

Addressing Energy Poverty from a local perspective:

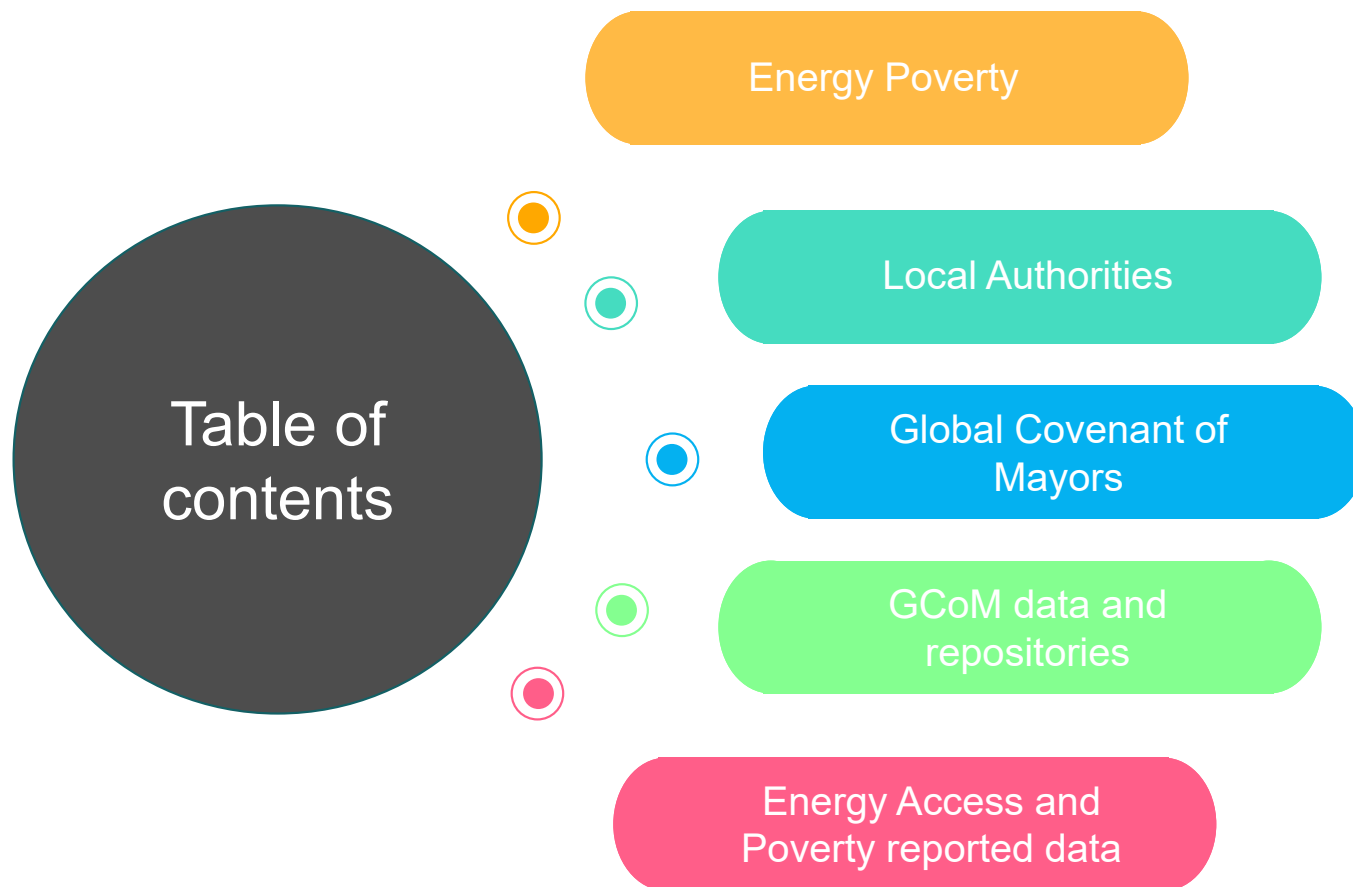
An Analysis of the Urban Application of the Global Covenant of Mayors' Energy Access and Energy Poverty Framework

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Energy Poverty



Energy poverty is a diverse form of poverty driven by multiple factors (i.e., a combination of low income, high energy expenses, and poor energy efficiency in buildings) and with manifold effects.



Effects span from health to education, from gender to climate change. The lack of access to energy often fosters the use of dirty energy sources that contribute to land use changes, deforestation, and greenhouse gas emissions.



