International activities on end-use data collection
The ADEME's experience of ADEME

EEUEEDM initiative

Uncovering role of digitalisation for energy efficiency indicators

IEA; Paris, 21-22nd November 2019

Dr Didier Bosseboeuf (ADEME, France)

Outline

1. An European experience : ODYSSEE-MURE
2. A Latin American experience : BIEE-ROSE
3. A Mediterranean experience : Meet-med
4. Conclusions

The EU experience
ODYSSEE data base in brief

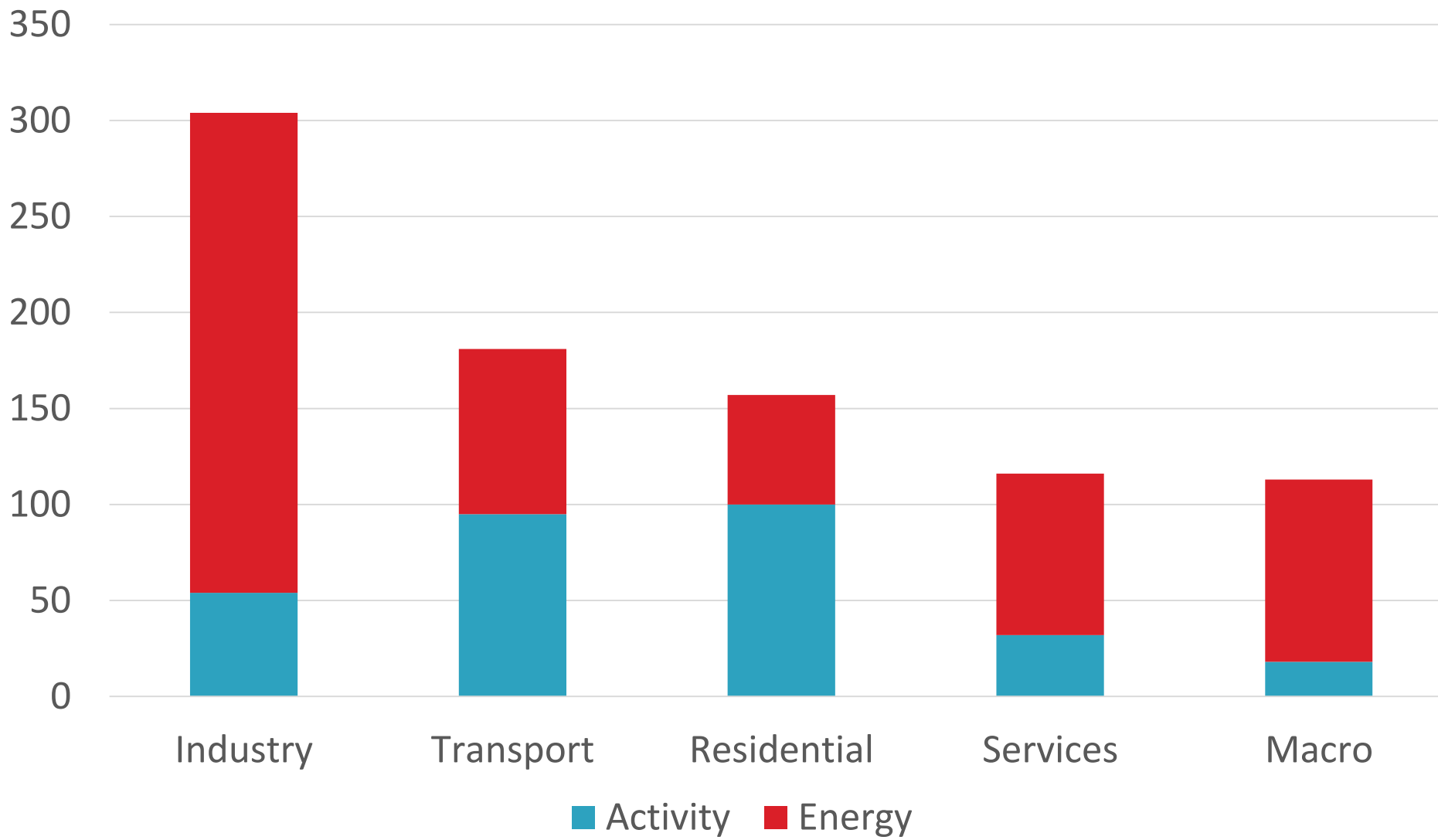
- End-use data collection **funded by EC** since 25 years
- **Interactive web Data base covering**:
  - ✓ Energy consumption data by sector and end-use and their drivers (about 1000 data series, of which 600 main data series)
    - ➔ Half energy consumption data and half non energy data
    - ➔ Importance given in the consistency between the definition and coverage of the energy consumption categories and drivers
  - ✓ Energy efficiency and CO2 indicators at macro or sectoral levels (about 180 indicators). Indicators on **fuel poverty and sufficiency** under development
- **Period covered**: 1990-2017 (from 1980 for most EU-15 countries);
- **33 countries**, EU average, a network of 150 experts mainly from Energy efficiency agencies
- **Updated** each year
- **Coupled** by an energy efficiency policy data base (MURE)
- **60 workshops** for exchange of methodologies and results
- **Costumers**: DGTREN, JRC, EEA, IEA, WEC, OLADE etc.

