

L'évaluation des politiques d'efficacité énergétique : rêve ou réalité ?

18 mars 2019

PARIS



This project has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 746265.



Co-funded by the Intelligent Energy Europe
Programme of the European Union



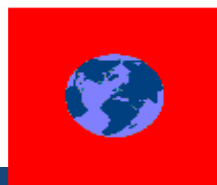
Contribution du projet ODYSSEE-MURE à l'évaluation des P&Ms d'EE en Europe

Dr Didier BOSSEBOEUF, ADEME; France

ATEE/EPATE

Paris 18th March 2019

A D E M E





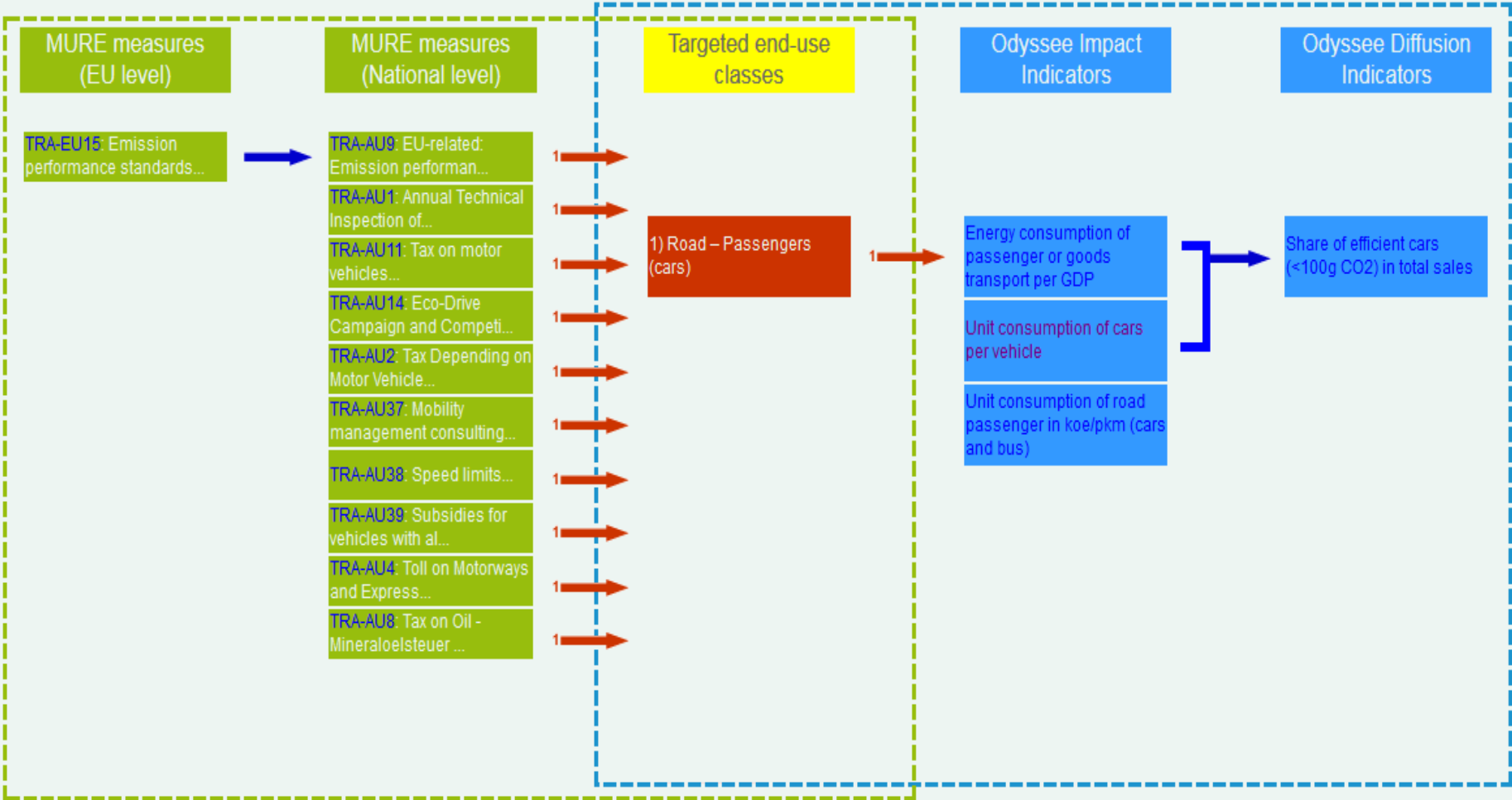
- 1. Introduction: Vers la conquête du Graal : Le lien entre indicateurs et P&Ms?**
- 2. ODYSSEE : Méthode top-down d'évaluation de l'EE**
- 3. MURE : Méthode bottom-up d'évaluation de l'EE**
- 4. ODYSSEE-MURE 2019-2021**
- 5. Conclusion**