Approximately 9.3% of EU citizens were affected by energy poverty in 2022.



Due to its contextualized characteristics, the phenomenon has seen fragmentation in terms of definitions, analysis and strategies.

Energy poverty definition in EU

Energy Efficiency Directive 2023/1791 (EED), Art 2, point 52:

Energy poverty means a household's lack of access to essential energy services, where such services provide basic levels and decent standards of living and health, including adequate heating, hot water, cooling, lighting, and energy to power appliances, in the relevant national context, existing national social policy and other relevant national policies, caused by a combination of factors, including at least non-affordability, insufficient disposable income, high energy expenditure and poor energy efficiency of homes.

Energy Efficiency Directive 2023/1791 (EED), Art 5:

Member States shall ensure that regional and local authorities establish specific energy efficiency measures in their long-term planning tools, such as decarbonisation or sustainable energy plans, after consulting relevant stakeholders, including energy agencies where appropriate, and the public, including, in particular, vulnerable groups which are at risk of being affected by energy poverty or are more susceptible to its effects.

Why Local Authorities



Placed intermediately between national and households' levels, LAs can bridge governance gaps, by complementing and tailoring National strategies to the local specific context.

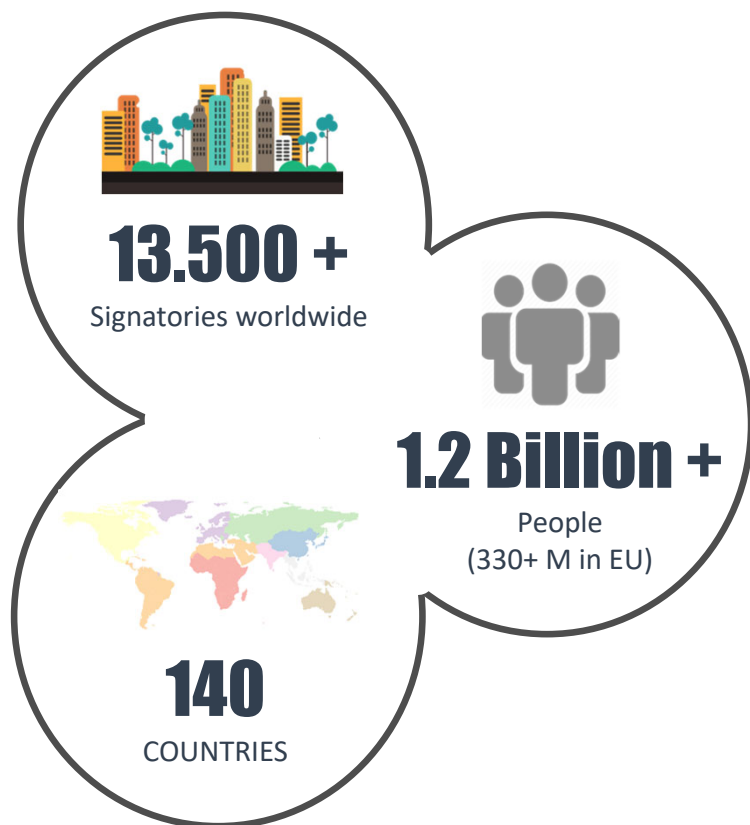
LAs have in-depth knowledge of the territory and of their citizens and are able to capture disparities and nuances.

LAs can make the link across disciplines and can intervene in numerous sectors and areas relevant for energy poverty addressed in synergy with the other challenges.

Urban areas are places where to address the interconnected challenges of energy poverty, sustainability and climate change.

LAs can evaluate advancements in addressing energy poverty of existing (low-carbon) and to-be-implemented policies and develop tailored strategies for adjustments.

Global Covenant of Mayors for Climate & Energy



- 1**
MITIGATION
Reducing GHG emissions and accelerating the decarbonisation of territories
- 2**
ADAPTATION
Increasing the resilience and strengthening the capacity to adapt to unavoidable climate change impacts
- 3**
ENERGY ACCESS
Allowing citizens to access secure, sustainable and affordable energy

GCoM: Energy Attributes

Within GCoM framework, the **ENERGY ACCESS POVERTY PILLAR (EAPP)** looks at the topic of energy access and poverty through a composite approach that considers three distinct, yet interconnected characteristics.



