



The Top-ten multi-benefits of monitoring energy efficiency

EEUMD workshop, Buenos Aires, February 2018

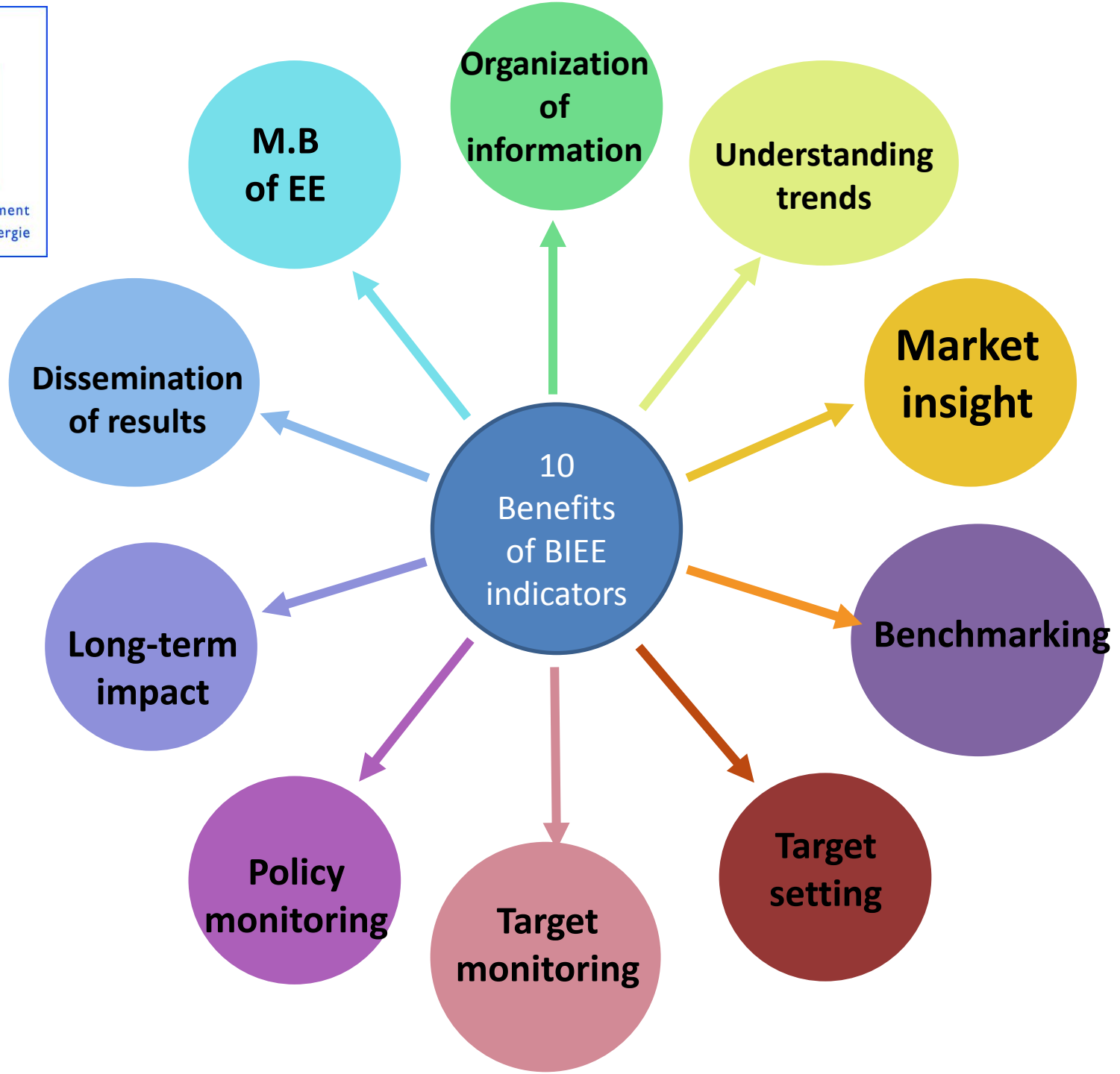
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Dr Bruno Lapillonne (Enerdata, France)

ADEME



Agence de l'Environnement
et de la Maîtrise de l'Energie







1a. Organizing the scattered information (2/3)

Mexico

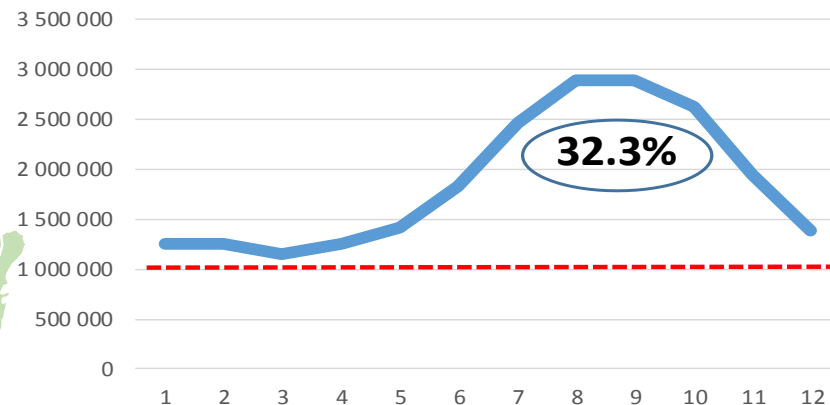
Fuentes de información del BIEE de México

Macroeconomía	 Sistema de Información Energética	 INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA	 BANCO DE MÉXICO	 Banco Mundial	 CONAPO CONSEJO NACIONAL DE POBLACIÓN	 COMISIÓN NACIONAL PARA EL USO EFICIENTE DE LA ENERGÍA	 SMN	 COMISIÓN NACIONAL DEL AGUA
Energía	 Sistema de Información Energética	 PEMEX	 COMISIÓN FEDERAL DE ELECTRICIDAD	 COMISIÓN REGULADORA DE ENERGÍA				
Industria	 Sistema de Información Energética	 INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA	 CANACERO	 CAMARA NACIONAL DE LAS INDUSTRIAS AZUCARERA Y ALCOHOLERA	 CAMARA DEL PAPEL	 CAMIMEX	 CAMARA NACIONAL DEL CEMENTO CANACEM	 worldsteel ASSOCIATION
Transporte	 Sistema de Información Energética	 INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA	 INSTITUTO MEXICANO DEL PETRÓLEO	 SECRETARÍA DE COMUNICACIONES Y TRANSPORTES	 INSTITUTO MEXICANO DEL TRANSPORTE	 INSTITUTO NACIONAL DE ECOLOGÍA Y CAMBIO CLIMÁTICO	 COMISIÓN NACIONAL PARA EL USO EFICIENTE DE LA ENERGÍA	 Asociación Mexicana de la Industria Automotriz
Residencial	 Sistema de Información Energética	 INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA	 COMISIÓN REGULADORA DE ENERGÍA	 COMISIÓN NACIONAL PARA EL USO EFICIENTE DE LA ENERGÍA	 FIDE FEDERACIÓN PARA EL AHORRO DE ENERGÍA ELÉCTRICA	 Registro Único de Vivienda	 Asociación Nacional de Energía Solar	
Comercial y Servicios	 Sistema de Información Energética	 INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA	 SECRETARÍA DE EDUCACIÓN PÚBLICA	 SECRETARÍA DE TURISMO	 SECRETARÍA DE SALUD	 COMISIÓN NACIONAL PARA EL USO EFICIENTE DE LA ENERGÍA		
Agropecuario	 Sistema de Información Energética	 INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA	 SECRETARÍA DE MEDIO AMBIENTE Y RECURSOS NATURALES	 SECRETARÍA DE AGRICULTURA, GANADERÍA, DESARROLLO RURAL, PESCA Y ALIMENTACIÓN	 COMISIÓN NACIONAL DEL AGUA	 Food and Agriculture Organization of the United Nations		

