



Key indicators for tracking decarbonisation under the Energy Union governance mechanism

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oliver.sartor@iddri.org

Institute for Sustainable Development and International Relations

41 rue du Four – 75006 Paris - France

www.iddri.org

Policy Context

- **New energy and climate governance context post 2020**
 - Greater emphasis on open method of coordination (EU2030/EnU)
 - Focus on National Climate and Energy Plans (NECPs)
 - Paris Agreement (5yr cycles) – role of pledge and review
 - Need to focus on transformation viz. 2050, not just 2030 targets
- **Indicators to play important role in EnU governance mechanism**
 - Something like an « EU Semester-light » envisaged
 - Annual tracking of MS & EU progress on commitments,
 - High-level political attention each yr, e.g. State of the Energy Union and compliance processes.

Principles for Indicators

1. Reflect *structural transformations of key sectors* needed to achieve 2050 goals
2. Reflect a *systematic breakdown* of energy system and key decarbonisation drivers
3. Reflect political realities (2030 targets, demands of high level political process at EU level)
4. Are reliable guide to underlying phenomena being tracked and used intelligently
5. Close *integration* between key indicators and *national plans* (« NECPs »)
 - *Idea that indicators should inform not just annual SoEU but also the way MS think about decarbonisation strategies*

Methodology for identifying & selecting indicators

- **Use of 2050 decarbonisation literature** for EU countries to identify *common patterns* across EU countries and individual sectors
- **Division into key and auxiliary indicators**
 - **Key indicators:**
 - Reflect ~10 « high level » drivers of decarbonisation
 - Linked to ex ante target setting in NECPs and tracking of them
 - **Auxiliary indicators:**
 - Reflect sub-categories of main drivers of decarbonisation (e.g. role of key sectors or technologies)
 - Nuance: facilitate interpretation of key indicators
 - Linked to ex post tracking and interpretation of performance

Proposed Indicators – (1/2)

1 Basic element of decarbonisation	2 Key indicators	3 Relevant auxiliary indicators
<p><i>Energy efficiency and moderation of demand</i></p>	<p><i>Included in high level summary module of NECPs</i></p> <p><i>Projected to 2030 and 2050</i></p> <p><i>Tracked by Commission</i></p> <p>Gross final energy consumption (GfEC)</p> <p>Total primary energy consumption (TPEC)</p> <p>Final energy consumption per m² in buildings (climate corrected)</p> <p>Final energy consumption per passenger km (transport)</p> <p>Final energy consumption in industry per unit of value added</p>	<p><i>Tracked and reported ex post</i></p> <p><i>Sometimes referred to in NECPs as relevant for describing policies and measures</i></p> <p>Gross final energy consumption/capita</p> <p>Floor space (m²)/capita</p> <p>Total vehicle kilometres/capita</p> <p>Industrial value added</p> <p>Rate of energy retrofits of existing buildings (% dwellings)</p> <p>Average % final energy savings anticipated per retrofit (kWh/m²)</p> <p>Final energy consumption per tonne km (freight transport)</p>

- 1. Energy Demand
- 2. Energy Production
- 3. Energy Consumption
- 4. Non-energy Emissions

Proposed Indicators – (2/2)

Basic element of decarbonisation	Key indicators	Relevant auxiliary indicators
2 Decarbonisation of energy production	CO ₂ intensity of electricity production	Share of electricity produced by energy source (%)
3 Decarbonisation of energy consumption	CO ₂ intensity of gross final energy consumption Share of renewables in gross final energy consumption Share of electricity in gross final energy consumption	CO ₂ intensity of GFEC in buildings, transport and industry. Share of electricity in GFEC of buildings, transport and industry Share of renewables in total final energy consumption to produce heat and in final transport fuel consumption (%) Share of alternative fuel vehicles in total registered vehicle stock (%)
4 CO ₂ emissions aggregates and non-energy sector emissions	MtCO ₂ emissions in Non-ETS sectors (ex. LULUCF) MtCO ₂ emissions from LULUCF	Biannual forecast emissions "gap to target" from ESD and LULUCF sectors based on existing policies and measures. MtCO ₂ eq emissions from agriculture tCO ₂ /tonne of cement clinker production tCO ₂ /tonne of crude steel production tCO ₂ eq/value added of chemical production Emissions captured by DCS equipment

Comparison with COM's « First Proposal »

- **Some important similarities**
 - E.g. Breakdown of key EE indicators similar between two proposals
- **However, 3 main differences with COM's proposal...**
 - 1. Level of integration of *Key Indicators* into NECPs**
 - Latest draft plans include only RES, EE, CO2 levels as indicators - for 2030 target achievement (non-ETS)
 - Other indicators not integrated into the Plans
 - 2. Degree of inclusion of 2050 drivers**
 - No systematic breakdown of main energy and emissions drivers
 - Thus, key issues ignored: electrification of use, CO2 intensity of production, consumption aside from RES, etc.
 - 3. Can question relevance of some specific indicators**
 - E.g. focus on primary energy consumption instead of final energy consumption
 - E.g. final energy consumption/GDP

Conclusions

- **Indicators under the new EnU governance mechanism need to:**
 - Reflect a **systematic breakdown of the key drivers of 2050 decarbonisation** across the economy, not just 2030 EU targets.
 - Be closely **integrated with national planning template** and structure coherent thinking about decarbonisation strategies
 - Be divided into **two sets** of indicators with slightly different functions
 - KEY INDICATORS: linked to **ex-ante goal setting** for high level decarbonisation drivers and ex-post-tracking of these goals
 - AUXILIARY INDICATORS: linked mainly to ex-post tracking (filling in the missing details to improve interpretation of Key indicators)
 - Be **relevant** and **reliable**
- *Commission's « first proposal » for indicators was a good start, but did not fully satisfy these criteria in our view.*

Conclusions

- Use of indicators: **danger of « fixation on one number »**. Role of shadow reports from country experts?