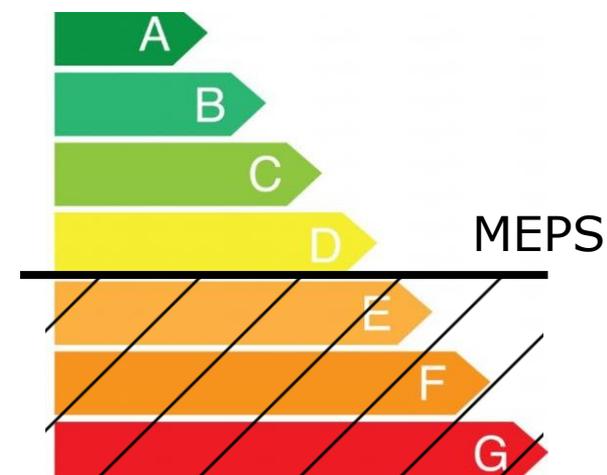
- One third of measures are **regulations on appliances**, combining **mandatory information** on energy efficiency performances (i.e. **energy efficiency labels**) and **MEPS** (17% of measures each).
- 14% of measures correspond to **programmes** (i.e. action plans, combining different measures).
- **Financial** measures only represent 10% of measures.

Number of measures by type



- Programme
- MEPS
- Mandatory Label
- Other Regulation
- Information
- Financial
- Fiscal
- Others