AFFORDABLE ENERGY



SUSTAINABLE ENERGY

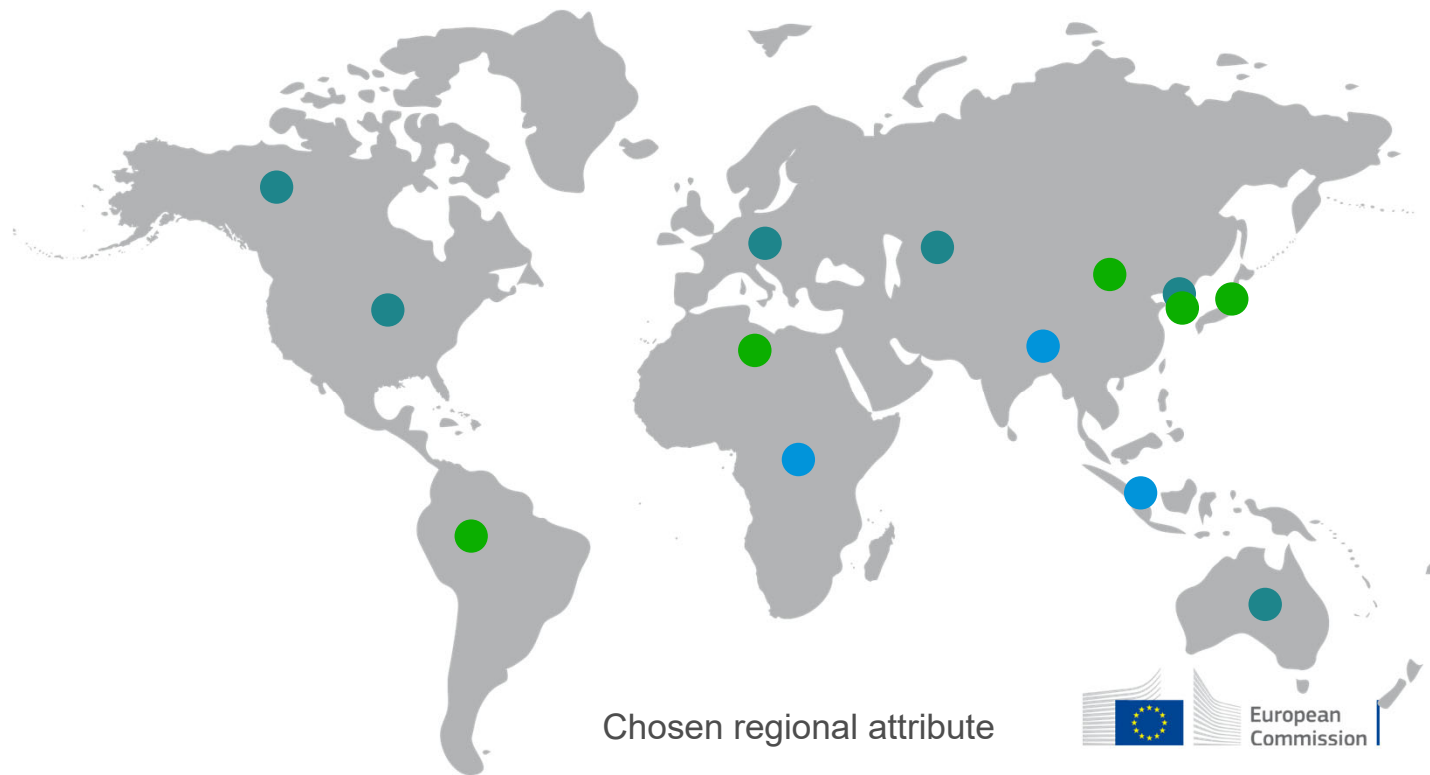


SECURE ENERGY

GCoM EAPP Common Reporting Framework

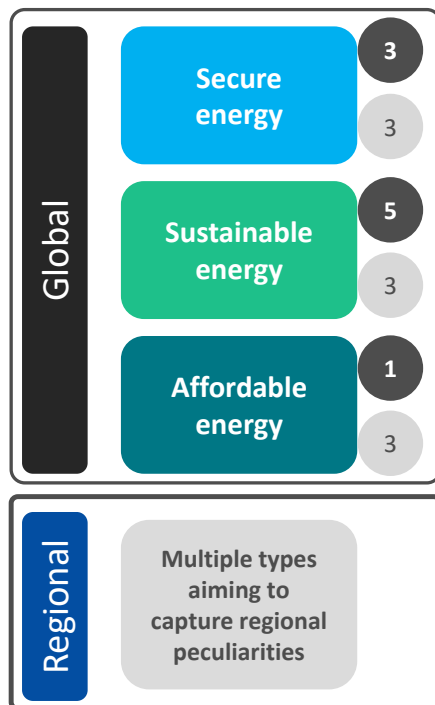


● SECURE ENERGY ● SUSTAINABLE ENERGY ● AFFORDABLE ENERGY



GCoM EAPP Common Reporting Framework: Assessment

GLOBAL MANDATORY INDICATORS



 Mandatory indicators
  Non-mandatory indicators



Secure Energy

- Percentage of municipality population or households with access to electricity
- Average duration of available electricity
- Average yearly energy consumption per capita



Sustainable Energy

- Installed capacity of renewable energy sources within local boundary
- Total energy generated from renewable energy source within local boundary
- Energy consumption from renewable energy sources