- Available on internet (www.odyssee-indicators.org) with a password

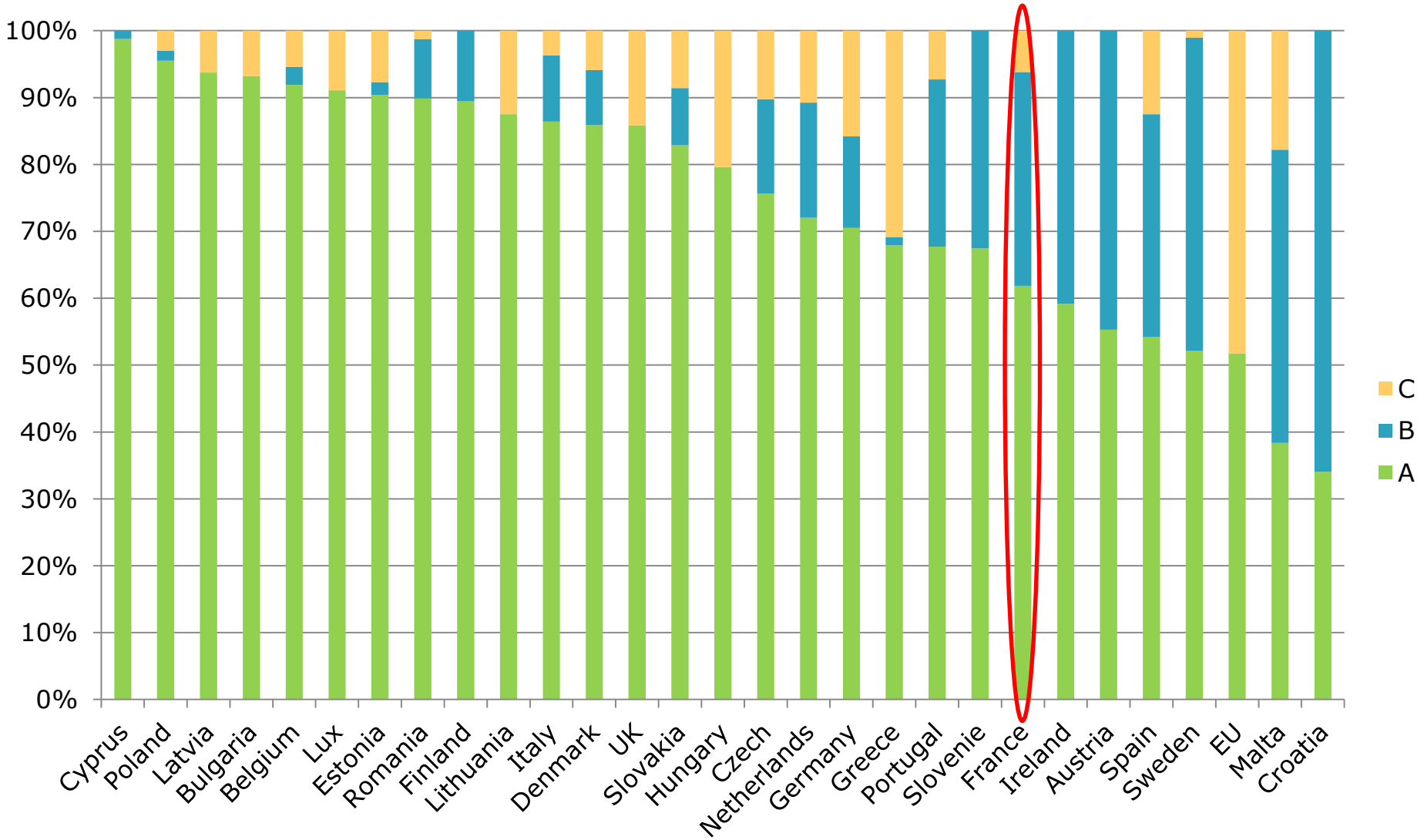
EE indicators what are they? The example of ODYSSEE

