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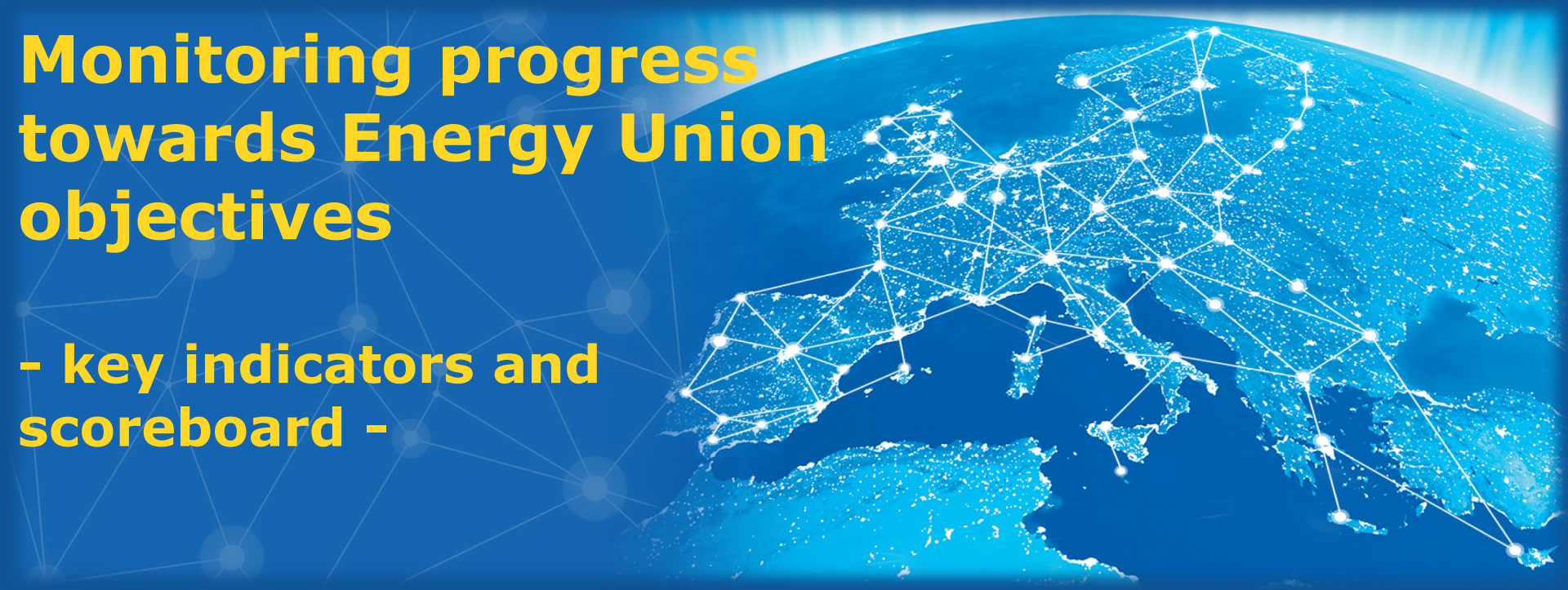
Monitoring progress towards Energy Union objectives

- key indicators and scoreboard -



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Rationale for indicators: Energy Union – a Commission priority

- **Policy related:**

A fact-based monitoring and evaluation process for the Energy Union Governance and progress towards the objectives

Energy Union Governance framework:

"…the European Council […] called for […] developing a reliable and transparent governance system"

EUCO March 2015

Energy Union monitoring framework:

"…systematic monitoring of key indicators for an affordable, safe, competitive, secure and sustainable energy system"

Energy Council June 2015

- ***Process-wise:***

to streamline the monitoring process by providing a coherent framework *and ensure coherence in the assessment of energy and climate policies*

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Scope: Five inter-related dimensions + targets

Energy security, solidarity and trust

-Import dependency
-Diversification and continuity of supply (esp. gas)

A fully integrated European energy market

-Infrastructure & interconnections
-Flexible & competitive markets
-Regional cooperation
-Vulnerable consumers/en. poverty