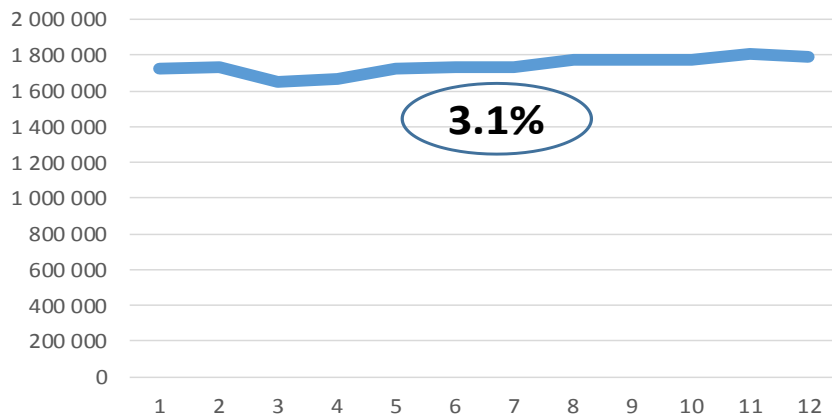
1b. Organizing scattered information (3/3)



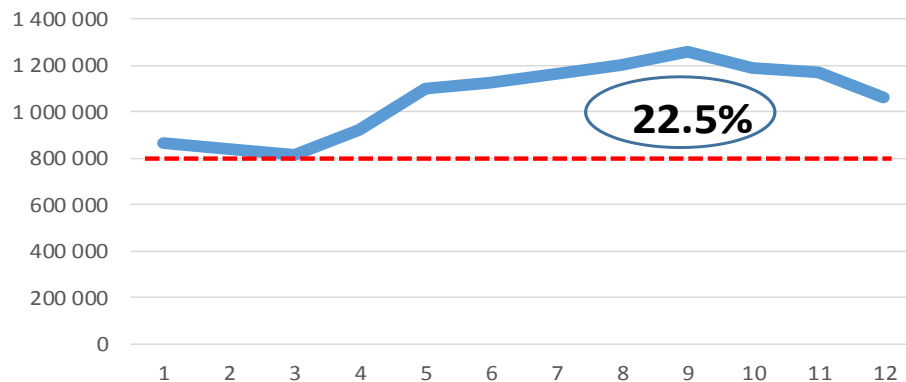
Región Verano extremo



Región templada



Región Tropical



1c. Organize scattered information (3/3)

Interactive internet national BIEE data bases

SENER
SECRETARÍA DE ENERGÍA



CONUEE
COMISIÓN NACIONAL PARA EL
USO EFICIENTE DE LA ENERGÍA



Login

Contraseña

Conectarse

BASE DE INDICADORES
DE EFICIENCIA ENERGÉTICA



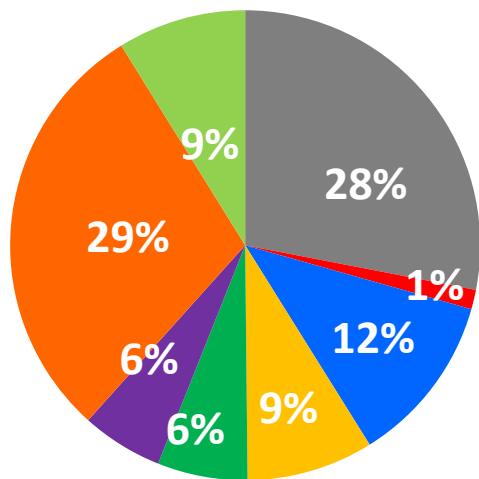
Base de datos desarrollada por Conuee con el apoyo de la Agencia Francesa de Medio Ambiente y de Gestión de la Energía (ADEME) y Enerdata mediante financiamiento otorgado por la Agencia Francesa de Desarrollo (AFD) para fomentar la evaluación de Eficiencia Energética en México.

Database developed by Conuee with the support of the French Environment and Energy Management Agency (ADEME) and Enerdata with financing provided by the French Development Agency (AFD) to promote Energy Efficiency evaluation

2. Energy efficiency markets insights (1/2)

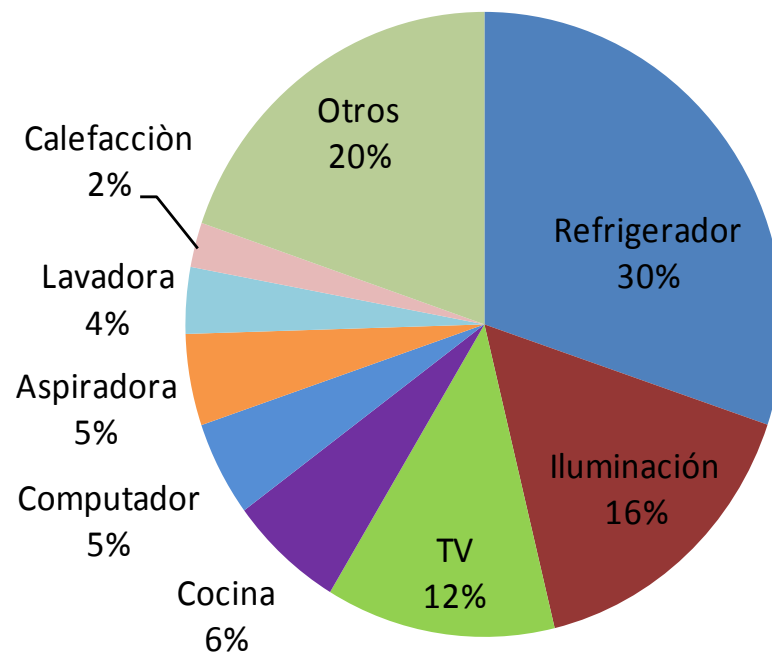
Knowledge of energy markets and energy efficiency equipments market are useful for utilities, ministries, equipment manufacturers, analysts...