- Source mix of thermal energy (heating and cooling) consumed within local boundary
- Share of households within the municipality with access to clean cooking fuels and tech



Affordable Energy

- Share of households or population within the city boundary spending up to X% of income on energy services

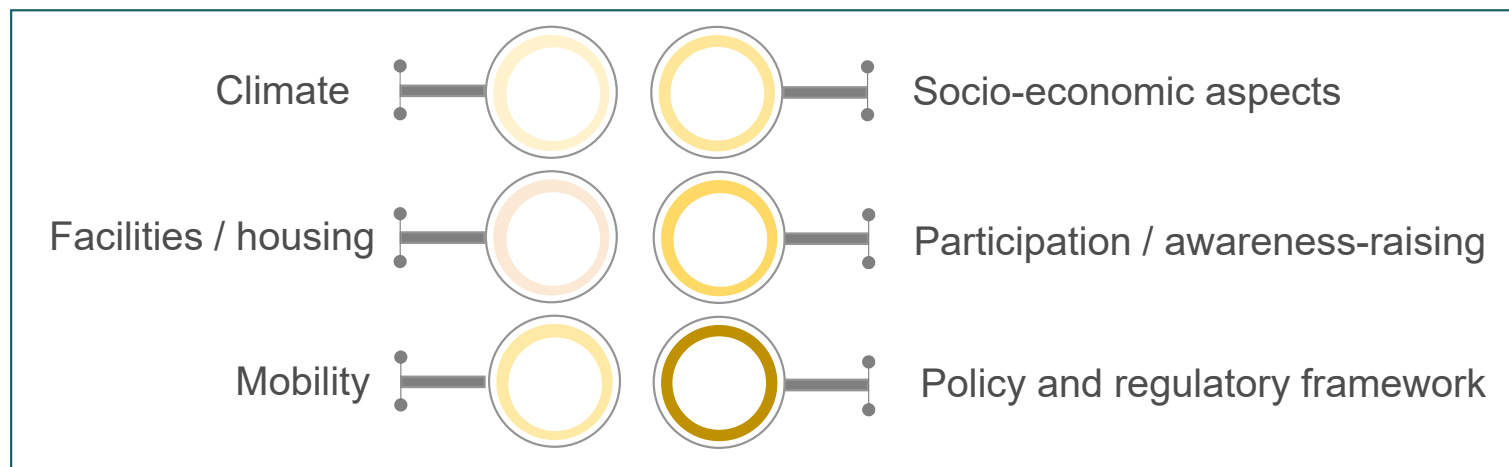
EU CoM Energy Poverty framework: Assessment

Within the Covenant of Mayors – Europe, the pillar is formalized as **Energy poverty**.

In addition to the mandatory indicator:

Share of households or population within the city boundary spending up to X% of income on energy services

local authority within CoM Europe can also report against several identified regional indicators aggregated into six **macro-areas**.