Research, Innovation and Competitiveness

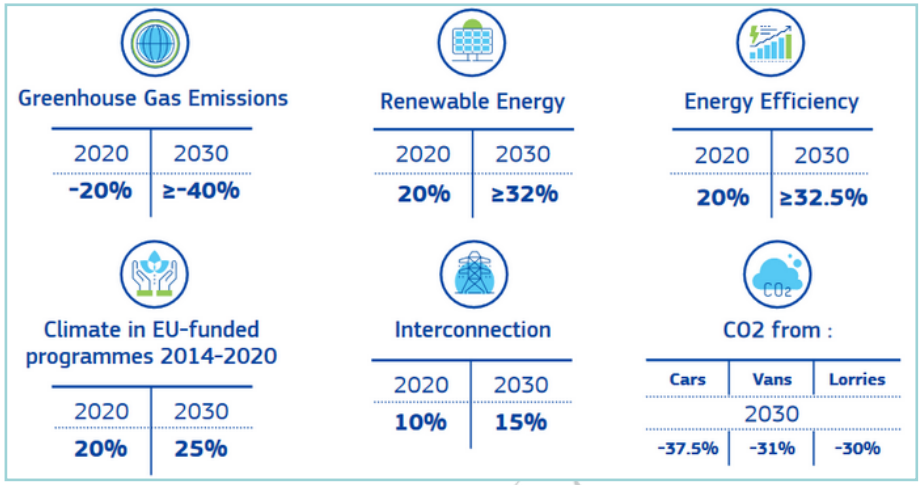
-Research, Innovation
-Industrial Competitiveness & prices

Energy efficiency and moderation of demand

-Primary & final energy consumption
-Residential and transport as priority
-Community actions

Decarbonising the economy

-EU ETS and non-ETS sectors
-Transport's emissions as priority
-Renewable energy



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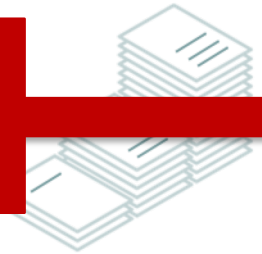
Aim: Support Energy Union Governance process

STREAMLINING AND INTEGRATION OF ENERGY AND CLIMATE PLANNING AND REPORTING

	MS planning	MS reporting	EC monitoring / reporting
TODAY	Largely based on statistical data & indicators		
NEW GOVERNANCE	*Prep. By end 2019*	*Every 2 yrs from 2021*	*State of Energy Union*
	Integrated national energy and climate plan	**Periodic progress reports**	**Periodic State of the Energy Union**



Synchronised with the Paris Agreement's review cycle

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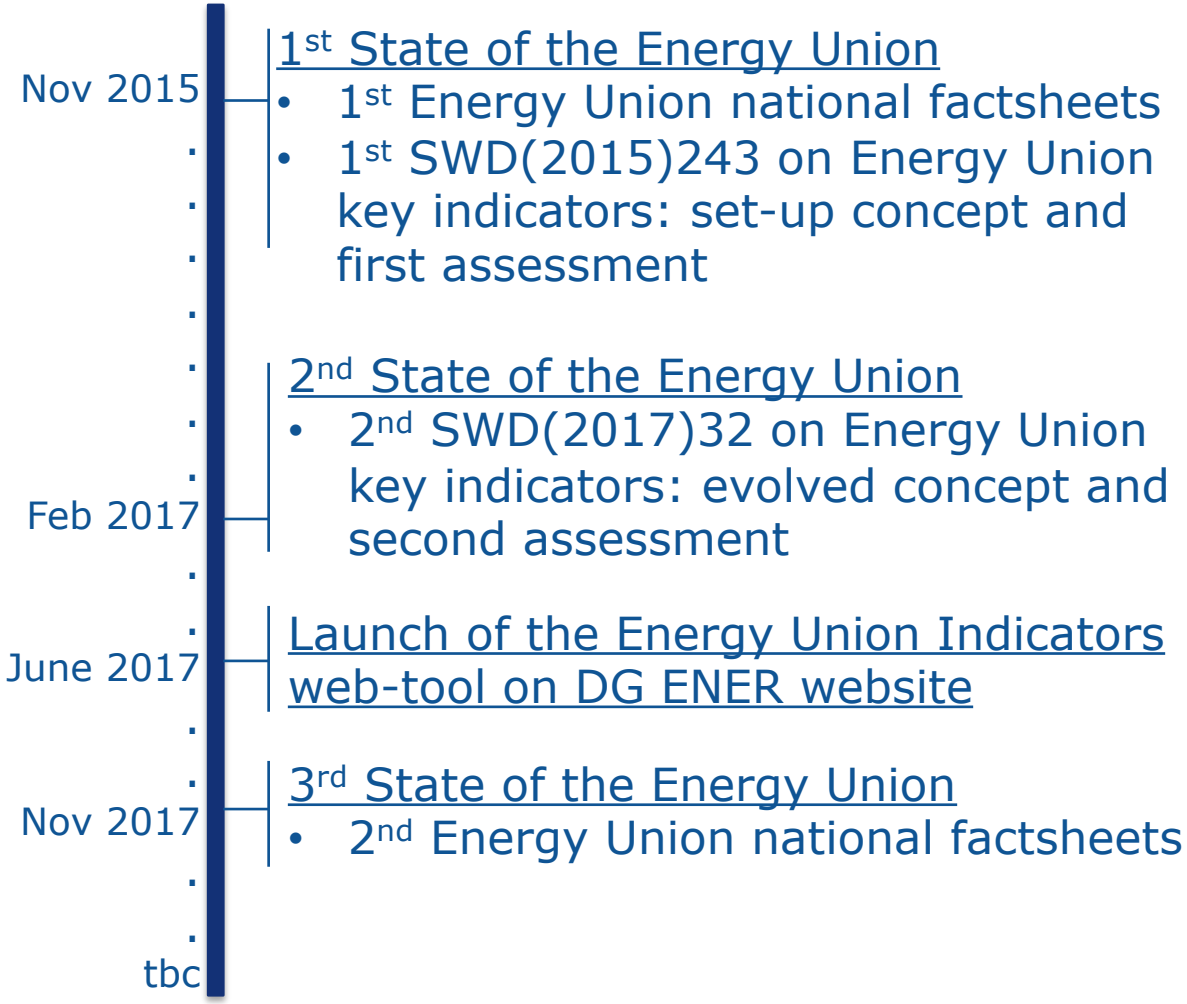
Evolution & background