Brazil



- Food
- Textile
- Paper
- Chemicals
- Cement
- Ceramics
- Metals
- Others

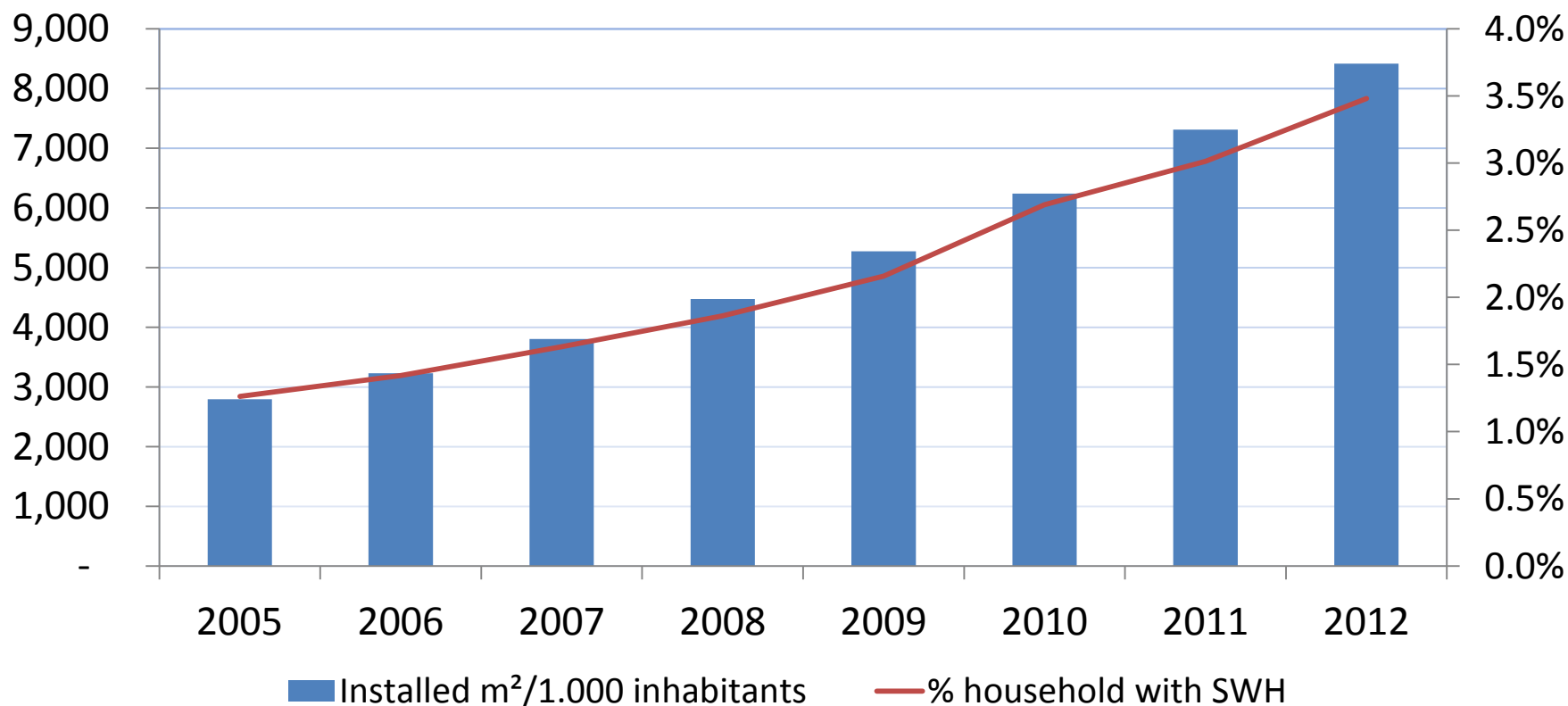
Chile



2. Energy efficiency markets insights (2/2)

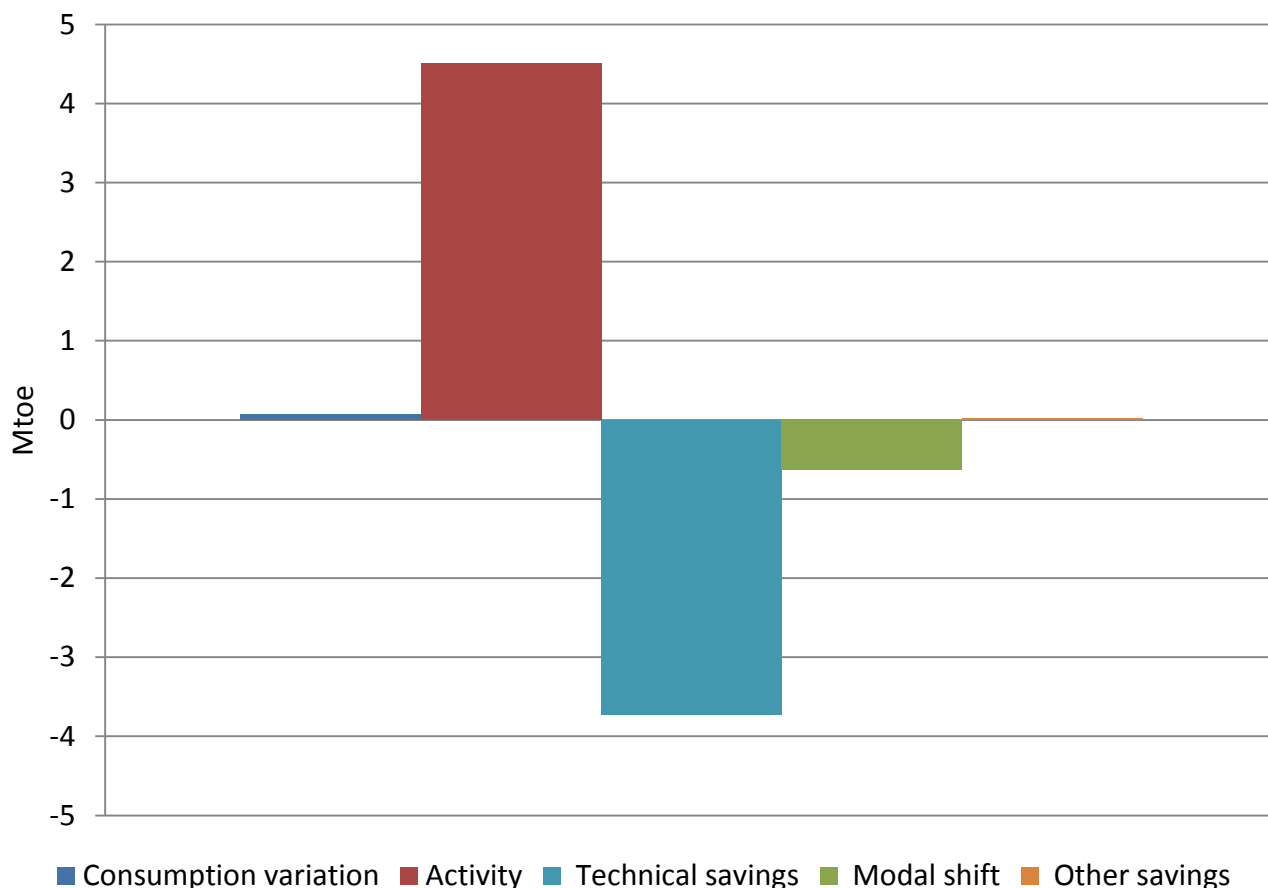
Knowledge of energy markets and energy efficiency equipments market are useful for utilities, ministries, equipment manufacturers, analysts...

Penetration of solar water heaters: Brazil



3. Understanding trends

Factors of the energy consumption variation in transport: Mexico (2010-2014)