MACRO-AREAS

CoM EU Energy Poverty indicators

Climate

Frequency of heat waves
Frequency of cold waves
Number of heating degree days per year
Number of cooling degree days per year

Facilities / housing

F+G + H band (EPC) dwelling / total number of dwelling
Energy consumption (electricity + heating) per capita / national energy consumption (electricity + heating) per capita
Share of buildings renovated per year
Share of households / population with presence of leak, damp, rot in their dwelling / total households or population
Percentage of households / persons within the municipality experiencing heating discomfort
Percentage of households / persons within the municipality experiencing cooling discomfort
Households / persons connected to the electricity grid / total households or persons
Households / persons connected to the gas grid / total households or persons
EPC bands of dwelling higher than B
Households with centralised heating system / total households
Ownership of heating and cooling systems
Number of social housing apartments/total number of apartments
Average energy demand of social housing buildings / sq.m.
Low absolute energy expenditure (M/2)
Number of households with only oil boilers, wood calefactions, conventional gas boilers
Households with centralised cooling system / total households
Households with centralised cooling system older than 10 y / total households with cooling system
Average age of the buildings
Dwelling ownership
Percentage of households / persons within the municipality with access to clean cooking fuels and technologies
Over and under occupation of dwellings

CoM EU Energy Poverty indicators

Mobility

Population / households not having access to essential services within 1 hour by walking, cycling or public transport / total population
People / households living more than one 1 km from nearest public transport station / number of population
The local public transport travel frequently enough, covering the essential necessities the population
Social housing apartments not having easy access to public transport (*)/ all social housing apartments
Inhabitants / households receiving support to pay public transport services/public transport users

Socio-economic

Percentage of persons / households spending up to XX % their income on energy services
Vulnerable households or persons / total households or persons
Arrears on utility bills / total population or households
Inability to keep home adequately warm
Inability to keep home adequately cool
High share of energy expenditure in income (2M)
Average price of electricity
Average price of gas
Energy related expenditure / local GDP
Citizens / households under poverty threshold / number of citizens / households
At-risk-of-poverty rate
Citizens / households with social support
Money spent to support energy poor households or persons / in relation to local GDP
Energy poor households / persons supported / total energy poor households asking for support
Energy poor households / persons supported / total energy poor households detected
Unemployment rate
Persons aged under 12
Persons aged over 65
Persons with respiratory and circulatory problems
Persons with an education level under lower secondary school

CoM EU Energy Poverty indicators







Policy and regulatory framework

- Existence of energy poverty strategy
- Existing rent regulation
- Specific measures related energy poverty
- Existing incentives of landlord's programs

Participation/ awareness raising

- Awareness-raising campaigns targeting vulnerable households
- Engagement and cooperation with local stakeholders on energy poverty

GCoM: data and repositories

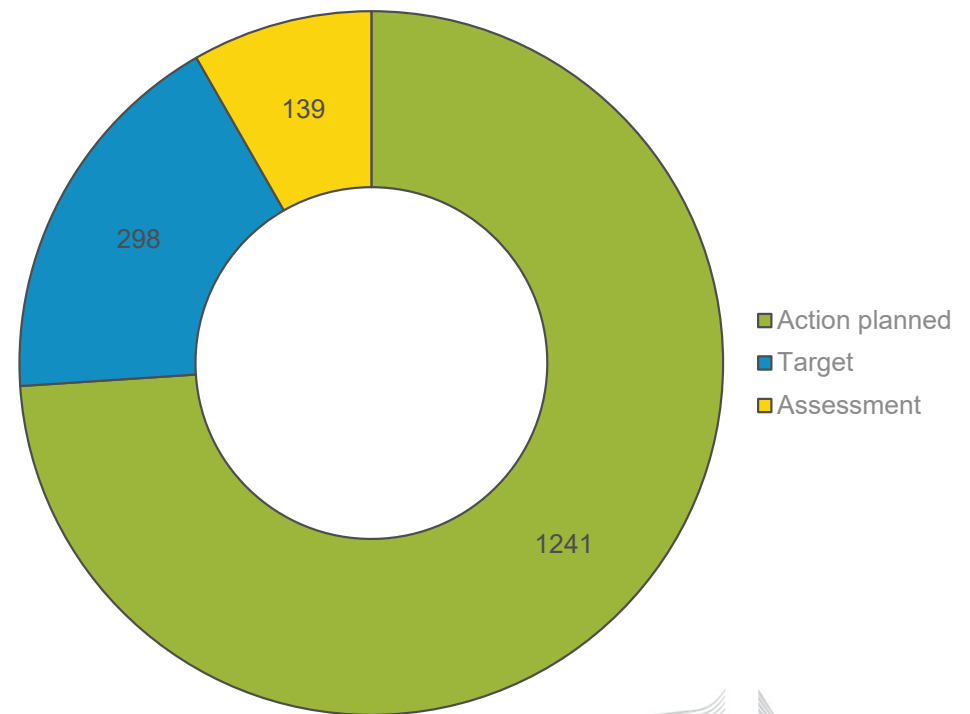
	Geographical coverage	Local Authority's administrative boundary (LAU Level).
	Data population	Assessment: EAPP indicators (min. 1 indicator depending on the region). Target: Minimum one general goal and one target linked to the indicator Actions: EAPP actions description and key attributes
	Time coverage	Data can be reported starting from 1990, according to data availability
	Reference Period	Reporting is mandatory as per 1 January 2025
	Release policy	Data is publicly available, published at https://www.cdp.net/en/data by CDP and at Joint Research Centre Data Catalogue - Datasets - European Commission by JRC
	Reference Area	Worldwide, LAs signing the GCoM and its regional covenants