La relation entre indicateurs et politiques d'EE

Le cas de l'autriche pour les voitures (ODYSSEE-MURE)

Policy Mapper - Transport - Austria



→ MURE

→ ODYSSEE

ODYSSEE-MURE : Un outil d'aide à la décision pour les décideurs européens

- Public authorities should have an easy access to all the measures implemented by sector and by specific area, to know which measures are considered as successful and what is their impact: (the **MURE database on policy measures and its policy tools**.)
- Good governance requires a periodic monitoring and evaluation of the impact of these policies. This implies first of all that public authorities have an easy access to reliable and very well updated information regarding energy efficiency indicators trends. (**ODYSSEE database and its indicator tools**).
- Lack of analytical capacity and data in public administrations are key bottlenecks in many countries. **Enhancing public authorities' capacity** in these fields is therefore seen as crucial. Capacity building improves skills to plan, implement and evaluate energy efficiency policies and measures, and create better partnerships between EU experts and public authorities.

Les objectifs d'ODYSSEE-MURE

- To organise an **exchange on good practices** on a comprehensive monitoring of energy consumption efficiency trends, and policy measures by sector
- To provide **detailed evaluations** of energy policies implementation and provides an overall picture of the energy efficiency trends and measures by sector both **at EU and national levels**.
- To contribute to **provide decision aid tools to monitor energy efficiency and policies**

ODYSSEE: Base de données détaillée sur la demande et l'efficacité énergétique en Europe : 200 indicateurs (**Méthode TD**)

MURE : Base de données sur les politiques d'efficacité énergétique en Europe : 2500 P&Ms dont 40% avec une évaluation quantitative des impacts (**Méthode BU**)

ODYSSEE-MURE : Un réseau d'experts produisant de l'interprétation des tendances de l'efficacité énergétique

20 policy briefs, 7 webinars

Authors	Topics
AEA	Policies directed towards heating systems
Econotec	Impact of the economic crisis and policies on energy consumption and CO ₂
EIHP	Renovation in buildings
CUT (Cyprus)	"Best energy saving packages" in the European/Mediterranean buildings sector
MOTIVA	Energy efficiency approaches in the Public Sector
ADEME	Energy Information Centre & one -stop shop for buildings
Enerdata	Energy efficiency trends by sector (4 briefs).
Fraunhofer	Policy instruments to promote Learning Energy Efficiency Networks in Industry
ENEA	Buildings and incentives schemes
ISIS	Multi level governance: linking up local, regional and national levels for delivering integrated sustainable energy action planning and projects
SEWCU	Interaction between solar PV and solar water heaters
RVO	Improved energy efficiency in industry due to stricter application of regulations
ECN	Energy efficiency in industrial companies under ETS and impact of carbon prices
STEM	tbd*
Ricardo	How Member States implement Articles 7 and 8 of EED

ODYSSEE MURE : 25 ans d'expérience (succès) liés à sa mise en oeuvre collaborative de 150 experts "implementeurs"



ADEME



Fraunhofer Gesellschaft



CYPRUS INSTITUTE OF ENERGY



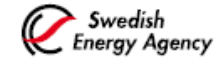
AUSTRIAN ENERGY AGENCY



NL Agency Ministry of Economic Affairs



AGÊNCIA PARA A ENERGIA



This project is funded by the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 74626