More on Energy Union and Climate & DG ENERGY websites:
https://ec.europa.eu/commission/priorities/energy-union-and-climate_en
https://ec.europa.eu/energy/en/data-analysis/energy-union-indicators

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Structure & conditionality for the Energy Union indicators & scoreboard

- **Relevant** for the energy and climate policies across the five dimensions
- To be as much as possible **based on officially recognised data and updated periodically**
- To be a **limited (sufficient) set of data and indicators**
- To **allow individual and comparative meaningful assessments on trends and levels** yet avoiding country rankings
- To be **clear and understandable** (avoiding complex methodology)

A set of 25 main indicators and several accompanying ones across the 5 dimensions based on data from Eurostat, EEA, ACER, JRC, EC DGs, IEA…

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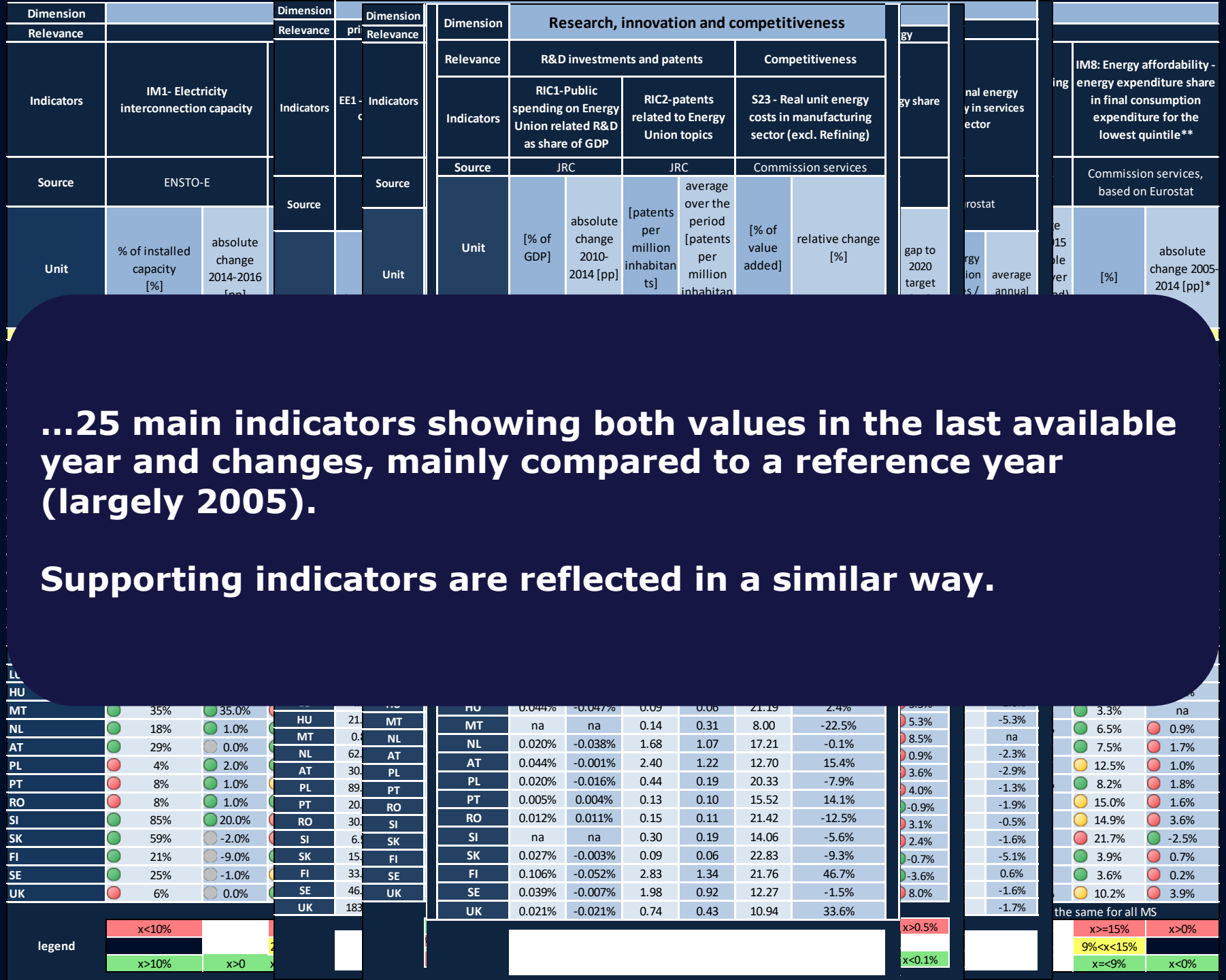
Energy Union indicators by dimension

