



Kick off meeting of the BIEE-ROSE Project on  
Energy Efficiency and SDG7 monitoring in Latin  
America and the Caribbean  
Virtual conference September 22<sup>th</sup> 2020

## Status of existing BIEE Data Base

Bruno Lapillonne, Enerdata

# Main achievements of BIEE (1/2)

- BIEE project initiated by CEPAL in 2010 to monitor trends in energy consumption and energy efficiency through a set up harmonized indicators, covering 19 countries\*
- The data necessary for the calculation of BIEE indicators have been collected by the Ministries participating to the project in national **data templates** in Excel.
- Capacity building through more than 20 regional workshops.

*\*Argentina, Barbados, Bolivia, Brazil, Chili, Costa Rica, Dominican Rep., El Salvador, Ecuador, Guatemala, Guyana, Honduras, Mexico, Panama, Uruguay, Nicaragua, Paraguay, Saint Lucia, Trinidad & Tobago.*

# Main achievements of BIEE (2/2)

- **15 national reports** describing energy efficiency trends.
- **Two regional synthesis** reports describing energy efficiency trends: one covering Latin America and the other the 4 Caribbean countries.



- **Two interactive databases** (“data mappers”) (Latin America and Caribbean), containing around **80** different energy efficiency indicators over 2000- 2016.
- National internet data bases for selected (eg, Uruguay, Mexico)

# Deliverables available on Cepal web site



Inicio » Proyectos » Programa BIEE (Base de Indicadores de Eficiencia Energética)

Disponible en: Español

## Programa BIEE (Base de Indicadores de Eficiencia Energética)

RECURSOS NATURALES

1 DE ENERO DE 2012 A 28 DE ABRIL DE 2018 | PROYECTO/PROGRAMA



### RESUMEN EJECUTIVO

El objetivo del programa es el de formar capacidades técnicas en las instituciones responsables de formular programas de ahorro de la energía a nivel nacional. El proyecto busca con una metodología común recopilar información básica y calcular indicadores que midan el desempeño de la eficiencia energética a nivel nacional y sectorial (sector Macro, energético, transporte, industrial, residencial, servicios y agricultura). Se espera que mediante la construcción de bases de datos, los países participantes podrán

Acceda a la base de datos de Indicadores de la Eficiencia Energética

BIEE Data mapper

#### TEMAS

MEDIO AMBIENTE

ESTADÍSTICAS AMBIENTALES

ENERGÍA

DESARROLLO SOSTENIBLE

#### CONTENIDOS RELACIONADOS

PUBLICACIÓN

Informe nacional de monitoreo de la eficiencia energética de la República Argentina, 2014

PUBLICACIÓN

Informe nacional de monitoreo de la eficiencia energética de la República de Chile, 2014

BIEE National and regional reports

SUSCRIPCIÓN

<https://www.cepal.org/es/proyectos/programa-biee-base-de-indicadores-de-eficiencia-energetica>

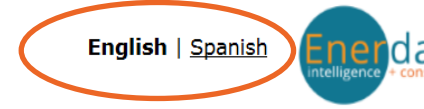
# BIEE data mapper

- The BIEE data mappers give access to a **selection** of indicators by sector showing **both** the **range** of values by country on a **map** and a **ranking** of countries (bar charts).
- Both **levels** and **trends** are available.
- **Open** access:
  - Latin America: through BIEE web site <https://www.cepal.org/es/proyectos/programa-biee-base-de-indicadores-de-eficiencia-energetica> or directly at <http://www.biee-cepal.enerdata.eu/>
  - Caribbean: <http://biee-cepal-database.enerdata.eu/datamapper-caraibes/>
- **Key messages** and a short **analysis** is available for each indicator in English and Spanish
- Possibility to access to some additional indicators to **explain the trends** observed (“advanced indicators”)