Type	Level
1. Energy intensities	by sector & sub sector
2. Adjusted intensities	final and industry
3. Specific energy consumption	by sub sector & end-use
4. Benchmarked specific	steel, cement, paper, heating
5. Energy efficiency indices (ODEX)	final and by sector
6. Energy savings	final, by sector and sub sectors
7. Indicators of diffusion	by sector
8. CO_2 intensities	by sector & sub sector
9. Specific CO2 emissions	by sub sector & end-use
10. Fuel poverty	households
11. Sufficiency 12. Short term indicators	by sub sector & end-use

ODYSSEE database:
Aroud 900 datasets by country, of which 65% energy related, 35% on activity



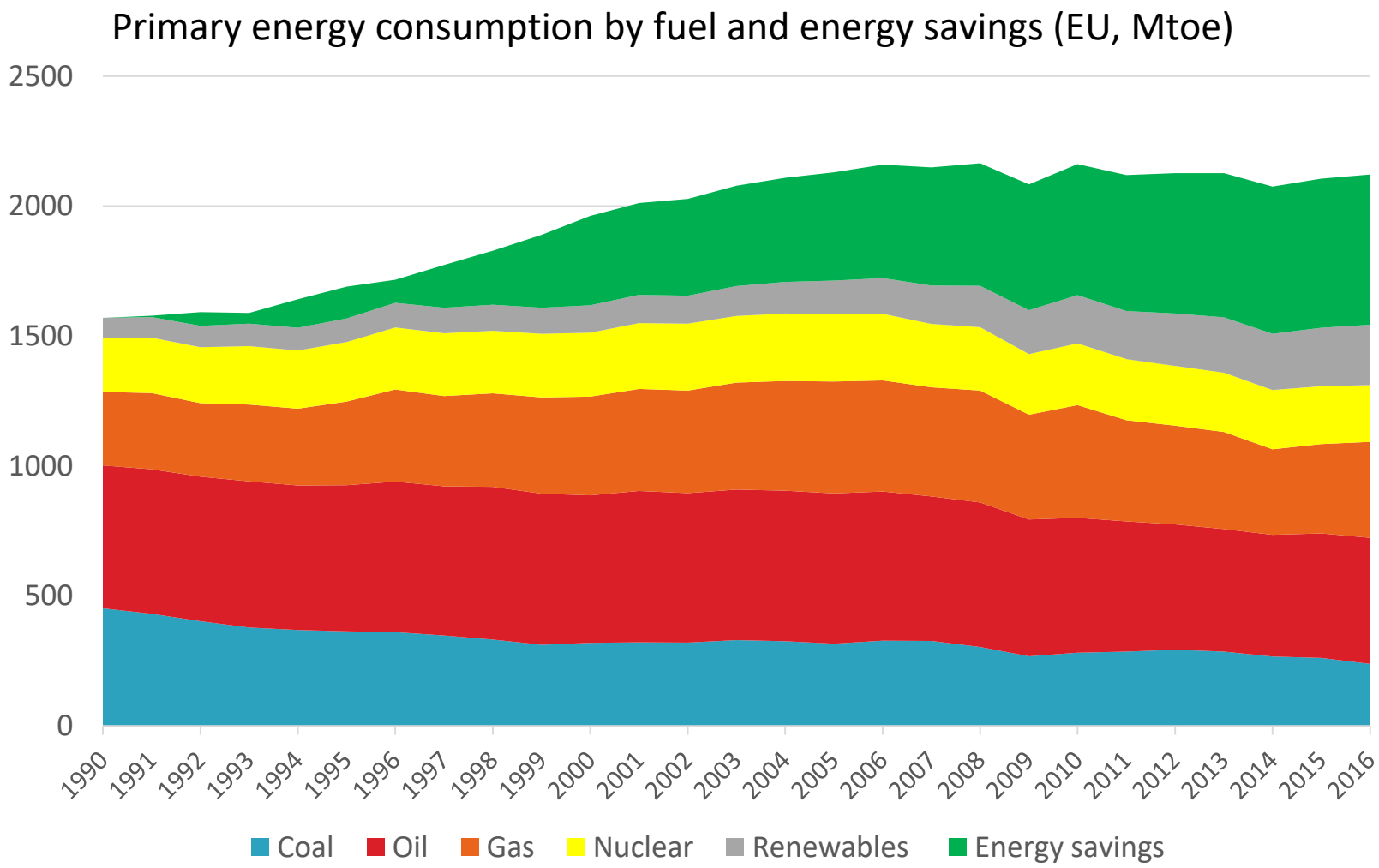
Distribution of data sources in ODYSSEE*: Half countries with over 80% official statistics