Example of labels / MEPS

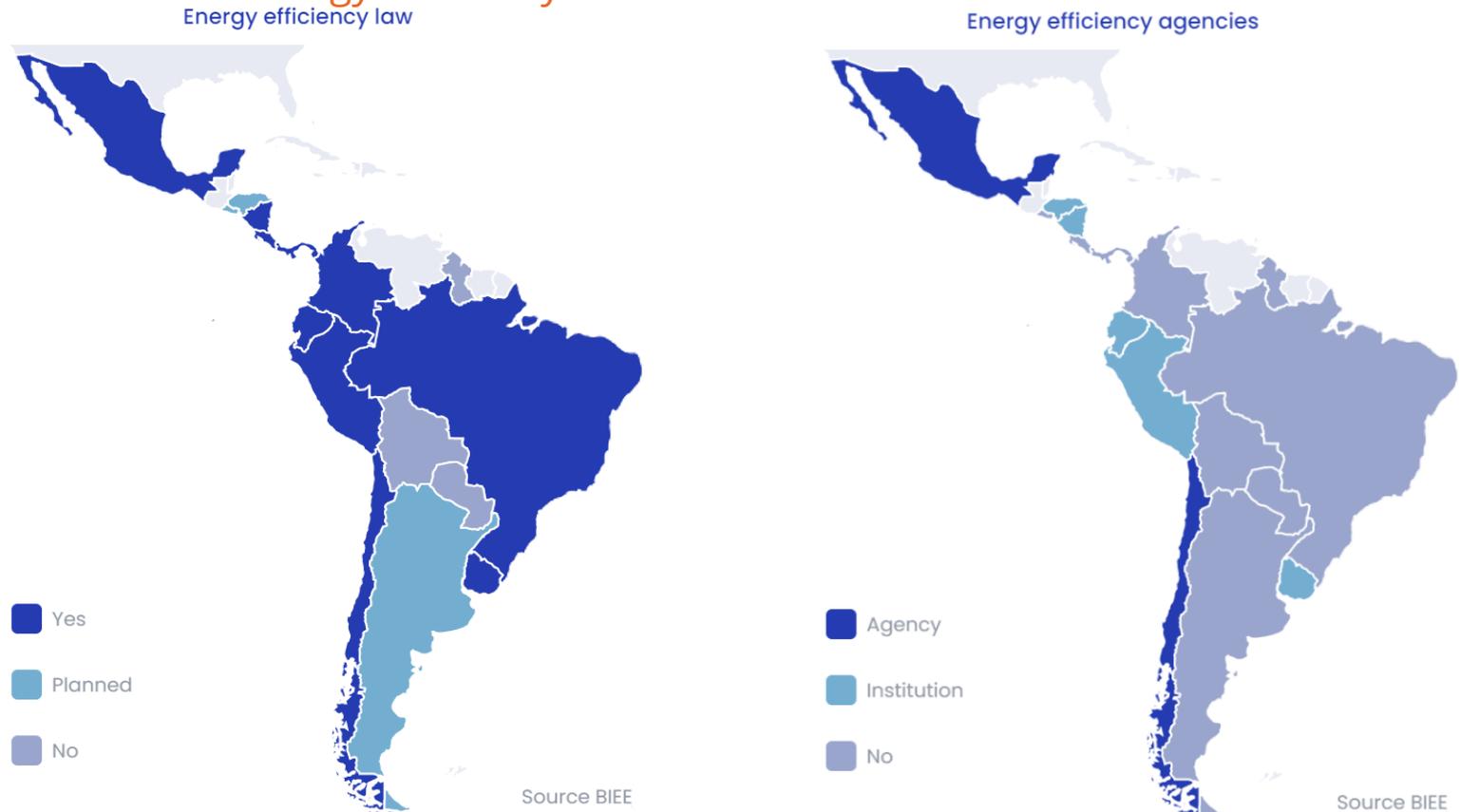


MEPS: Minimum Energy Performance Standards

Horizontal measures

- Most LACs have an energy efficiency **law** and a national energy efficiency **plan** (or programme).
- Only 2 countries have a national **energy efficiency agency** (Mexico and Chile) and 5 more a Ministry department or institution dedicated to energy efficiency.

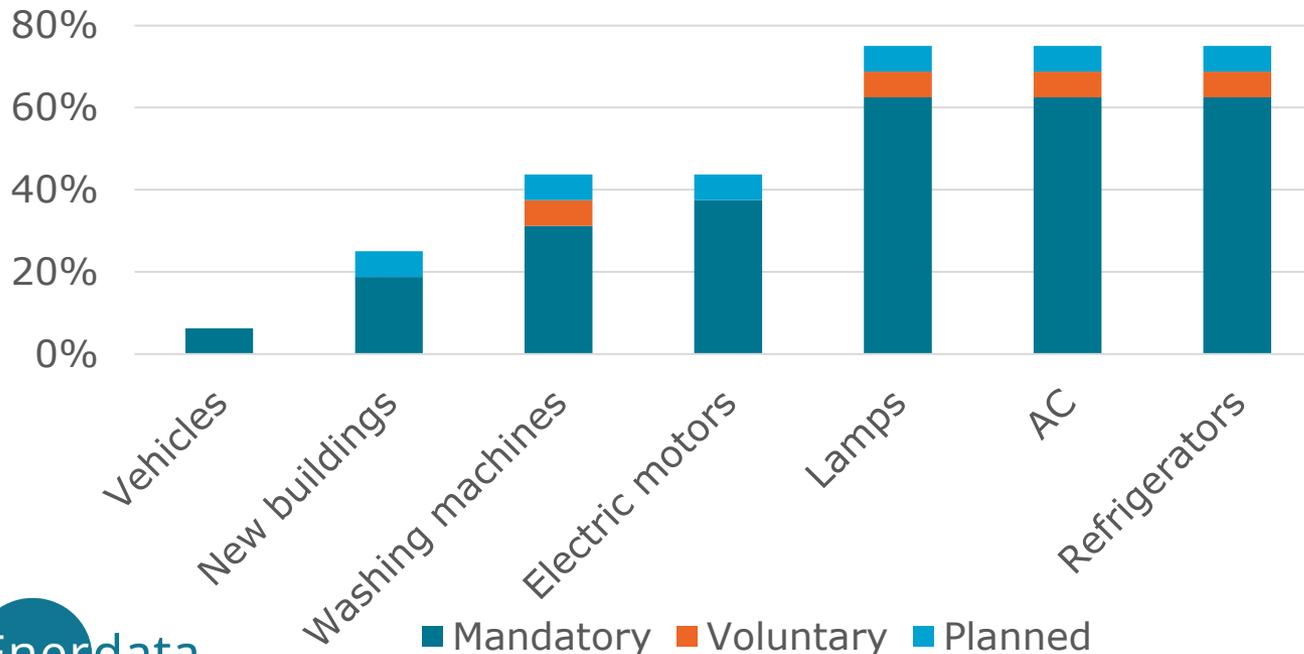
Energy efficiency law and institutions in LACS



Labelling and MEPS as the most implemented measures

- Most labels in LACs are **comparative**.
- Labels as the **first step** but need to be complemented by MEPS to remove inefficient equipment and appliances.