GCoM recognised Reporting Platforms: [MyCovenant](#) and [CDP-ICLEI Track](#)

GCoM – Energy Access and poverty reported data

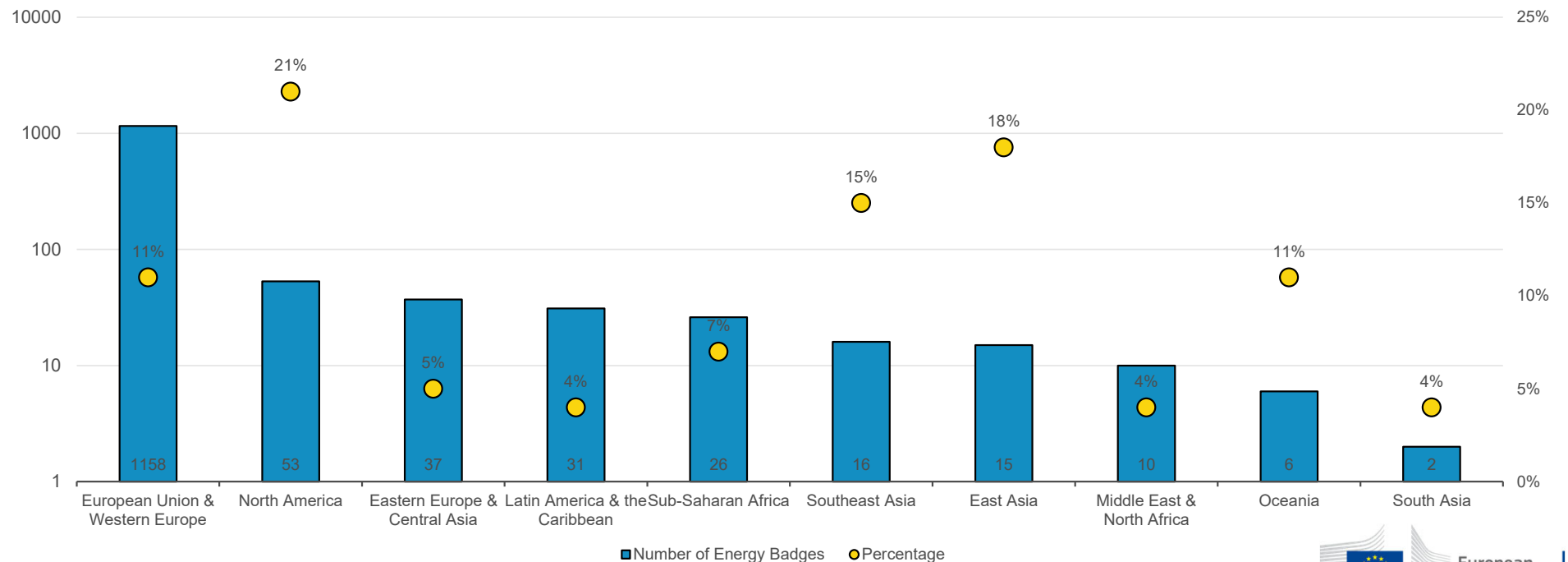
1,354 GCoM signatories have reported at least one Energy Access/Poverty indicator, target or action.

Within one year of launching the Energy Access and Energy Poverty Pillar, and before reporting became mandatory, 10% of GCoM Signatories have already started working on the pillar, either through the assessment or planned actions. The most commonly reported item refers to planned actions (90%), followed by target and assessment. Of these 1,354 signatories, 60% also have completed the full reporting for both climate change mitigation and adaptation.