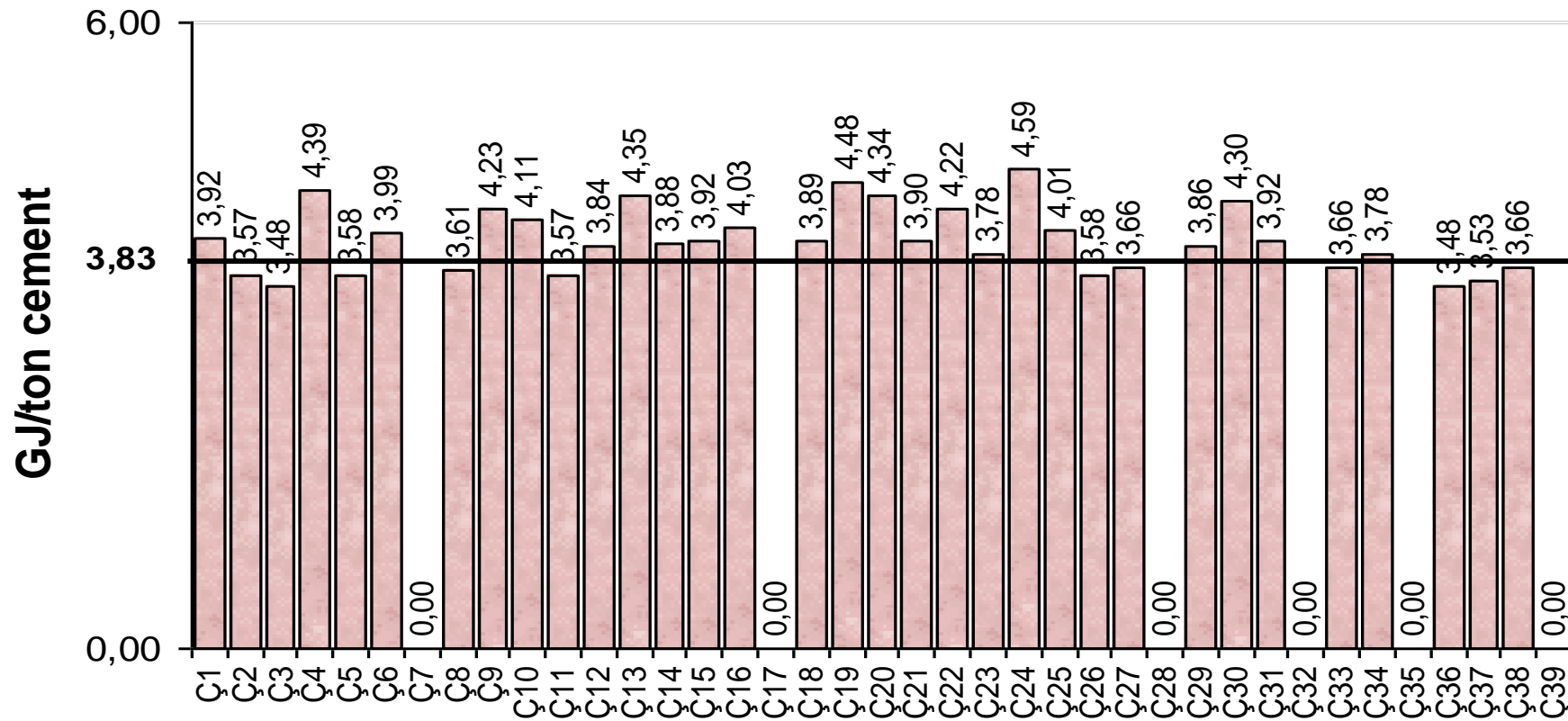


Energy consumption in transport was almost at the same level in 2014 as in 2010: energy savings (-3.7 Mtoe) and to a lower extent modal shift to less energy intensive modes of transport (-0,6 Mtoe) balanced the effect of the growth in traffic in passengers or goods (4.5 Mtoe) .

4a. National Benchmarking (1/3)

Usefull for policy design

Cement Specific Consumption in Turkey (2004)

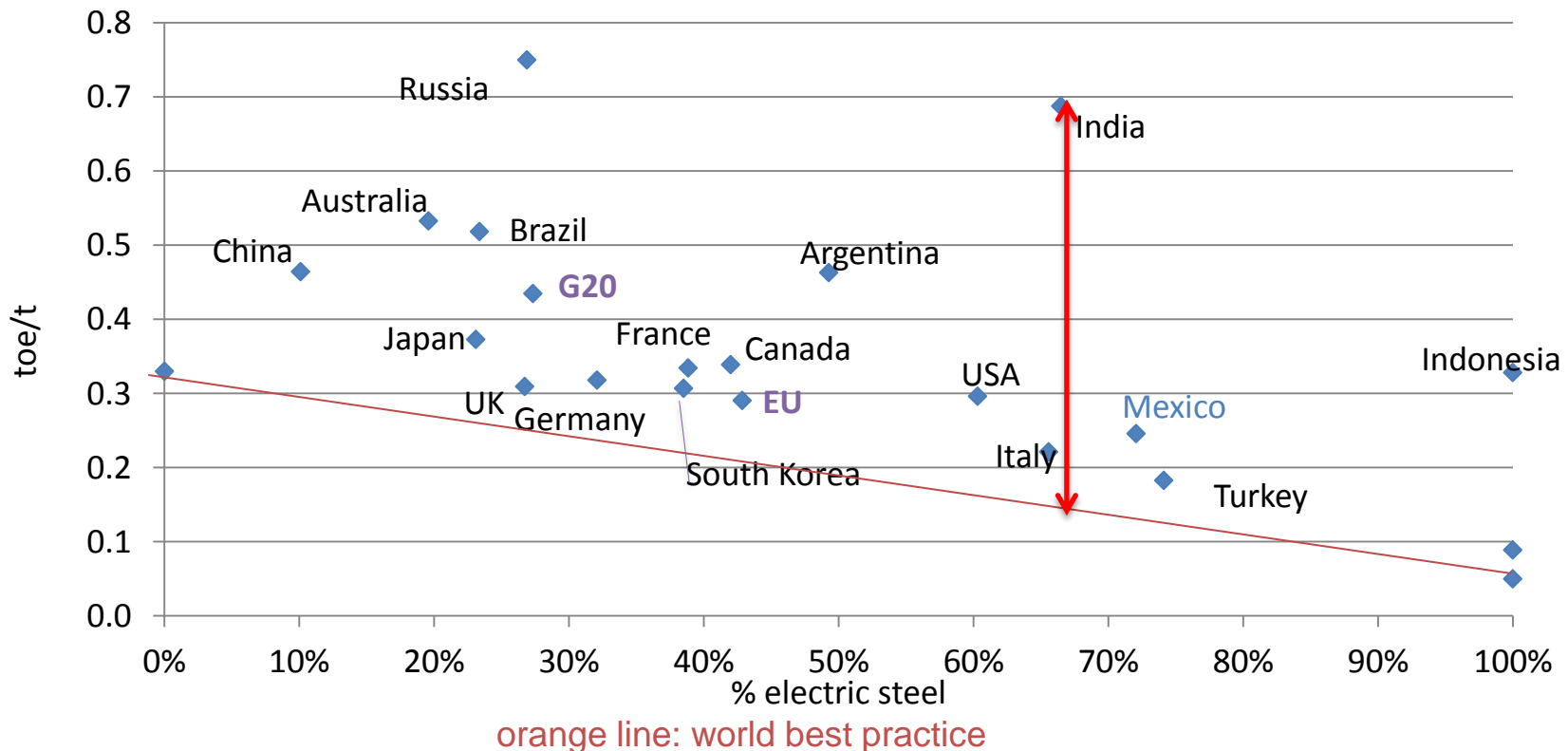


4a. International Benchmarking (2/3)

Useful for E.E. potential assesement

Comparison of specific consumption for steel should be made at similar process mix as non electric steel is roughly 3 times more energy intensive than the non electric process.

Average energy consumption per ton of steel (2013)



4b. Benchmarking LAC's

The BIEE comparison tool (2/3)

Country:

Argentina

Comparison country:

Chile

Sector:

Macro

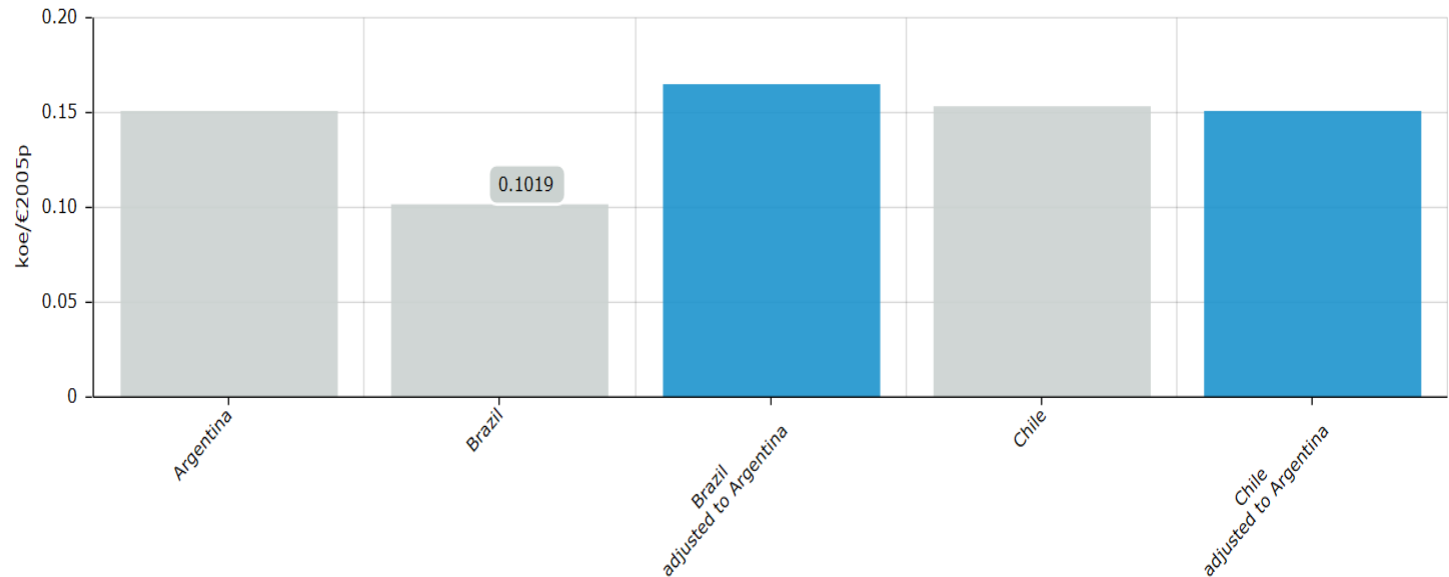
Indicators:

Primary intensity

Adjustment:

Both

Primary intensity adjusted to climate and power mix (2010)



This graph shows what would be the primary energy intensity of Brazil and Chile with the climate and power mix of Argentina.