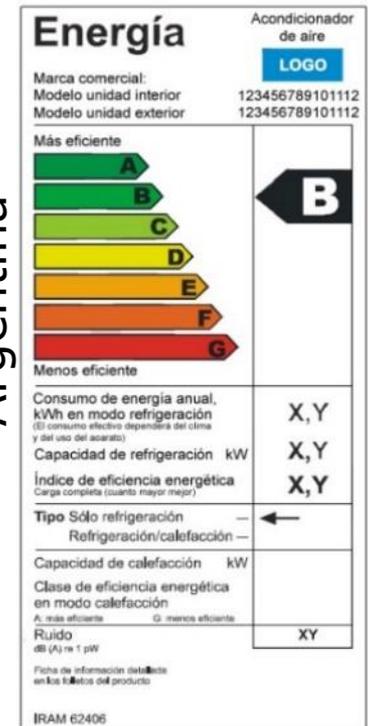
Share of countries with efficiency standards in LACs



Mexico



Argentina



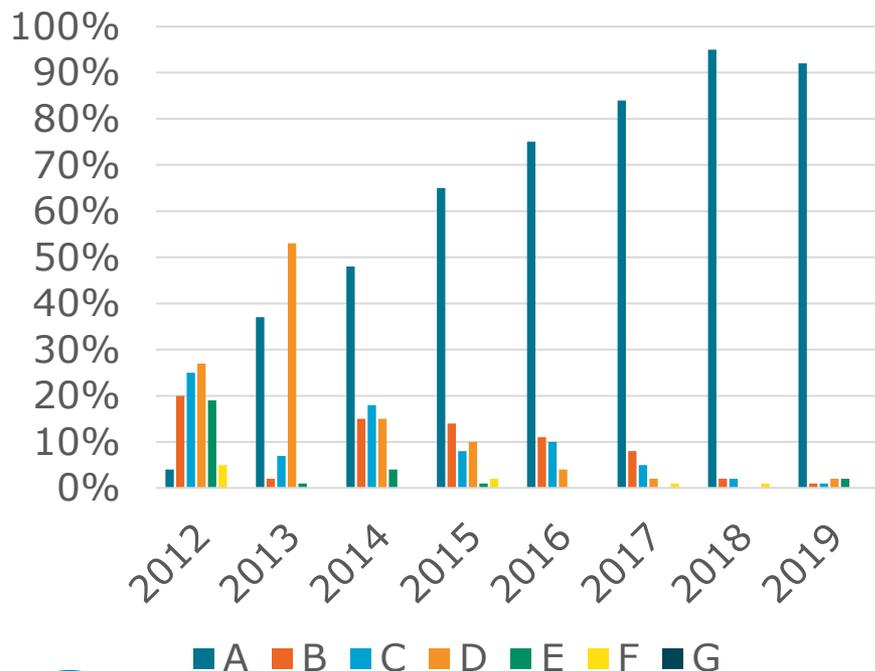
Examples of labels



Main buildings measures

- 3/4 of countries have labels for households appliances (generally mandatory) and around 60% have MEPS for appliances.
- Labelling programs for residential buildings (3 countries).
- Energy Building codes exist in only 3 countries.
- Mandatory energy consumption reporting in services (2 countries).

Sales of new AC appliances in Chile by label



Examples of building energy rating label: Brazil



Main transport measures

- **Car energy efficiency labelling** exists in 5 countries, mandatory for 3 of them.
- **Mexico** is the only country with MEPS on cars.
- 6 countries are promoting the **electrification** of transport, with Uruguay and Costa Rica being the most advanced with 8 measures each.

	Labels for cars	MEPS for cars	Electrification of transport
Argentina	2019		
Bolivia			
Brazil	2009		
Chile	2013		
Colombia			
Costa Rica			
Ecuador	2021		
El Salvador			
Guyana			
Honduras			
Mexico		2013	
Nicaragua			
Panama			
Peru			
Uruguay	2013		

Main industry measures

- The most frequent measures are **MEPS** (6 countries), followed by **labels** for electric motors (5 countries).
- 2 countries have **mandatory requirement for large consumers** and 2 more have financial or fiscal measures.

	Labels for motors	MEPS for motors	Mandatory requirements for large consumers	Financial/fiscal measures
Argentina				Ended
Bolivia				
Brazil				
Chile				
Colombia				
Costa Rica		V		
Ecuador				
El Salvador				
Guyana				
Honduras		P		
Mexico				Ended
Nicaragua				
Panama				
Peru				
Uruguay				Ended

Conclusions

- **Successful implementation** of the P&Ms database in Latin America thanks to:
 - Easy data collection and quality control through the web platform;
 - Governance of the project;
 - Good appointment of countries.
- Sufficient material to conduct a cross country analysis of policies in LACs.
- **Countries commitment differed among countries**, which is often related to the institutional and legal framework.
 - Only a few countries have a real monitoring of the impact of policies → **need for capacity building on evaluation methods**.
 - Next steps:
 - Strengthen the exchange of information and regional network of policy analysts;
 - Ensure a sustainable status of the database (continuous updates and involving more countries);
 - Link the indicators and policies databases for top-down evaluation of measures.