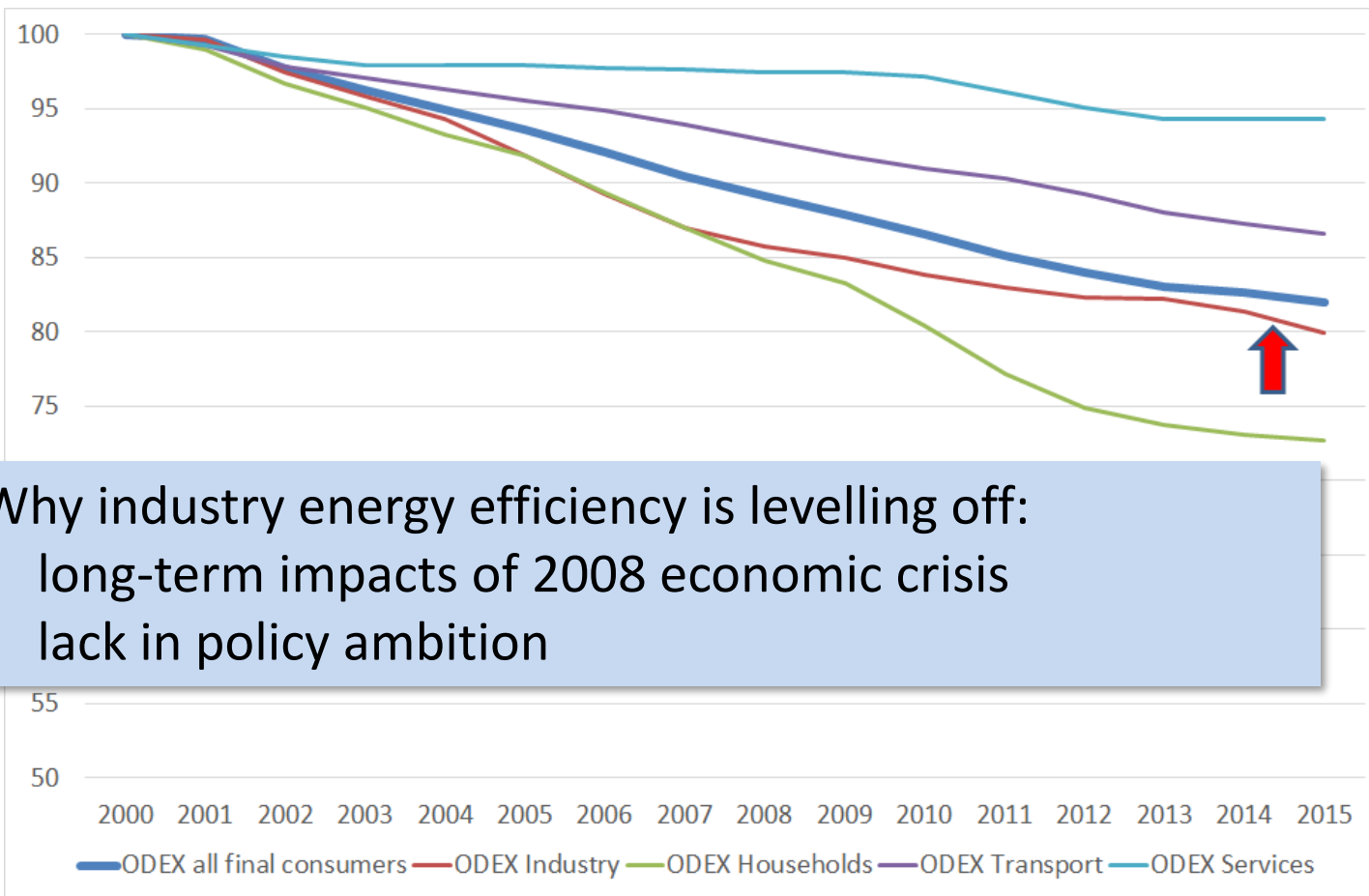


Caractéristiques d'ODYSSEE

- The ODYSSEE data base covers the EU, the individual 30 Member states, Norway, Switzerland and Serbia (www.odyssee-mure.eu). Data are organised by sector: macro, industry, households, services (including agriculture) and transport.
- ODYSSEE should be detailed enough to **answer to numerous energy efficiency policy issues which are designed at technologies or end-use level (ex building codes). Therefore is data demanding.** The data base includes energy efficiency and CO2 indicators (about 180 indicators) as consumption data by sector and end-use and their drivers (about **900 main data series**)
- The ODYSSEE database is updated by national teams twice a year, in spring for the introduction of first data available, and a second update in Autumn to provide all latest available data (eg 2015-2016 data in Autumn 2017)