Country

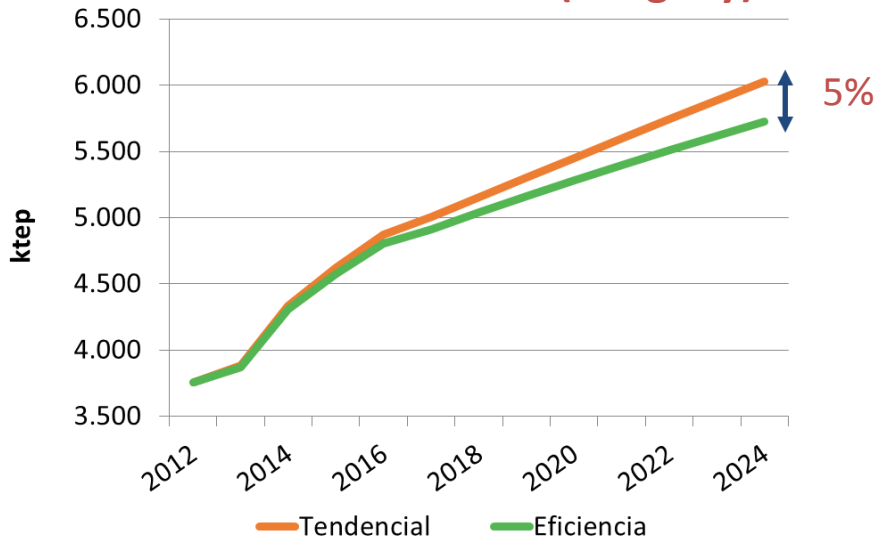
✗ Argentina

Comparison countries ⓘ

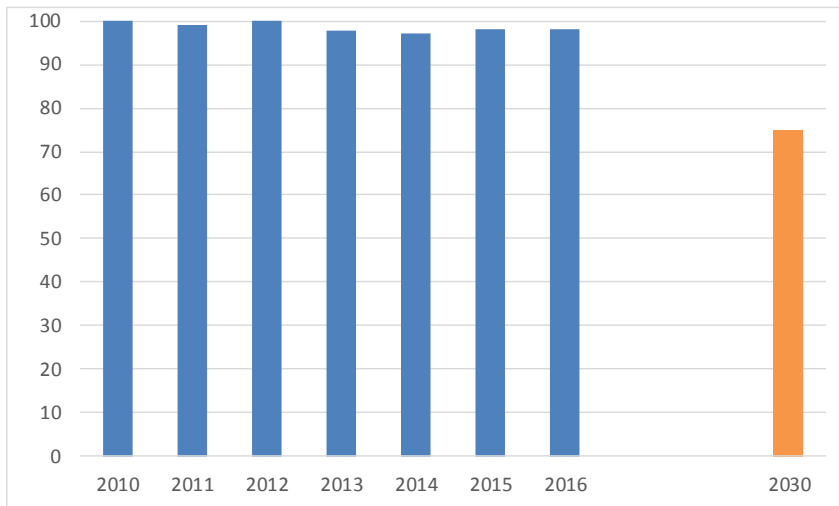
✗ Brazil
✗ Chile

5. National or sectoral targets monitoring

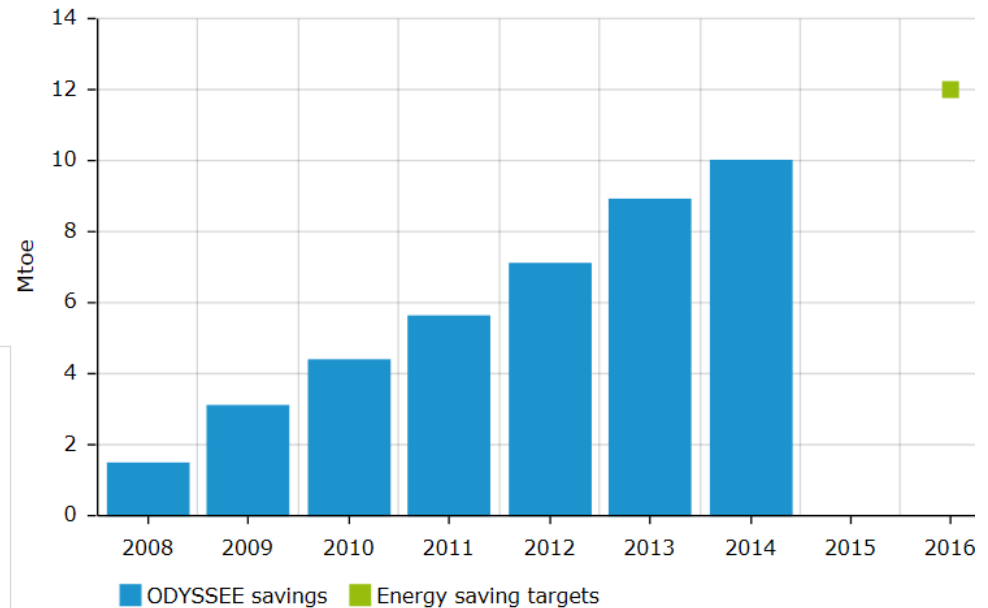
Plan Nacional de EE (Uruguay)



Final energy intensity (EEDP, Thailand)