A: Official statistics **B:** Surveys/ modelling estimates **C:** Estimations made by national teams

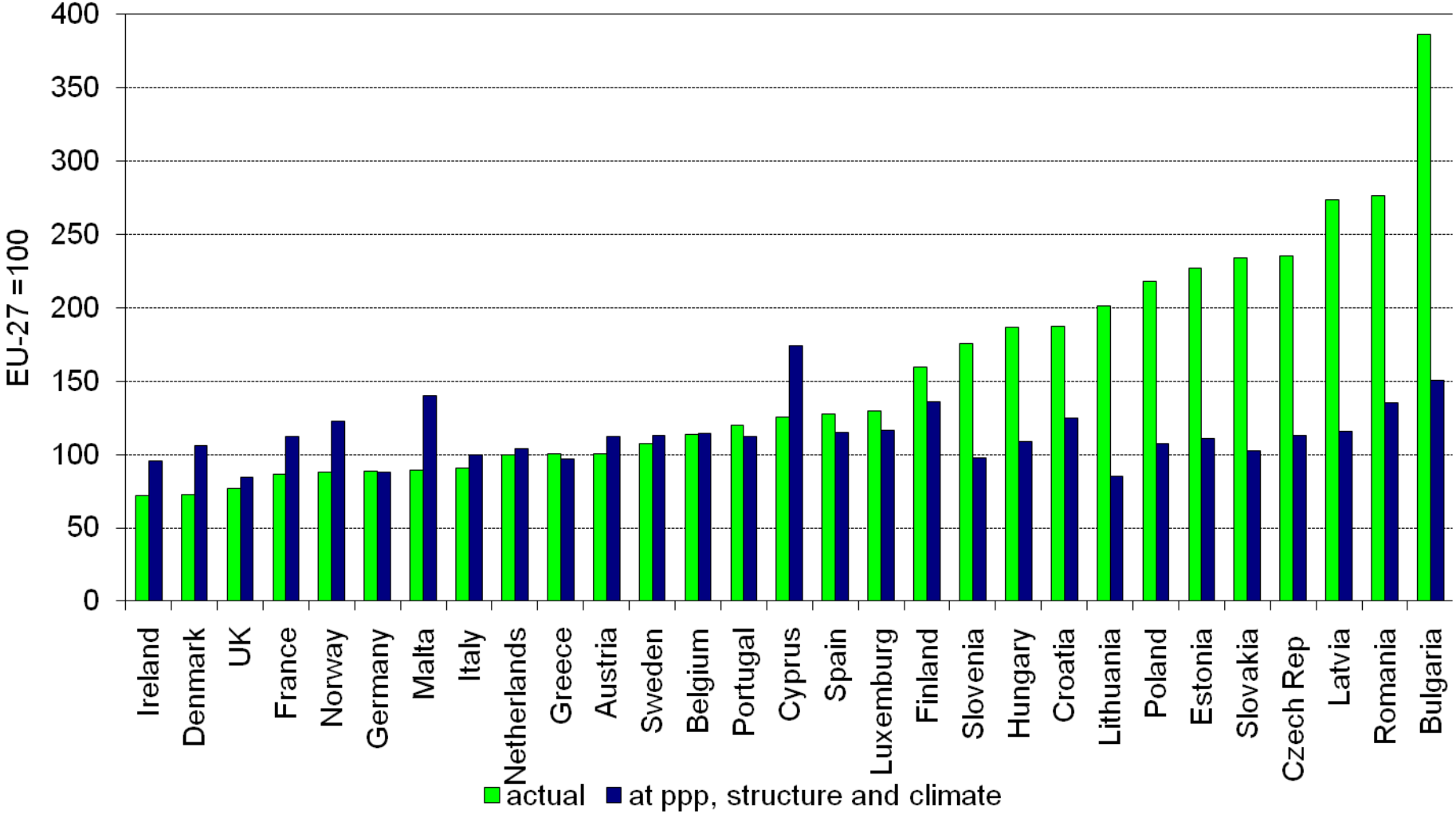
*Results based on a selection of 100 datasets (December 2015)