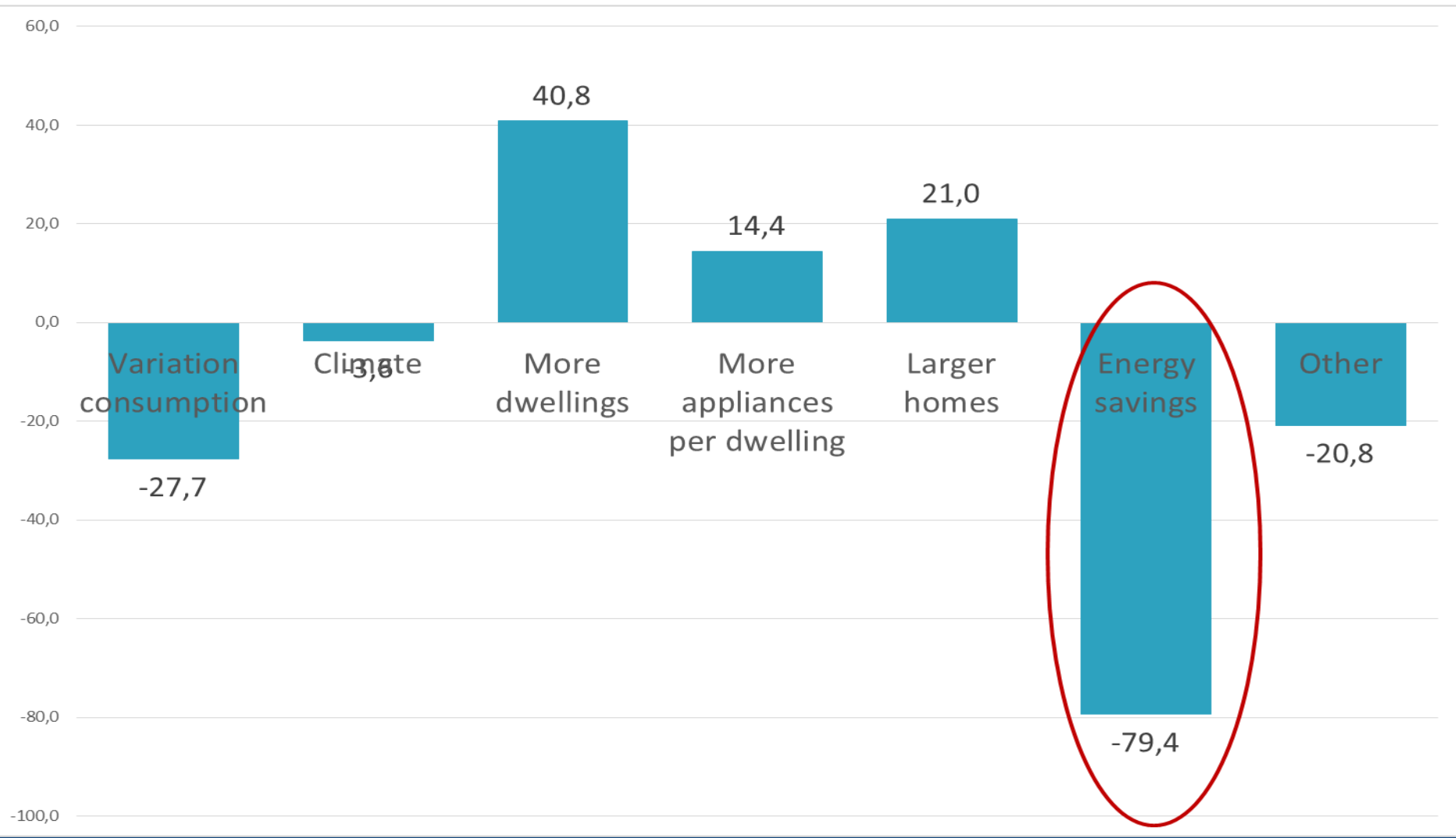
Un indicateur emblématique d'ODYSSEE l'ODEX: Le "Dow Jones" de l'efficacité énergétique" (EU29, 2000=100)



Why industry energy efficiency is levelling off:

- long-term impacts of 2008 economic crisis
- lack in policy ambition

analyse des facteurs explicatifs de la demande d'énergie (Source The EU impact assessment report, DGEN)



Energy efficiency indicators end-user facilities : ODYSSEE

ODYSSEE-MURE

Overview Data Tools Publications News Contact



Odyssee



The ODYSSEE indicators are accessible under different data tools: the full data base, the key indicators facility, as well as five specific data facilities that focus on specific issues and provide some interpretation: market diffusion, decomposition, benchmarking, energy saving and indicator scoreboard. The access to the data base is restricted, whereas all other data tools are in public access.

ODYSSEE DATABASE



KEY INDICATORS



MARKET
DIFFUSION



DECOMPOSITION



BENCHMARKING



ENERGY
SAVING



ENERGY
EFFICIENCY
INDICATOR
SCOREBOARD



Benchmarking facility compares the energy performance of any country with a selection of other countries.