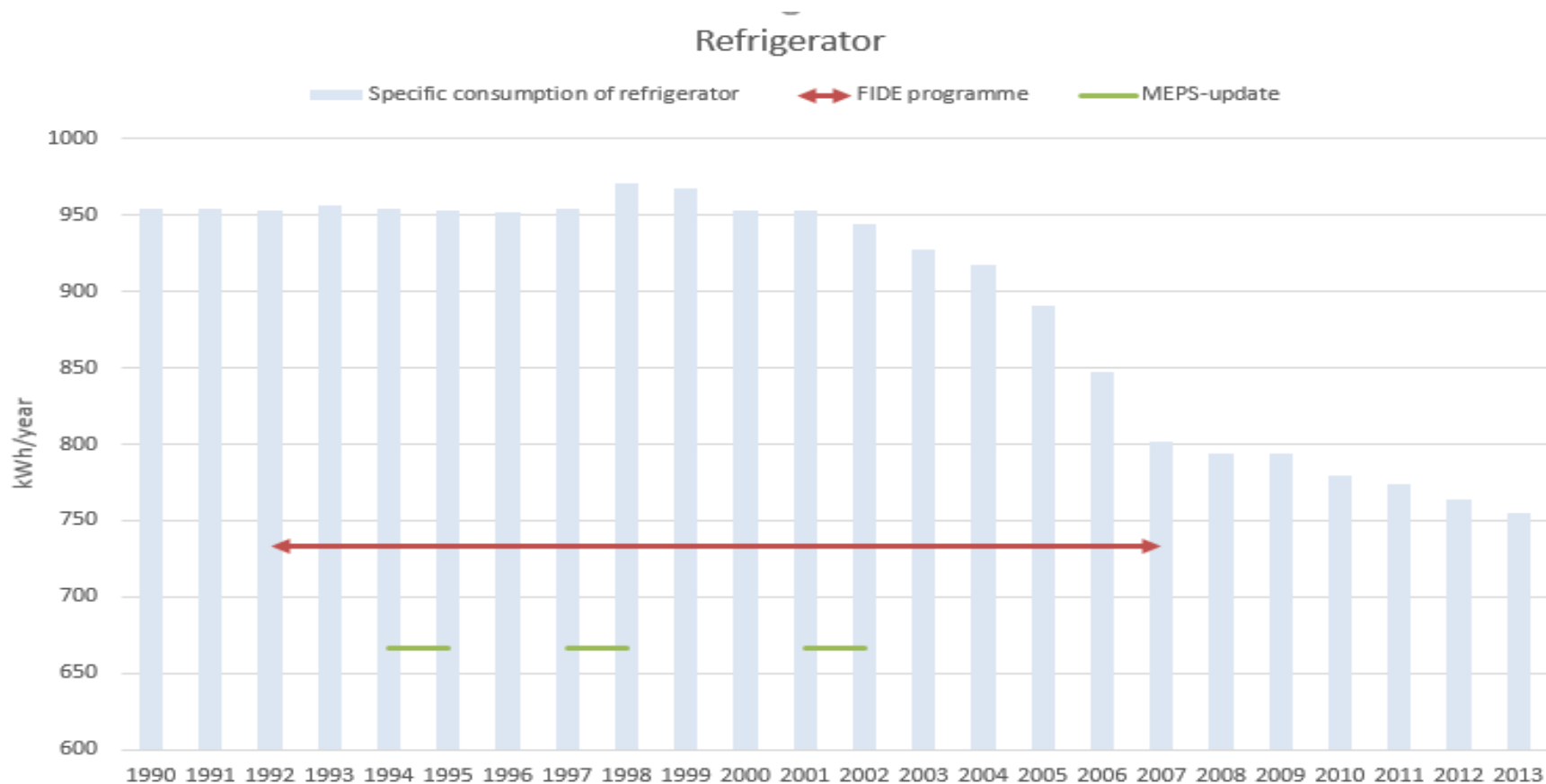


Energy savings (NEEAP, France)



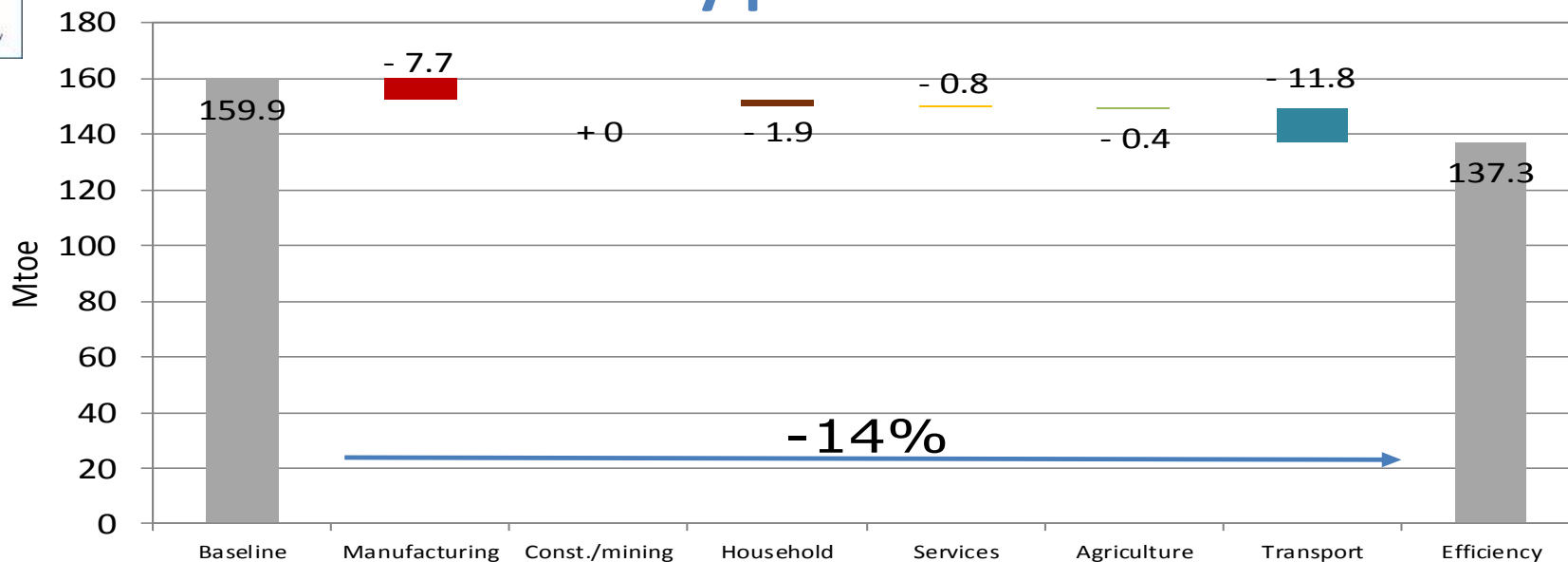


6: Monitoring the NEAAP through indicators: acse of Mexico (3/3)