Security of supply	Internal market	Energy efficiency	Decarbonisation & Renewables	Research & Competitiveness
Import dependency	Electricity interconnections	Primary energy consumption	GHG emissions	R&I investment on Energy Union priorities
Import dependency on: Natural Gas Crude oil and NGL Hard coal	Market concentration-el.	Primary energy intensity	ETS vs ESD emissions LULUCF emissions Sectorial GHG emissions	Total and private R&I investments
Supplier concentration index	Market shares: main power capacities main power generation	Final energy consumption	Effort sharing emissions-gap interim target	Patents on Energy Union priorities
Import dependency on: Natural Gas Crude oil and NGL Hard coal	Market concentration-gas	Energy intensity-industry	Effort sharing emissions-gap to 2020 target	LCOE Renewables Turnover EU Renewables
N-1 rule for gas	Market share main gas suppliers	Energy cons/m2 - residential	GHG intensity	Real Energy Unit Cost - manufacturing
	Wholesale prices-electricity and gas	Energy/capita-residential	GHG per capita GHG power&heat CO2 emissions new cars	Electr. & gas prices-industry
	Switching rate-electricity and gas	Energy consumption transport	Renewable energy (RES) share	
	MPI-retail electricity and gas	Share public transport	RES transport RES electricity RES heating&cooling ssil fuels avoidance by RES GHG avoidance by RES	Cohesion funds on low-carbon energy and transport
	Smart meters- hslds electricity and gas	Passenger/ton-km		Covenant of Mayors
	Energy affordability	Energy intensity-services		
	HICP-energy Inability keep home warm Hshld electr. & gas prices			
	Taxes on main fuels			