Co-funded by the Intelligent Energy Europe Programme of the European Union

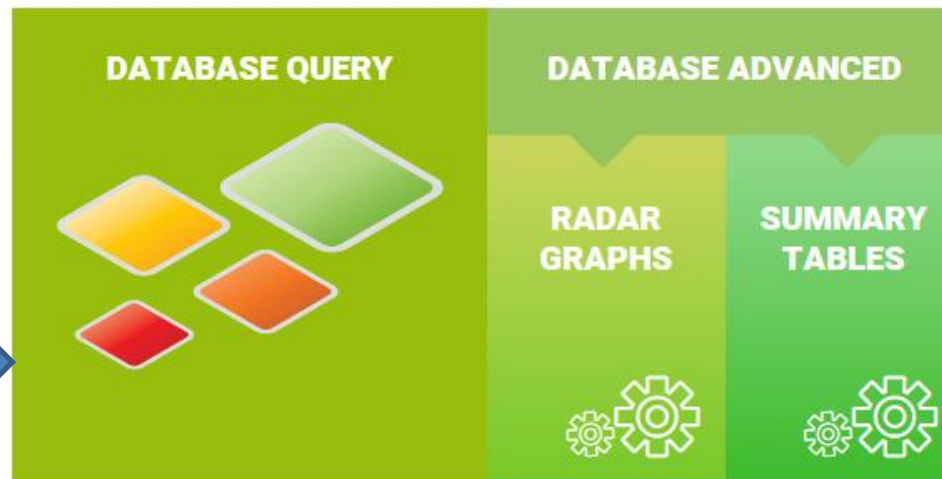


The sole responsibility for the content of this webpage lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EACI nor the European Commission are responsible for any use that may be made of the information contained therein.

Energy efficiency policies end-user facilities : MURE

ABOUT THE MURE DATABASE

MURE (Mesures d'Utilisation Rationnelle de l'Energie) provides information on energy efficiency policies and measures that have been carried out in the Member States of the European Union. The information is accessible by query in the database. The distribution of measure by type can be visualized through radar graph. Finally several facilities enable specific queries.