Contact:

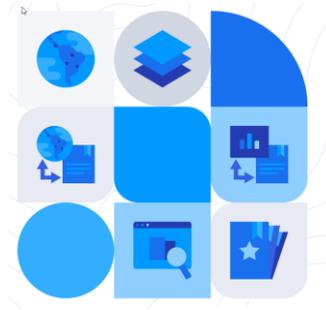
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About Enerdata:

Enerdata is an energy intelligence and consulting company established in 1991. Our experts will help you tackle key energy and climate issues and make sound strategic and business decisions. We provide research, solutions, consulting and training to key energy players worldwide.

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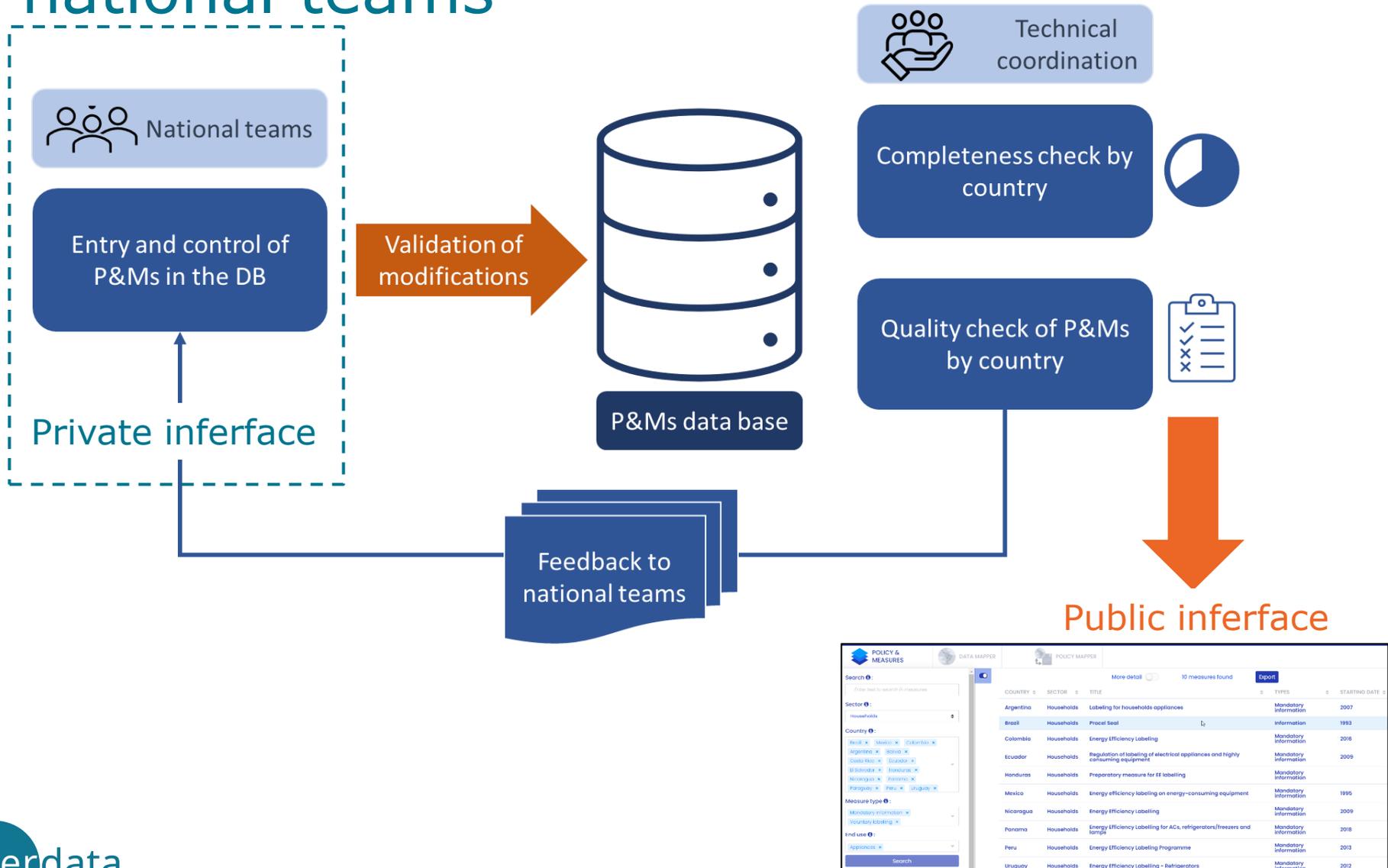