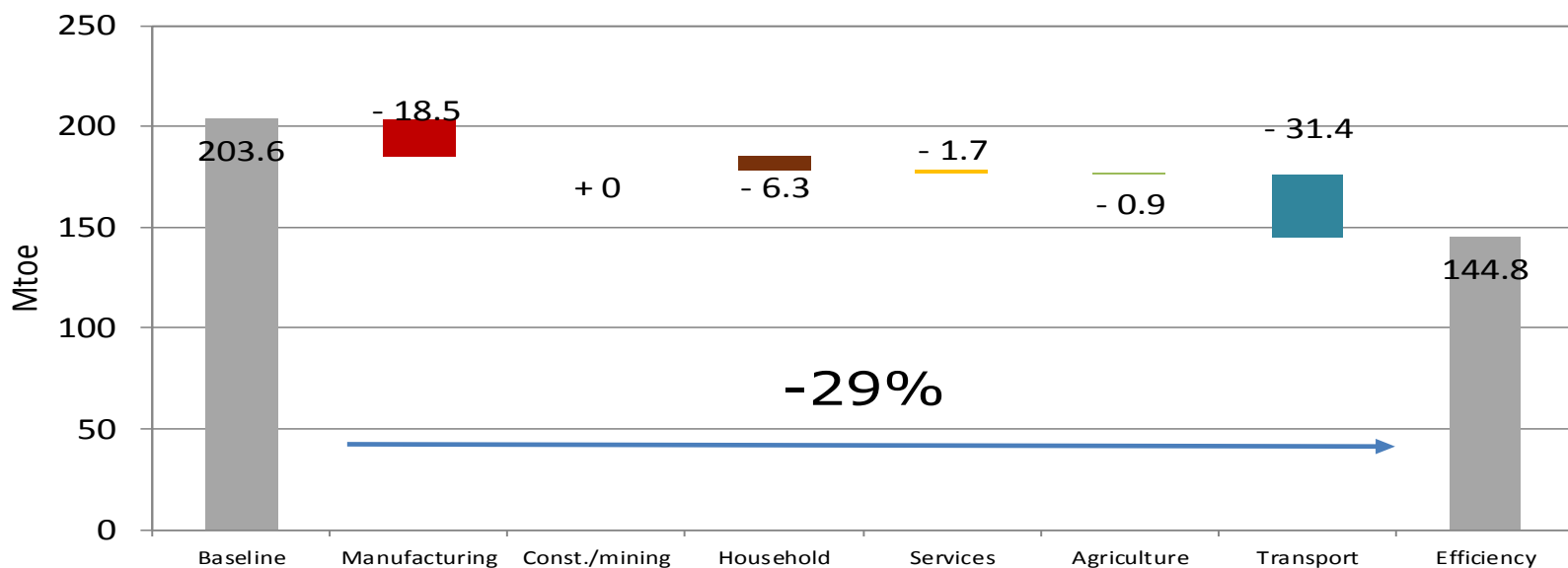


7. Long term impact assessment of the energy efficiency potential: Mexico

2030

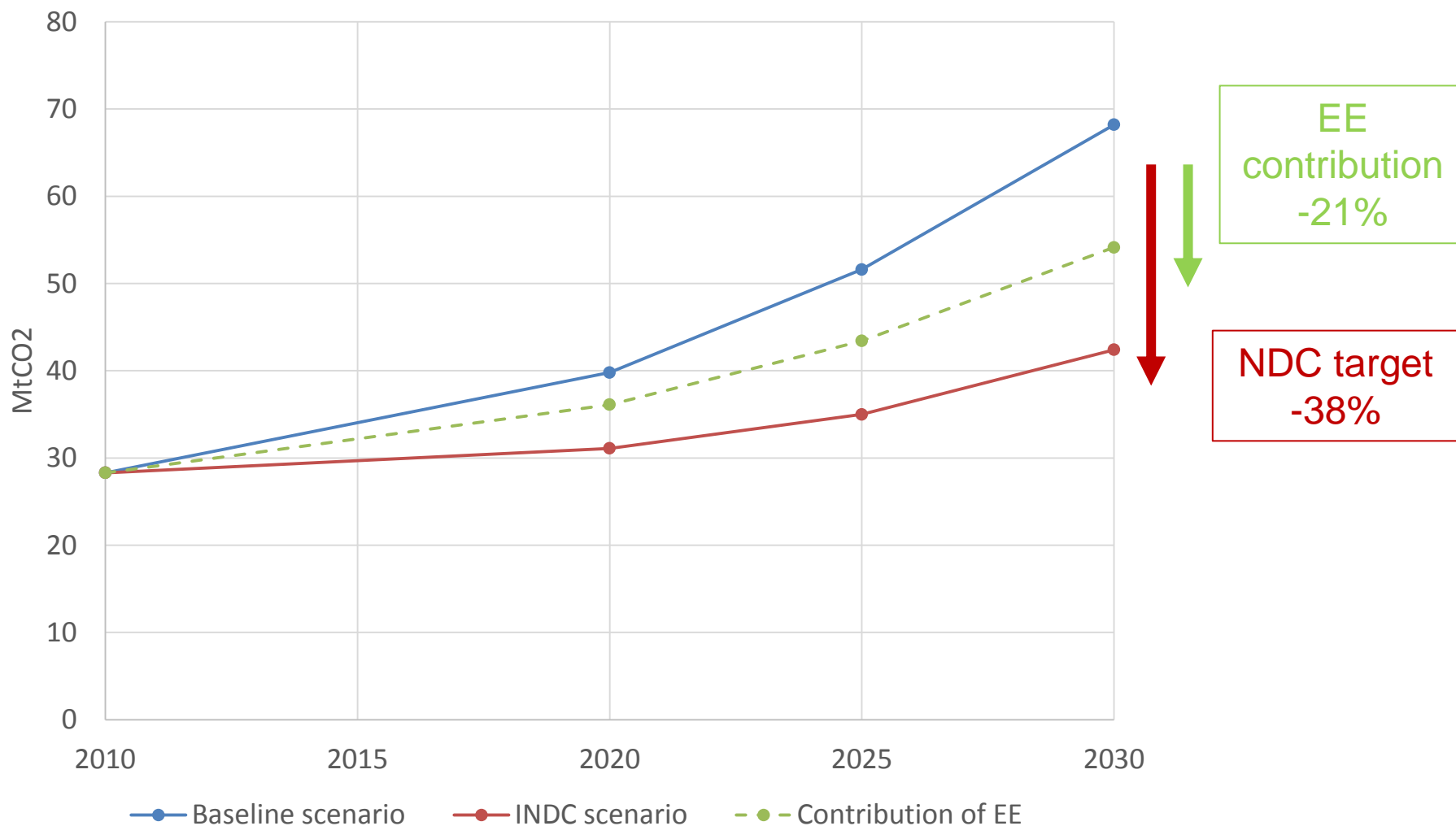


2050



8. Assess the contribution of EE in NDC's

Case of Tunisia



Source: based on an on going UNDP study (draft)

9a. Disseminate the results: BIEE Data mapper

Global indicators

Power sector

Industry

Transport

Households

Services

Agriculture

Primary energy intensity at exchange rate

2012

2000/2012

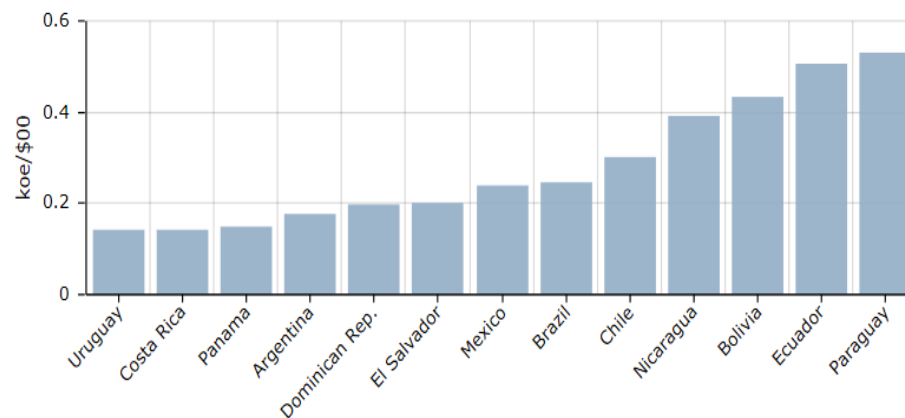
Map

Excel



Primary energy intensities in \$ at exchange rates vary significantly among countries

2012 *



The primary energy intensity in US\$ is the ratio between the total energy consumption of a country and its Gross Domestic Product (GDP) measured at 2000 prices and exchange rates. It measures the total amount of energy necessary to generate one unit of GDP. Uruguay, Panama and Costa Rica have the lowest energy intensities. Bolivia Ecuador and Paraguay, countries that are larger producers and transformers of energy, require four times more energy to generate one unit of GDP than Uruguay, as Paraguay that is a large user of biomass with a low efficiency. However intensities at purchasing power parities are more relevant for comparisons.

Advanced indicators

* Last year available depending on countries.

9b. BIEE regional report





9c. BIEE national reports

INFORME NACIONAL DE MONITOREO DE LA EFICIENCIA ENERGÉTICA DE LA REPÚBLICA ARGENTINA, 2014



INFORME NACIONAL DE MONITOREO DE LA EFICIENCIA ENERGÉTICA DE LA REPÚBLICA DE CHILE, 2014



INFORME NACIONAL DE MONITOREO DE LA EFICIENCIA ENERGÉTICA DEL BRASIL



INFORME NACIONAL DE MONITOREO DE LA EFICIENCIA ENERGÉTICA DE LA REPÚBLICA ORIENTAL DEL URUGUAY



INFORME NACIONAL DE MONITOREO DE LA EFICIENCIA ENERGÉTICA DE NICARAGUA



INFORME NACIONAL DE MONITOREO DE LA EFICIENCIA ENERGÉTICA DE LA REPÚBLICA DEL ECUADOR, 2016



INFORME NACIONAL DE MONITOREO DE LA EFICIENCIA ENERGÉTICA DE EL SALVADOR, 2016



INFORME NACIONAL DE MONITOREO DE LA EFICIENCIA ENERGÉTICA DE LA REPÚBLICA DEL PARAGUAY, 2016



10: Assessing the Multi-benefits of EE (1/3)