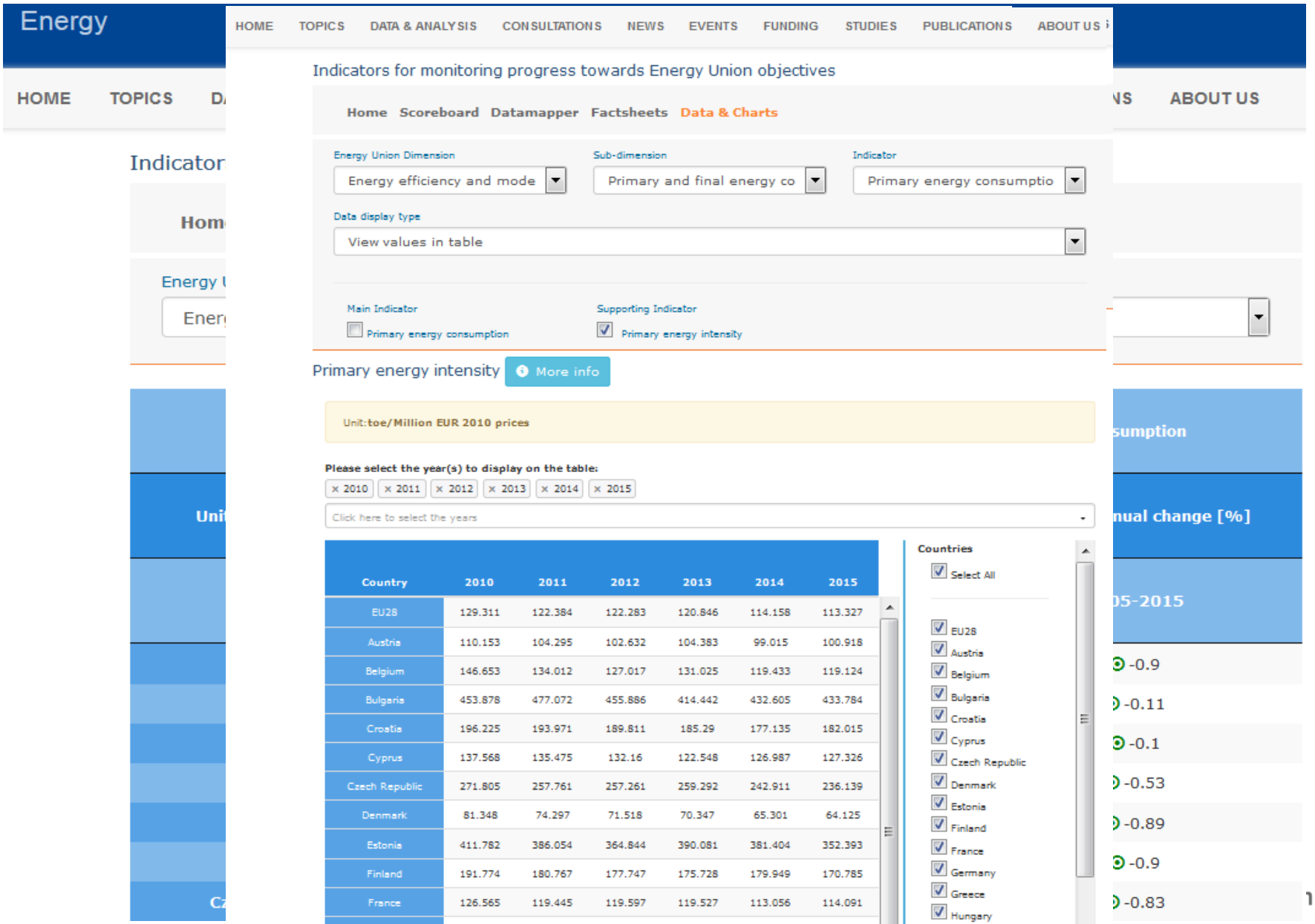
- ESTAT
- based on ESTAT
- EEA
- EC DGs (incl. JRC)
- ACER/CEER
- others



...25 main indicators showing both values in the last available year and changes, mainly compared to a reference year (largely 2005).

Supporting indicators are reflected in a similar way.

Interactive webtool



Challenges

- **Cooperation and agreement on a common set of indicators in a pan-EC context**
- **Quality, availability, timeliness and granularity of data**
  - almost 2 yrs time-lag of energy & climate statistics & data collection
  - need for higher data quality and more granular data (e.g. on energy efficiency)
  - data not coming from official reporting are often disputed
  - disruption of data collection / reporting on some already selected indicators (e.g. switching rates and smart meters deployment rate)
- **Composite indicators for policy monitoring**
  - currently only two are used as accompanying (MPIs gas and electricity) + 3 HHIs (import suppliers and market concentrations)
  - not always understandable, may provide a fast overview but too top-level for an in-depth policy assessment

Conclusion

- Support the Energy Union & Climate priority of the EC
- Wide cooperation across the EC with relevant DGs and agencies
- Streamline of indicators currently used for tracking progress of energy and climate policies and to the 2020/2030 targets
- Evolving process:
  - Currently largely tailored on 2020 targets, to be still adapted on 2030 targets
  - new indicators may appear (e.g. risk preparedness- electricity)

Built on the needs, creating new opportunities: one-stop-shop of numerical data & visualisation for vary work streams and policy needs

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Thank you!

When you can measure what you are speaking about, and express it in numbers, you know something about it.

When you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind.

William Thomson, 1st Baron Kelvin

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