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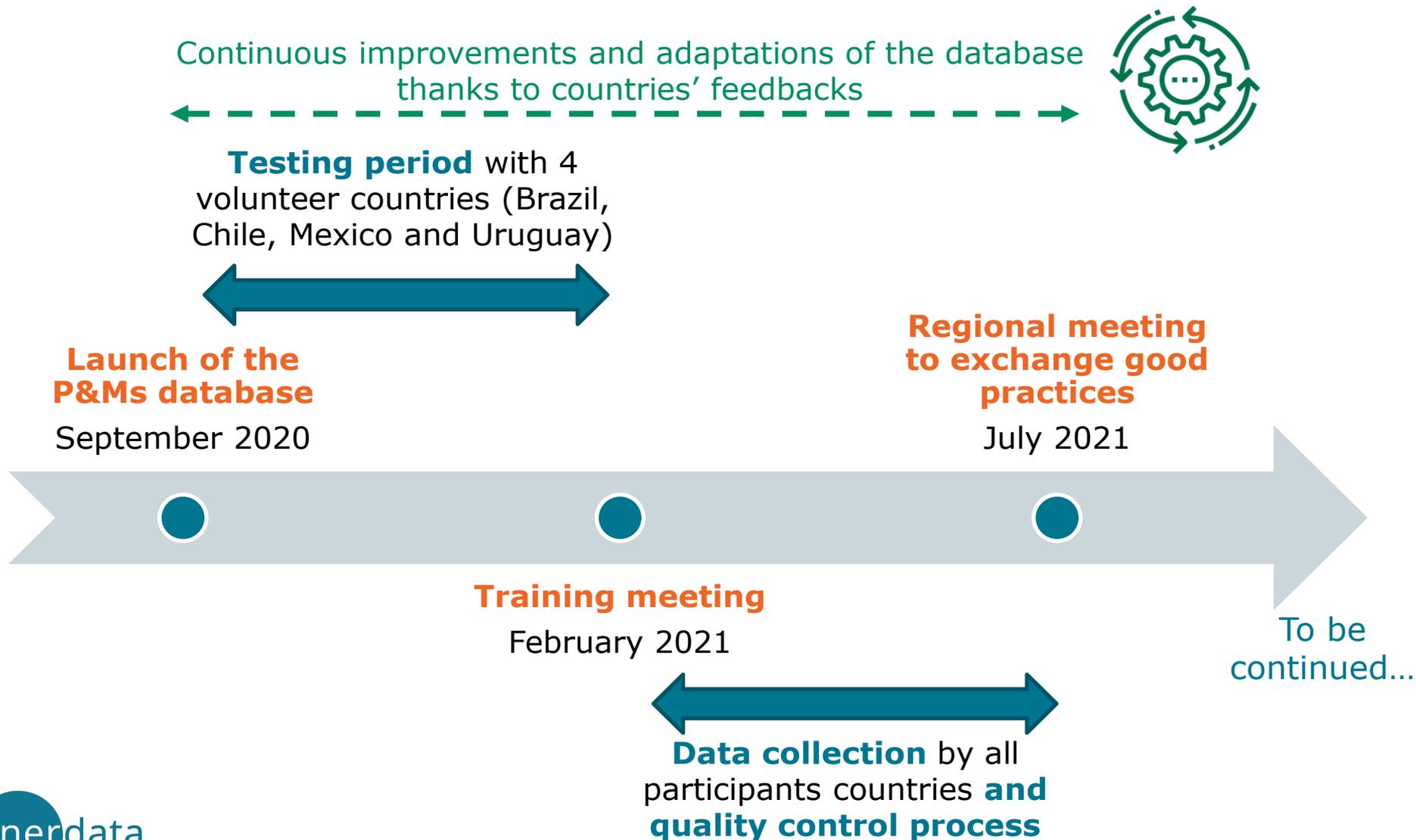


Annexes

Role of the technical coordination and national teams



Appointment of countries



Customisation of the database to LACs

Classification of P&Ms:

Sector	<ul style="list-style-type: none"> Horizontal, Households, Services, Industry, Transport
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End-use	<ul style="list-style-type: none"> To which they are applied
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Several **adaptations** to account for LACs' specificities :

- New categories added: "Energy awards", "Information/education", "voluntary labelling", "pilot projects".
- Some measures removed (e.g. on renovation as space heating marginal in most countries).
- List of sub-sectors (end-uses, modes of transport, etc.) and targets.
- Menu of the web-interface available in **Spanish** and **English**, with countries entering P&Ms either in English or Spanish.