Energy savings first fuel over a 25 year period (EU)



Adjusted energy intensities: examples

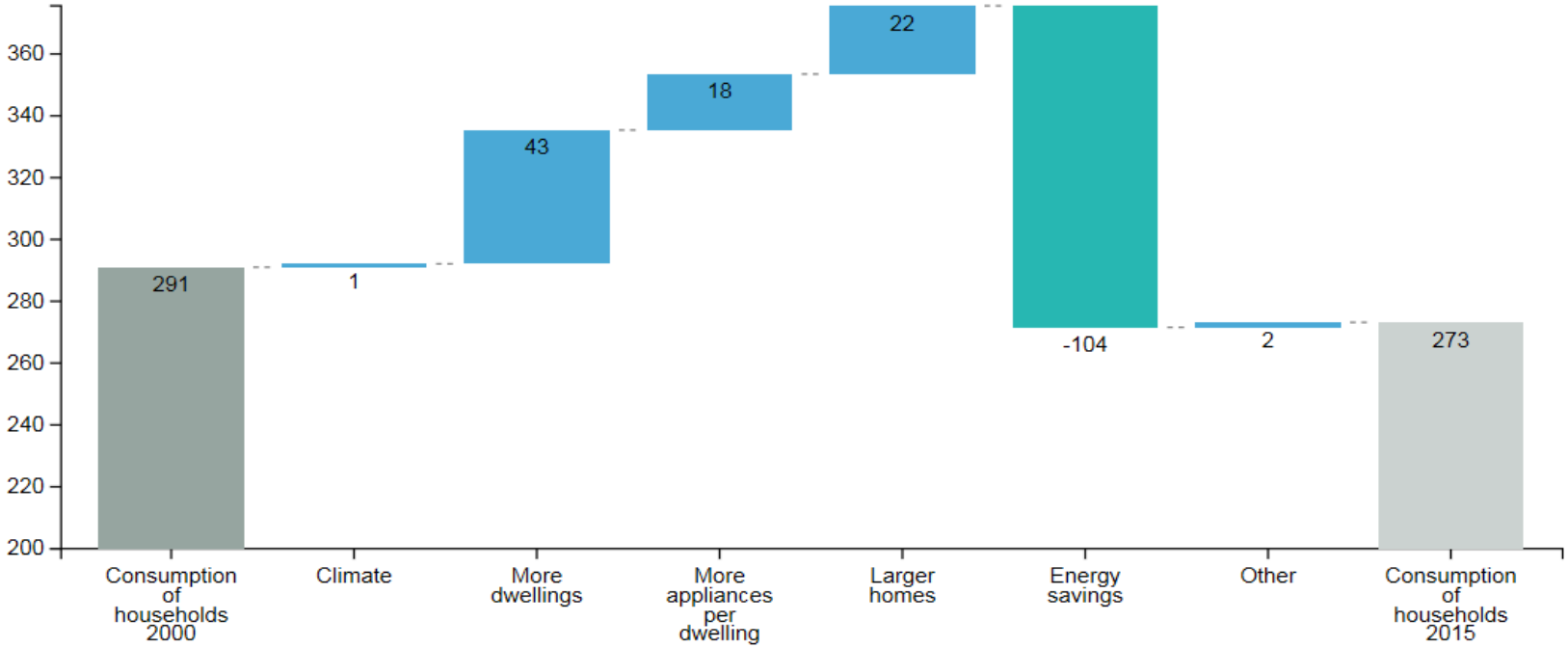
Final energy intensities adjusted for differences in prices (ppp),climate and industry & economic structures narrow difference between countries