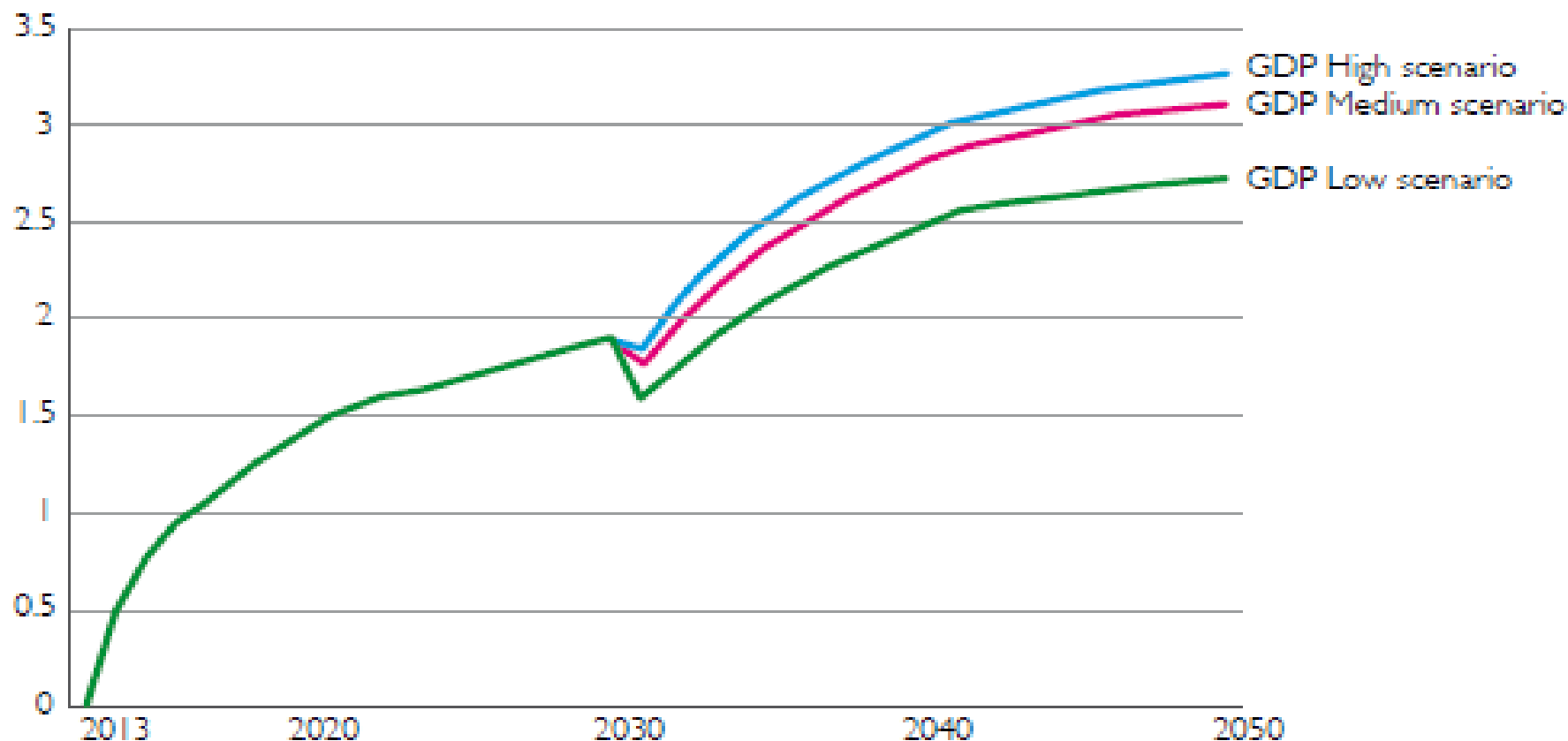
- Impact of Energy efficiency on:
 - GDP
 - Job assessment
 - Trade balance
 - Public deficit
 - Carbon and energy efficiency prices
 - Energy bill
 - Households expenditures



10: Assessing the Multi-benefits of EE (2/3)

Energy transition is good for economic growth

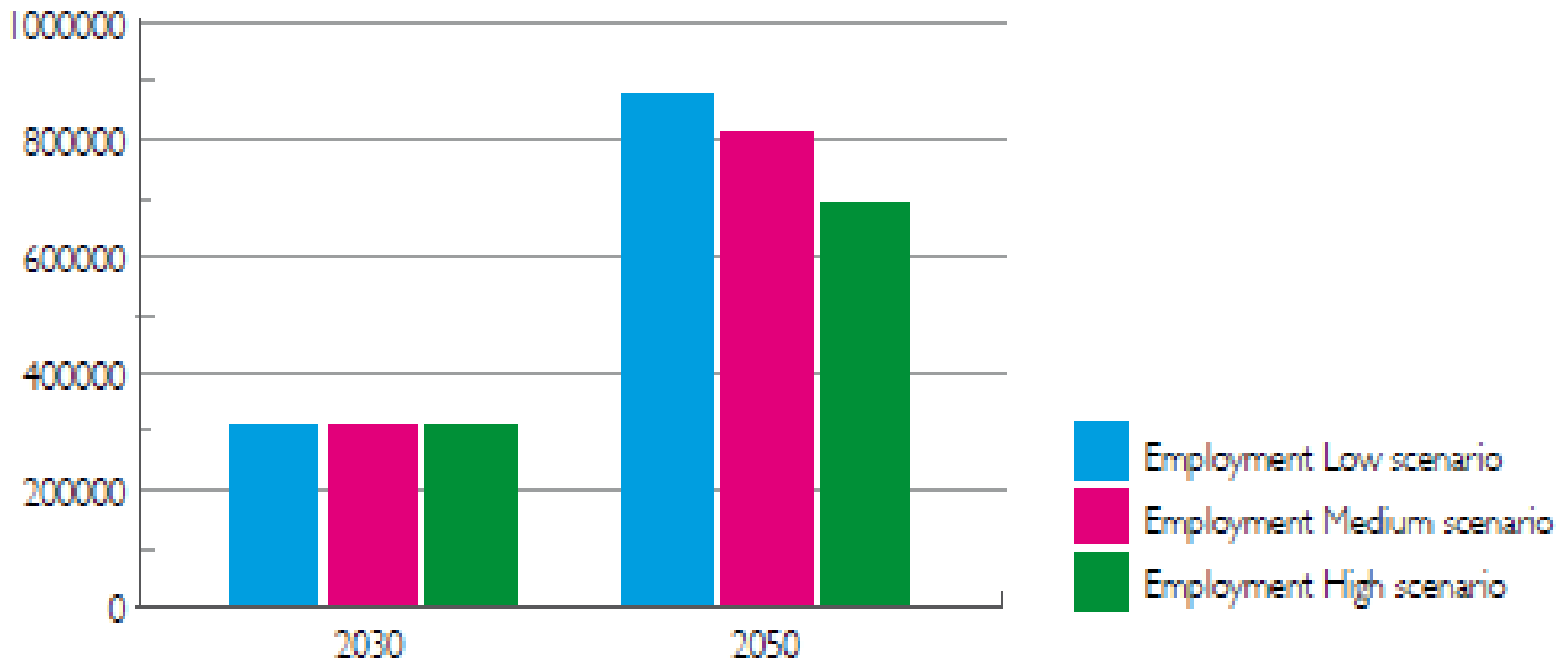
Impact on GDP of the 3 energy and ecological scenari
(France Shared vision 2050)



10 : Assessing the Multi-benefits of energy efficiency

Energy transition is good for job creation

Impact on employment of the 3 energy and ecological scenarii (France Shared vision 2050)



Conclusions

- The BIEE program has already provided inputs about the 10 benefits of energy efficiency indicators.
- The 2018 BIEE program will allow to enhance the results already achieved through:
 - Exchange of information on good practices (regional meetings, dialogo)
 - Capacity building (regional meetings, on job assistance)
 - Tools updating (energy indicator data base, data mapper, comparison tool)
 - Dissemination (Regional and national reports and workshops)
- New developments in BIEE (2018), in particular on the link between indicators and bottom –up ex-post (bottom-up) policies evaluations
- BIEE can document the link between indicators and forecasting