POLICIES BY TOPICS



SUCCESSFUL POLICIES



POLICY INTERACTION



POLICY MAPPER



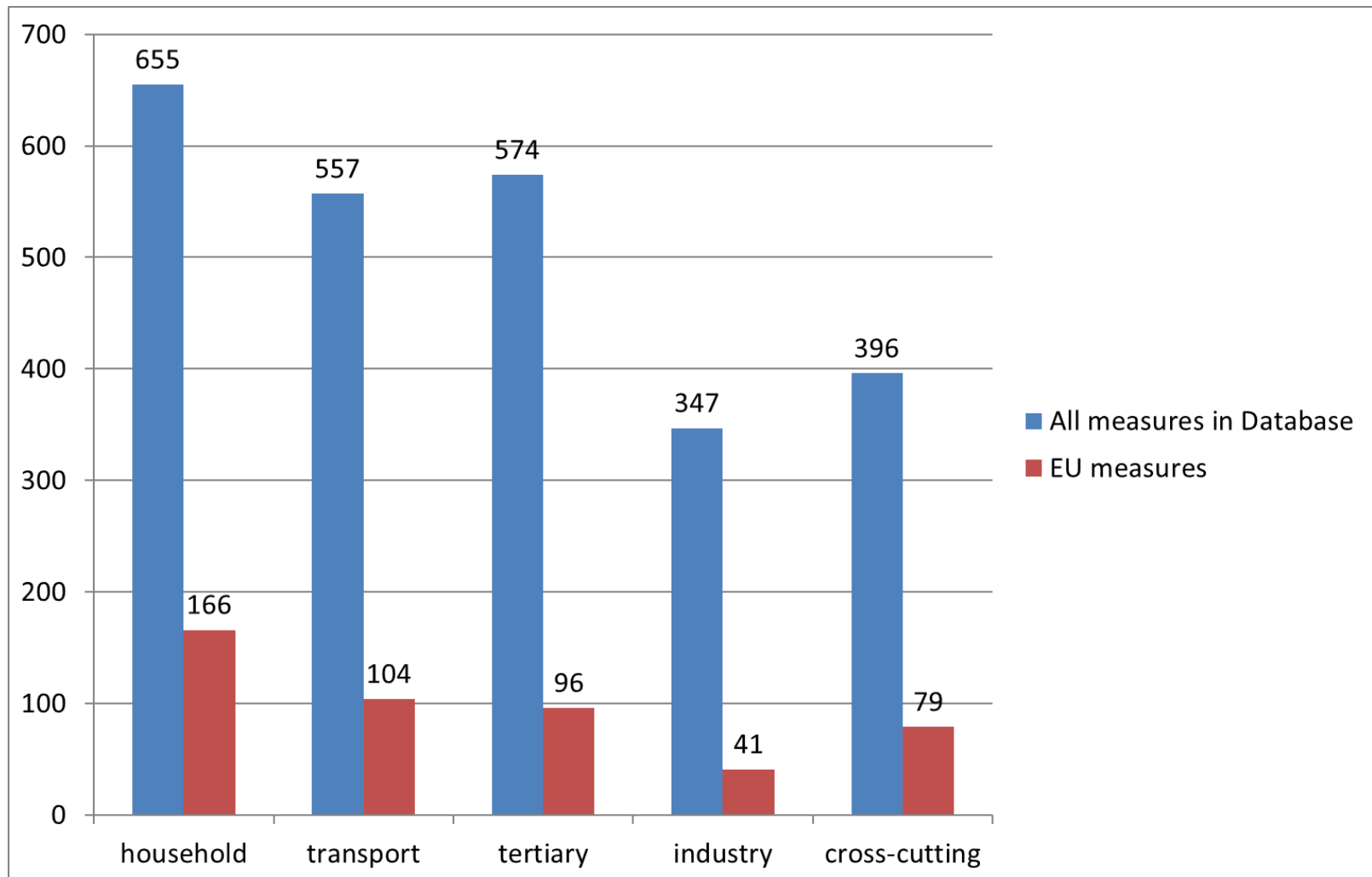
POLICY SCOREBOARD



IMPACT EVALUATION



Present status of the MURE database (April 2018): around 2,500 energy efficiency policies/measures



Successful Policies facility

This facility enables to identify successful energy efficiency policies:

- 12 criteria to define success measures (6 “high” and 6 “low” priority criteria)
- Quantitative evaluation of each policy with a score between 1 (worst) and 5 (best) for each of the 12 criteria (expert evaluation)
- Selection by sector and/or country

Navigation i Methodology i Scoring i

Criteria:

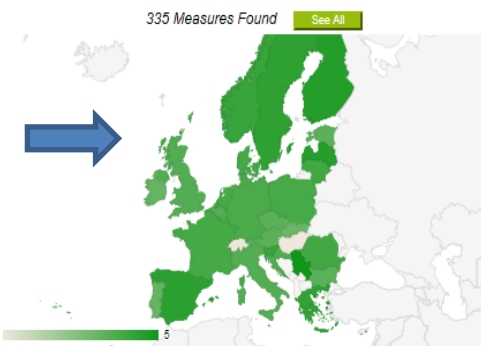
Sector:

Country:

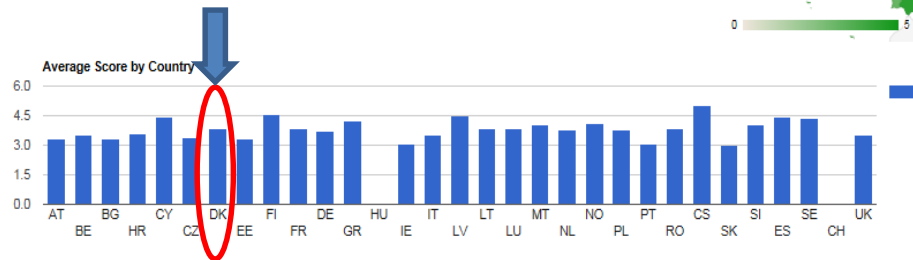
Average score by country:

Distribution of measure score:

335 successful policies



Average score Denmark: 3.8

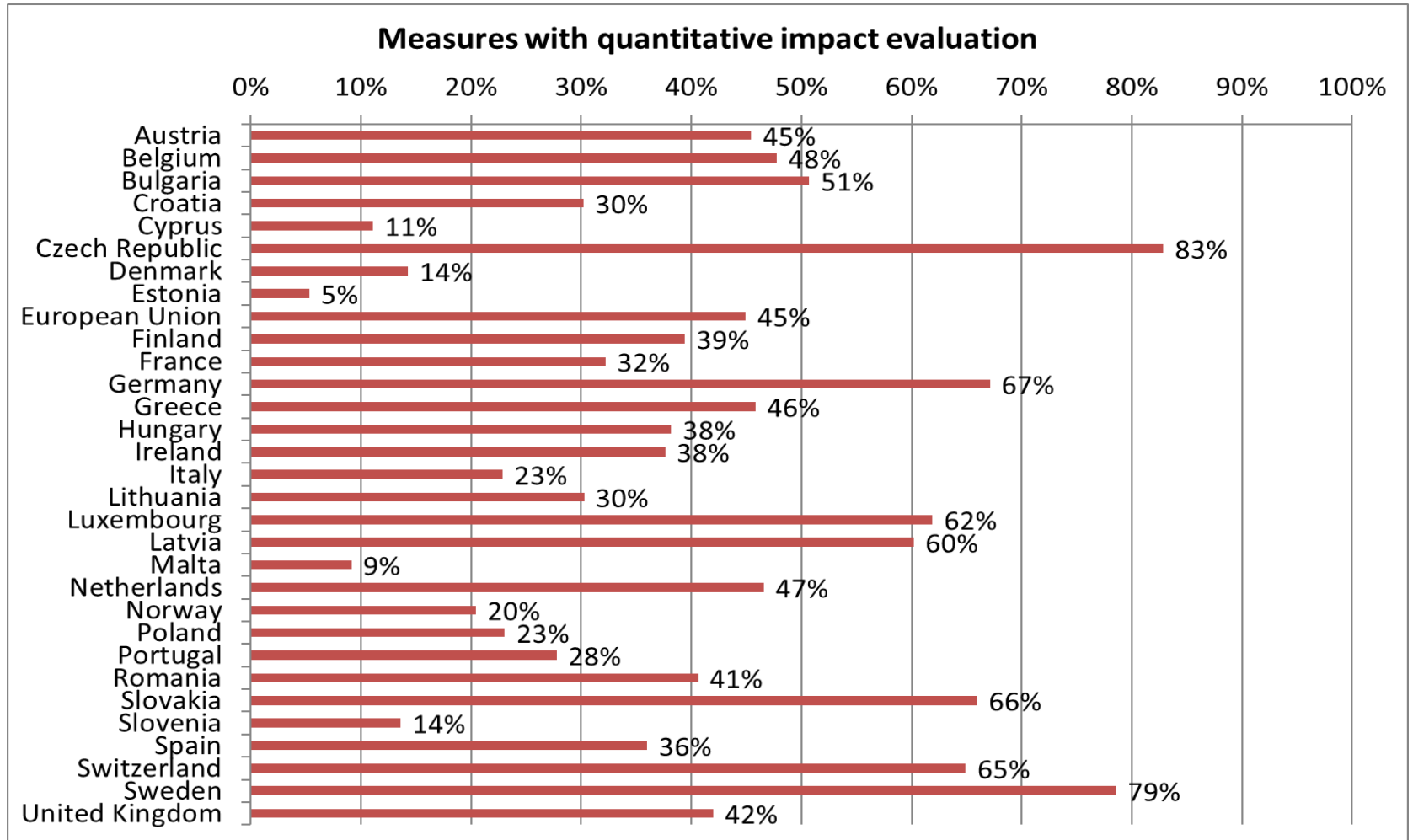


The assessment criteria



- | | | |
|-----|--|---------------|
| C1 | High impact / high number of applicants | High priority |
| C2 | Cost efficiency for the implementor / necessary administrative support | |
| C3 | Potential for market transformation and for promotion of energy service market | |
| C4 | Suitability to overcome barriers for energy efficiency | |
| C5 | Ease and stability of re-financing (only relevant for financial measures) | |
| C6 | Persistency of the savings induced by the measure | |
| C7 | Transferability between countries | Low priority |
| C8 | Link other measures / policy packages | |
| C9 | Some experience with measure | |
| C10 | Avoidance of negative side-effects | |
| C11 | Support of positive side-effects | |
| C12 | Ease of acceptance by relevant stakeholders | |

Present status of the MURE database (April 2018): measures with quantitative impact evaluation



MURE : Distribution des methodologies d'évaluation B-U par type de politiques d'efficacité énergétique



Recommended evaluation methods and actual measures distribution of evaluation methods per measure type - Household



Sector

**= the method is recommended, **= the method provides reliable results, *= it is possible to use this method if the others are not possible, nr.= number of measures

			Bottom Up				Bottom Up/Top Down		Top Down		Integrated BU/TD	
			Direct measurement	Billing analysis	Enhanced engineering estimates	Mixed deemed and ex-post estimate	Deemed estimate unit savings	Stock modelling	Diffusion indicators	Specific consumption indicators	Econometric modelling	Integrated BU/TD methods
Legislative/Normative												
Mandatory Standards for Buildings												
29	1	Energy Performance Standards	* 0	*** 1	** 4	6	4	*** 3	** 0	*** 4	0	*** 7
10	2	Minimum thermal insulation standards	* 0	0	** 2	1	0	*** 0	** 0	*** 1	0	0
Regulation for Heating Systems and hot water systems												
6	3	Minimum efficiency standards for boilers	* 0	1	0	1	*** 2	*** 0	0	*** 0	0	2
0	4	Compulsory replacement of old boilers above a certain age	* 0	0	0	0	*** 0	*** 0	0	*** 0	0	0
0	5	Thermostatic zone control	** 0	0	0	0	*** 0	0	*** 0	*** 0	0	0
1	6	Control systems for heating (Regulation)	** 0	0	1	0	*** 0	0	*** 0	*** 0	0	0
4	7	Mandatory heating pipe insulation	* 0	1	1	0	*** 0	0	*** 0	*** 0	0	2

ODYSSEE-MURE :

Le premier scorebord européen sur l'efficacité énergétique (provisoire)