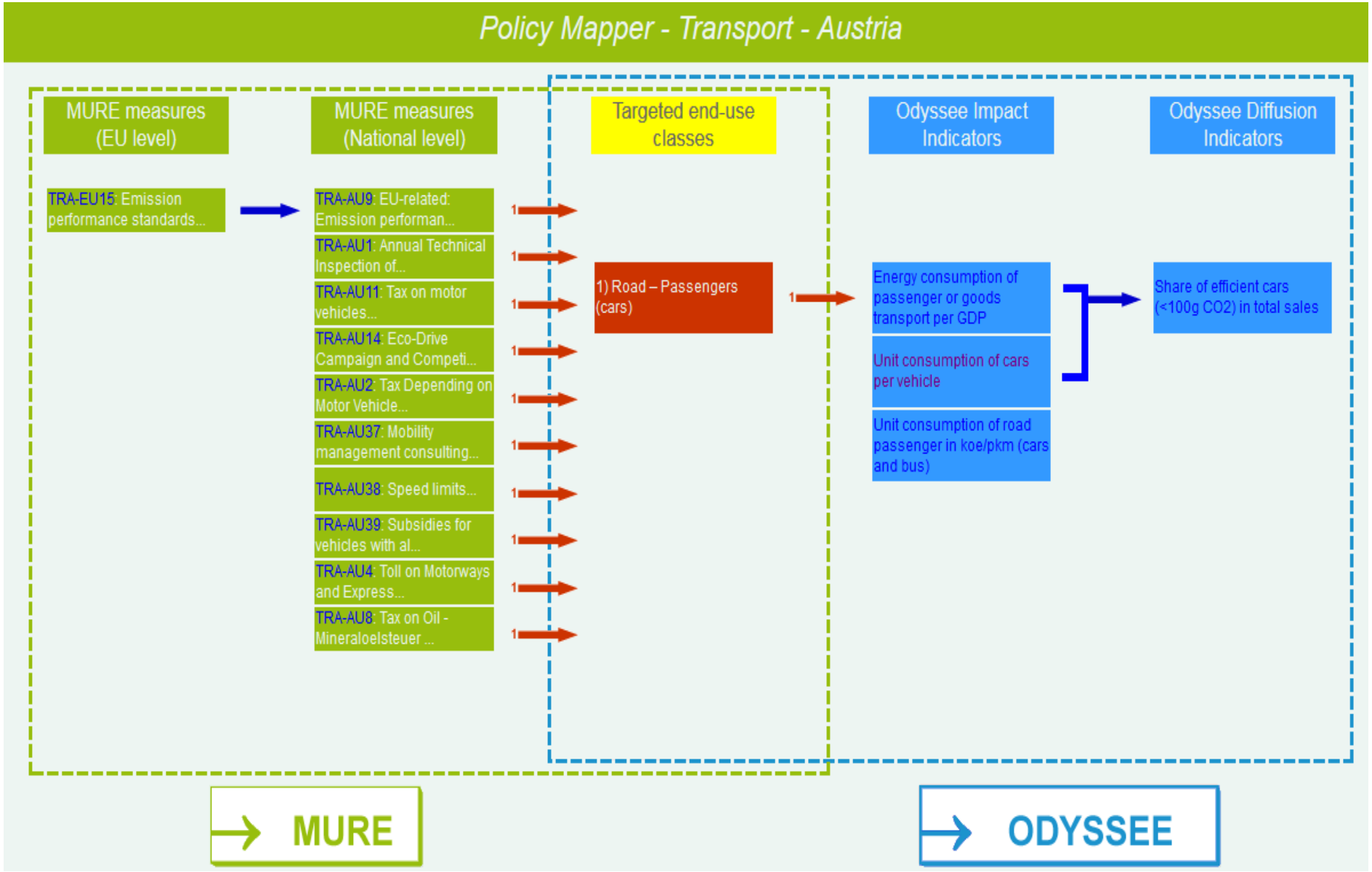
Decomposition of the variation of the energy consumption of households (EU, 2000-15)

- Two factors contributed to increase the household consumption since 2000:
  - Increasing number of dwellings (43 Mtoe);
  - Growing comfort due to the increase in the number of household appliances and dwelling size (18 and 22 Mtoe, respectively).
- Energy savings (technical) lowered consumption by 104 Mtoe (~7 Mtoe/yr).
- Other effects or behavioural effect are mainly due to the combined effect of price increases and of the economic recession

EU 2000-2015



The relationship with indicators and policies
Case of Austria for cars from the ODYSSEE-MURE



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The Latin American experience
The BIEE-ROSE project

- End-use data collection **funded by UN-CEPAL, ADEME, AFD, GIZ** since 2011

- **BIEE Interactive web Data base and regional daa mapper covering**:
  - ✓ Energy consumption data by sector and end-use and their drivers (about 700 data series
    - ➔ 70 Energy efficiency indicators (macro or sectoral levels)

- **Period covered**: 1990-2015 **20 countries of which 4 Caribbean's**
- **Updated :** several times
- **Be coupled** by an energy efficiency policy data base
- **10 workshops** for exchange of methodologies and results and now 12 trainings on capacity building on ODS7
- **Extended** to Access of energy and renewables