# BIEE data mapper



BIEE - Base de Indicadores de Eficiencia Energética

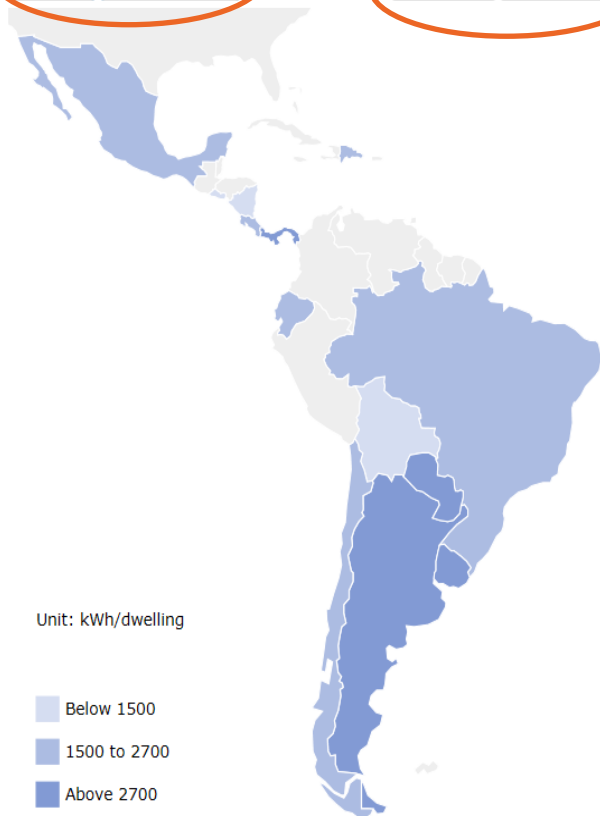


- ▶ Global indicators
- ▶ Power sector
- ▶ Industry
- ▶ Transport
- ▼ **Households**
- Electrification rate
- Energy use per household**
- Total
- Electricity
- Electrified households**
- Energy consumption by end-use**
- Space heating
- Cooking
- Solar water heaters**
- Per capita
- % dwelling
- ▶ Services
- ▶ Agriculture

## Electricity consumption per electrified households

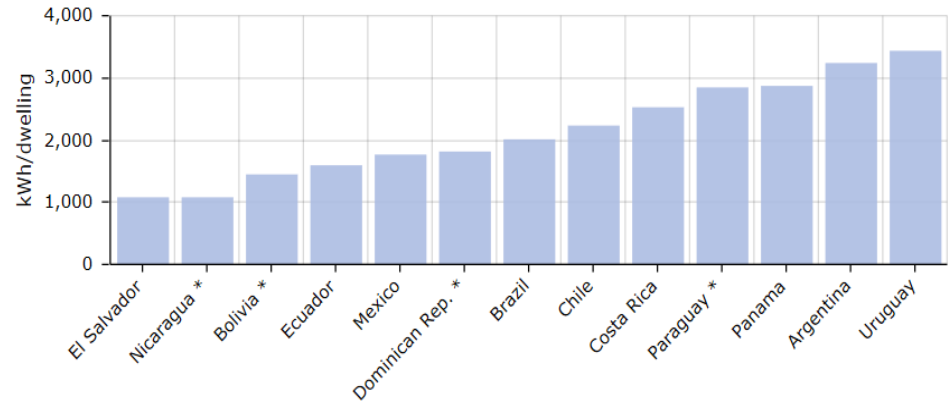
2015 2000/2015

Map Excel



Per electrified household, the electricity consumption increased less rapidly than per household, due to the electrification of rural households

2015



The average electricity consumption per electrified household (ratio between the electricity consumption of households and the number of households with electricity), varies significantly among countries, from 1100 kWh per household in Nicaragua and El Salvador to around 3400 kWh in Uruguay.

\* The update until 2015 is not available for these countries.

Short analysis



# National on-line databases

- Internet data bases have been developed to enable a user friendly and broader consultation of national data and indicators.
- A specific software has been transferred and adapted by Enerdata in pilot countries (Uruguay, Mexico, Argentina, El Salvador).
- The adaptation has consisted in adapting the query menu to the countries classification, usual units and data availability, and to specify the access (open or restricted to selected stakeholders or both options).
- The software enables an easy updating of data and list of data to be displayed, without IT expertise.