Comparison with GCoM Signatories in the Region

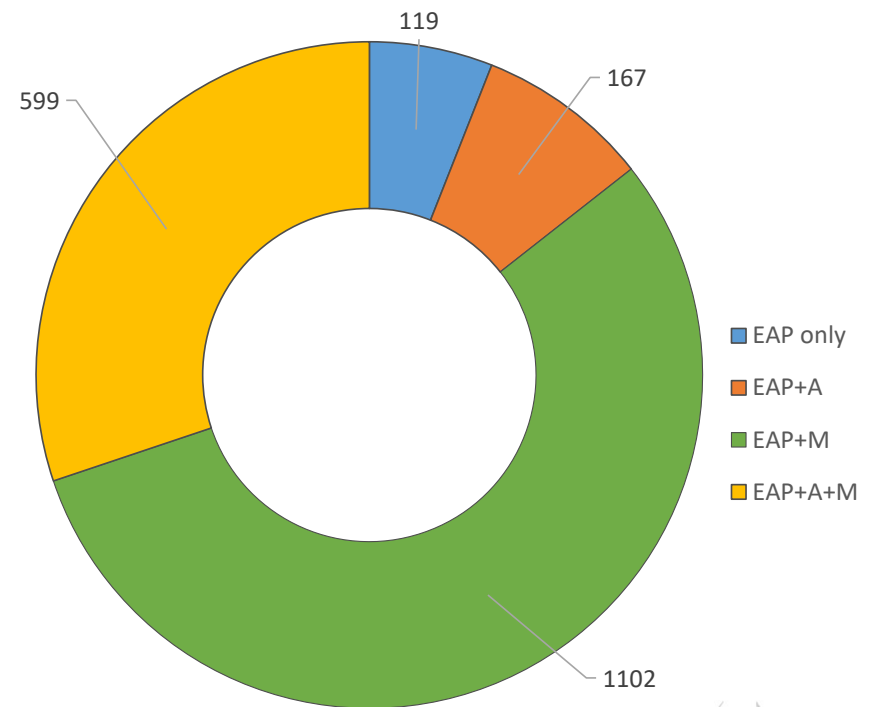
Number of Signatories having reported at least one indicator and/or target and/or action and Comparison with Overall Number of GCoM Signatories in the Region.



Energy Access and Poverty actions

Signatories have already recorded almost 2.000 actions as energy access/poverty related.

70% of them are integrated actions (with Mitigation (M) or Adaptation (A) or both (M+A)) and 30% are energy poverty only actions. Almost all of them are either ongoing or about to start.



CoM – EU reported data



EU Energy Poverty Advisory Hub provides analysis and support on Energy Poverty.



Reporting becomes mandatory as from January 2025.



The assessment has been performed by a limited number of signatories (<50).
The majority of reported indicators pertain to socio-economic and facilities/housing macro-areas.



Energy Poverty actions presented are mainly in connection with mitigation actions.

EAP Framework: challenges and opportunities

CHALLENGES

The framework is able to reveal municipal constraints such as governance limitations, the scarcity of energy data, and financial limitations.

OPPORTUNITIES

The framework has the potential to tailor energy measures, informed by a strong understanding of local dynamics and community engagement.

JRC Technical & scientific support

- Co-chair of the Data Technical Working Group and EAP Subcommittee
- E-learning course on GCoM available at [EU-Academy](#)
- [CoM Regional guidebooks](#) and upcoming CoM EU Guidebook update
- Scientific paper on GCoM EAP Pillar Framework upcoming
- [Data cleaning and validation](#) to ensure the accuracy and reliability of the reported data

Conclusions



First dataset on Energy access and Energy Poverty at the local scale, potentially gathering data for 13000+ local authorities.



Common flexible framework for municipalities worldwide taking into account regional and local contexts and specificities and valid for local authorities of any size.



Strong connection with other key challenges: i.e., Climate Change Mitigation and Adaptation.



Relation between energy poverty and socio-economic characteristics.



Potential for ad-hoc interventions on the different components through multiple types of actions.

Useful Resources

- [EPAH - handbook diagnosis](#)
- [Global Covenant of Mayors Common Reporting Framework](#)
- [Joint Research Centre Data Catalogue - Datasets - European Commission](#)
- [Global Covenant of Mayors](#)
- [Covenant of Mayors - Europe](#)
- [Energy Poverty Advisory Hub](#)
- [EU Science Hub homepage - European Commission](#)
- [EU Academy](#)

Thank you

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