BIEE achievements

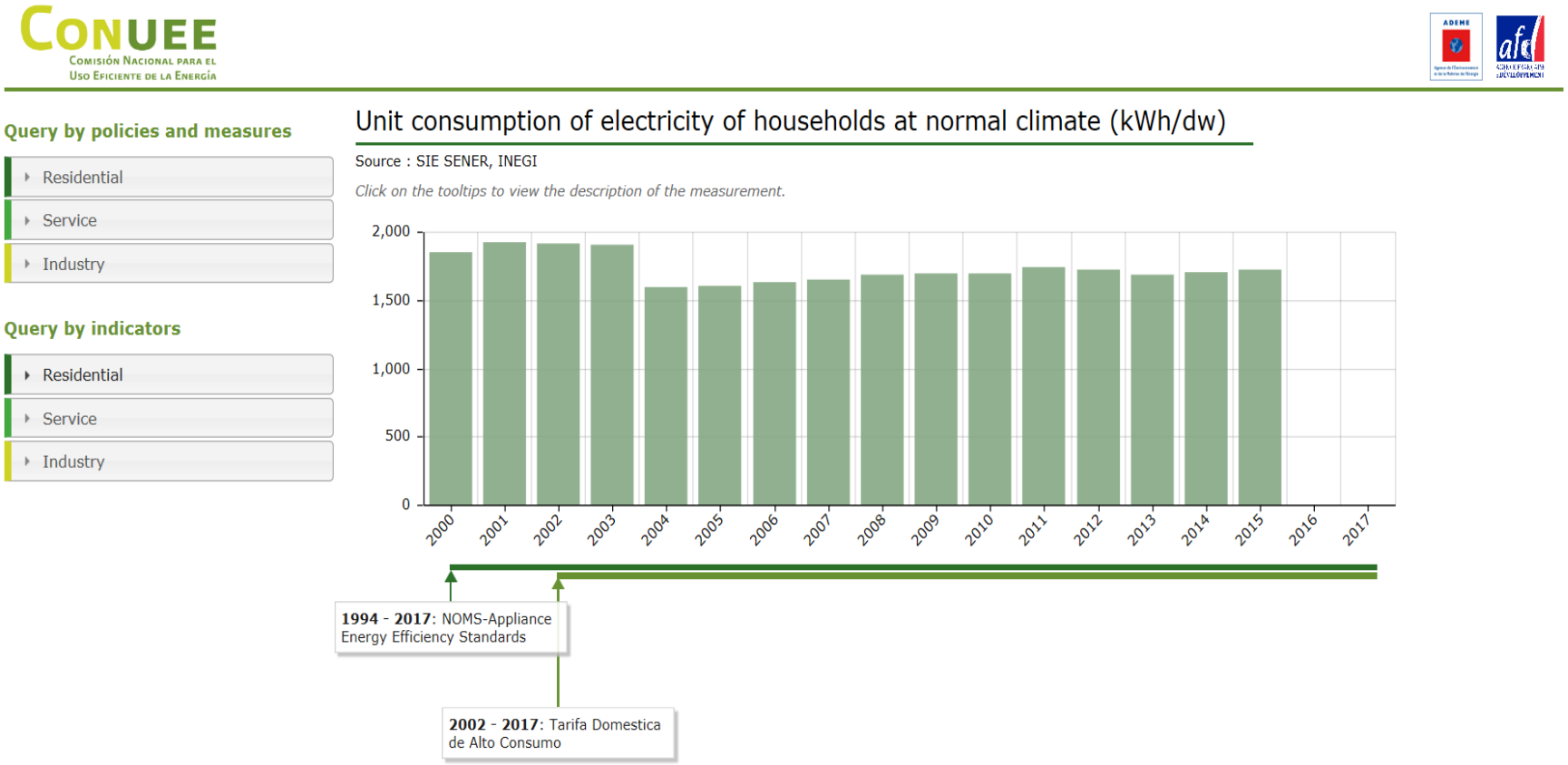
- **20 national templates on energy efficiency data collection generally updated to 2015**
- **National Data bases** : exist for Argentina, Mexico, urugay and Salvador http://biee-cepal-database.enerdata.eu/sayee/
- **Regional Data mappers** (LACs & Carabean) and data bases
- **15 national reports, a regional report**
- **Some experience of institutionalisation**

Expéditeur: María Pía Zanetti <MariaPia.Zanetti@miem.gub.uy>
Date: 7 décembre 2018
Objet: BIEE online
Hola Muchas gracias por la version finale de la base de datos online.
Te cuento que incluimos el BIEE en el IV Plan Nacional de Gobierno Abierto así que ahora si o si vamos a tener que publicarlo porque el Ministerio lo asumió como compromiso