# From simple indicators to advanced indicators

- Aggregate energy efficiency indicators are useful to describe trends, but cannot **explain** the observed trends.
- For instance the energy intensity to the GDP (indicator EI OSD 7.3) shows how the overall energy efficiency is changing but a decrease does not necessary means that energy efficiency is improving from a technical viewpoint.
- To enrich the interpretation and better monitor energy efficiency trends, it is necessary to rely on :
  - Detailed physical indicators;
  - More complex indicators (“**advanced indicators**”).
- These indicators have been adapted in Latin American countries with detailed data within the BIEE project (e.g. Brasil, Mexico, Uruguay, etc.).
- These indicators **do not need additional data**: they just use the same data as the usual indicators but include additional calculations.



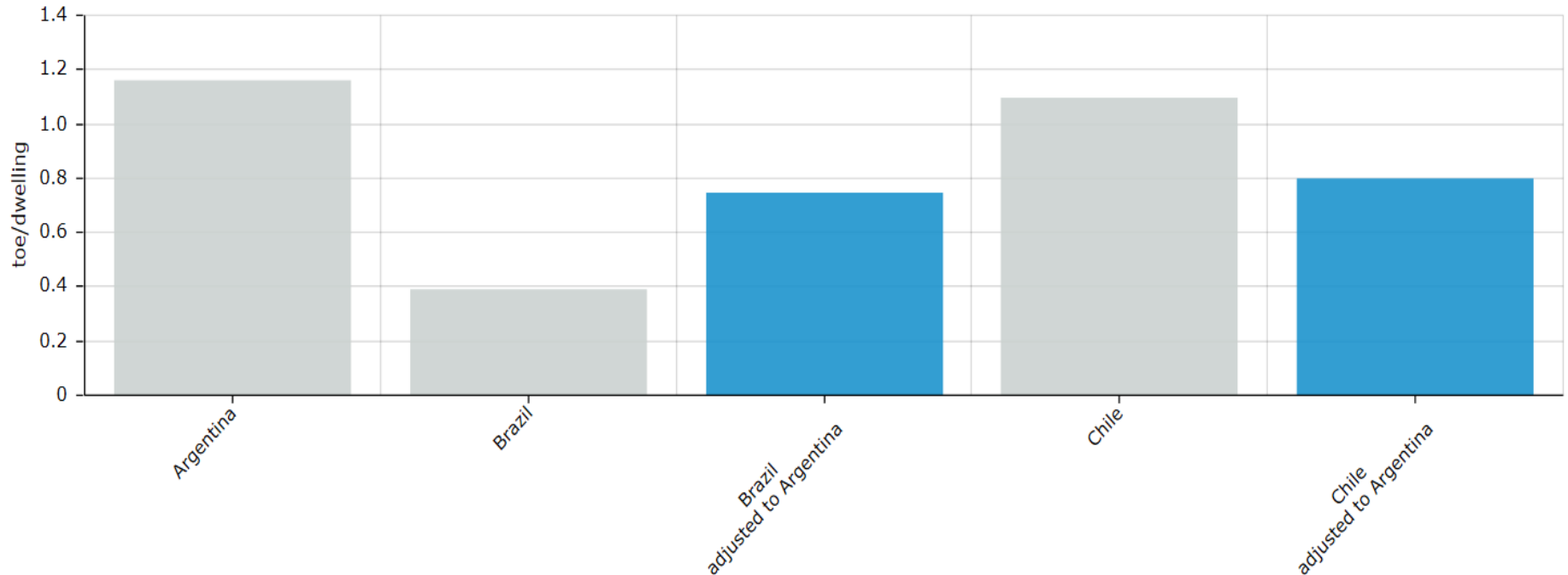
# Six types of advanced energy efficiency indicators

1. **Energy efficiency index** to measure EE improvements at sector and overall levels.
2. **Energy savings** to quantify the amount of energy saved over a period or for given year .
3. **Financial indicators** to show the financial benefit of energy savings for households or industrial consumers.
4. **Benchmarking indicators** to assess how each country performs compared to other countries?
5. **Decomposition of energy consumption variation** to show how energy efficiency improvements have impacted the energy consumption of the country?
6. **Avoided CO2 emissions** to show what is the effect of energy efficiency improvement on CO2 emissions.

# Benchmarking indicators: example of BIEE comparison tool

The graph shows what would be the energy consumption per dwelling of Chile and Brazil with the same climate and fuel mix for cooking as Argentina.

Energy consumption per dwelling adjusted to climate and fuel mix for cooking



<http://biee-cepal-database.enerdata.eu/comparison>

BIEE Status