Les dix meilleurs

UK	0.87
Ireland	0.85
Spain	0.82
Germany	0.77
Denmark	0.75
Romania	0.74
Italy	0.74
France	0.73
Bulgaria	0.72
Latvia	0.71

Les dix moins bons

Hungary	0.59
Lithuania	0.58
Croatia	0.57
Czech Republic	0.55
Austria	0.52
Finland	0.51
Luxembourg	0.50
Sweden	0.49
Malta	0.45
Cyprus	0.44

New general topic: “Supporting public authorities to implement the Energy Union/ Supporting the delivery of EED”

- **New topical issues : Energy efficiency first fuel, fuel poverty, sufficiency, more updated indicators, continuation of MBs**
- 30 months duration Starting May 2019
- Budget (1,8M€)
- 33 partners (New funded partners : Serbia and Switzerland, ECEEE), **Balkans on board**; Technical coordination : ADEME, FHG-ISI, Enerdata
- Based on the two data bases ODYSSEE-MURE
- **New MURE data base software, new facilities (first fuel, industry)**
- **3** updatings for ODYSSEE → **one additional update to n-1**
- Similar dissemination activities (Policy briefs, country profile)
- Management issues: 6 WPs; 3 regional meetings and 5 technical coordination meetings, 2 training of which one dedicated to balkans



ODYSSEE : Quoi de neuf?

1. Additional data

▪ Market diffusion » :

- new data such as : share of renewables, charging points for EV,
- integration of targets/forecasts.

- ### ▪ **Data/indicators on fuel poverty and “sufficiency”** (e.g. unit consumption per income household, pkm, m² per hh, size of refrigerator etc).

2. Decomposition of CO₂ emissions

3. Transformation of the “energy savings tool” into a “target monitoring tool” with an effort to make them comparable, as policy targets in the different MS are neither transparent nor comparable and thus the levels of ambition not clear:

3. Short term energy efficiency indicators

4. New adjustments for benchmarking

- **DG EN** : The use of ODYSSEE-MURE for DGEN and JRC
 - Participation to the CA- EED on reporting (February 2019);
A meeting planned with DGEN
- **Eurostat** : Exchange of methodologies between EUROSTA and ODYSSEE (New energy balance)
- **IEA** : Request from IEA to have formal exchange of data for MURE and possibly ODYSSEE
- **ECEEE** : Articles, informal sessions ‘summer study June 2017
- **ISO Energy saving calculations** : Call for participations to EnR members to the 500047 standards
- **UN(ECLAC** : Launching of the ROSE/BIEE project. MURE will be transferred for Latin America
- **G20 : French initiative supported by IEA on Energy End-Use Data and Metrics** : Guideline and Workshop in Japan

Conclusion

- The ODYSSEE-MURE databases are currently **the best practices in Europe** for monitoring energy efficiency.
- They provide **unique, original and external results** for the Commission and MS in term of energy efficiency evaluation for the whole EU and MS.
- Results are widely used or disseminated by or in **international organisms** (60 countries).
- All informations on policy evaluation from EPATEE or REMOV are kindly welcomed in MURE

ODYSSEE-MURE

ENERGY EFFICIENCY:
20 KEY ISSUES



Co-funded by the European 2007-2013 programme
of the European Union



**EC enjoyed ODYSSEE-MURE
for the last 25 years**

Thank you for your attention

For more information

Didier.bosseboeuf@ademe.fr

Tel : 00 33 1 47652355

www.odyssee-mure.eu

Operationalising the "Energy Efficiency First Principle" (EE1-P) for EED policies (1/2)

- **Task 4.1 - Assessing EE policies and measures at national and EU level for the implementation of the EE1-Principle**
 - criteria to assess; Analyse processes of **NECPs** and how they integrate the EE1-Principle.
- **Task 4.2 - Operationalising the EE1 Principle through a comparison between the implemented EE measures with economic EE potentials.**
- **Task 4.3 - Operationalising the EE1 Principle through benchmarking of country efforts against each other**

Operationalising the "Energy Efficiency First Principle" (EE1) for EED policies (2/2)

- **Task 4.4 - Analysing EE policies on energy poverty issues and enhancing New Societal Trends as important enablers to overcome barriers to the EE1 Principle**
 - two major barriers to a strong implementation of the EE1 principle: • Distributional effects; societal trends >>>
organize information on these issues in MURE
- **Task 4.5 - Specific case studies on the EE1 principle**
 - Demand versus supply options in building strategies
 - Analysis of electricity savings versus supply enhancement, including infrastructures
 - EE1 principle for electric vehicles
- **Task 4.6 - Development of an EE1 Facility**