BIEE-ROSE Project : the Interactive tool on line

ROSE/BIEE contribution to monitor ODS 7.3
The BIEE policies monitoring tool

- Main objective: visualize the link between existing measures (PaMs, ie Policy and Measures) and selected energy efficiency indicators, that should be impacted by the PaMs, as a way to assess the impact of PaMs



Improving data collection through international cooperation: Mexico

Number of data series	Activity data			Energy related data			Total		
	Total series to be completed	Data available in 2016	Data available in 2018	Total series to be completed	Data available in 2016	Data available in 2018	Total series to be completed	Data available in 2016	Data available in 2018
Macro	17	15	17	81	65	81	98	80	98
Energy sector	0	0	0	47	28	47	47	28	47
Industry	67	51	64	197	73	113	264	124	177
Transport	87	39	81	61	43	57	148	82	138
Households	155	27	143	123	10	120	278	37	263
Services	28	0	24	49	21	27	77	21	51
Agriculture	7	4	4	8	2	3	15	6	7
Total	**361**	**136**	**333**	**566**	**242**	**448**	**927**	**378**	**781**

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The mediteranean experience
The MEETMED indproject

- End-use data collection supported by **ADEME & the EU**

- **Data** collection performed **by national energy efficiency agencies of the MEDENER network (**for Algeria, Lebanon, Morocco and Tunisia + Northern Mediterranean countries (to be extended to Egypt, Jordania and Palestine)

- **National EEU data collection** Energy consumption data by sector and end-use and their drivers (about 700 data series)
  - ➔ 70 Energy efficiency indicators (macro or sectoral levels)

- **Period covered**: 1990-2017

- **Updated :** several times

- **3 workshops** for exchange of methodologies and results and now 12 trainings on capacity building on ODS7

- **Extended** Renewables indicators
- Future NDC's, Indicators and policies tool etc.)

La méthodologie indicateurs a été mise en oeuvre avec succès auprès du réseau Medener

1. **Nombre et longueur temporelles des séries collectées pour obtenir les indicateurs**

2. **Nombre d'indicateurs obtenus**

3. **Taux de couverture par secteur et usages.**

Country	Macro-economic data (GDP, VA etc;)	Energy consumption data	Industry	Households	Services	Transport
Algeria	100%	100%	100%	95% (b)	98%	100%
Morocco	100% (a)	90%	100%	95%	100%	95%
Tunisia	100%	100%	100%	95%	98%	90% (c)
Lebanon	100%	100%	98%	98%	98%	100%

Mediterranean Association of the National Agencies For Energy Conservation
Agence Méditerranéenne des Agences Nationales de Maîtrise de l'Energie

ADEME

ANME

ALMEE

Association Libanaise pour la Maitrise de l'Energie et de l'Environnement

Tendances de l'efficacité énergétique au Liban

Rapport préparé dans le cadre de la mise à jour du projet MEDENER sur les indicateurs d'efficacité énergétique pour les pays méditerranéens

Conclusion: indicators and policies :

- Policy makers need data and indicators to monitor the impact of their actions, to prepare new policy measures and to assess long–term energy savings potentials.

- TD methods are broadly implemented (more than 70 countries) and consensus exists on methodologies (ie ODYSSEE; IEA; JRC; UN-ECLAC etc.). Differences comes from about the satus of the data (public vs expert data) and the level of desagragation. ISO 500047 will discuss and display all the methodological issues.

- Because fair benchmarks rely on adjustment, this is still an area of discussion but experience do exist (ODYSSEE-MURE scoreboard; ACEEE scoreboard).
- Data needed are not just merely the usual energy statistics from the energy balance but more detailed data by end-use

- Strategies have to be defined to collect such data ... In a permanent way, by imposing reporting requirements to utilities, equipment manufacturers , utilities ➔ exchange of international experience is very useful in that matter

Conclusion: indicators and policies:

- Greater use of indicators by policy makers increases the quality and quantity of data and indicators;
- Indicators need to be permanently adapted to meet policy requirements (e.g. in EU countries the increasing use of biomass and power production of households);
- **Indicators should be** easy to understand by policy makers...
  - This does not mean that they should be too simple, but that
  - Communication is important
- Indicators should be well updated to be useful for policy makers
  - This is somehow contradictory with the use of detailed indicators, that require detailed data produced with some delays, but means that

Many arguments to develop end-use data collection do exist. It is mainly a matter of voluntarism. International cooperation can contribute to the development of end-use data for metrics