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**Global Covenant of Mayors
Energy Access and Poverty Pillar (EAPP) Annex
Common Reporting Framework**

To be integrated into the Common Reporting Framework document in 2023

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1. Introduction

Energy access and energy poverty (EAP) are important elements for the sustainable development, resilience, and well-being of cities and local governments. The energy access and energy poverty pillar (EAPP), as for mitigation and adaptation, is an integral part of the journey of local government towards a more sustainable future. Therefore, strategies and measures undertaken by cities can address simultaneously more than one single pillar (i.e. mitigation and energy access/poverty).

Municipalities play a key role in facilitating energy access and/or reducing energy poverty. Examples include:

- Undertaking energy data gathering, analysis and evaluations towards action taking regarding households and all assets in a city to understand the gaps in energy supply and energy services provisioning;
- Facilitating energy access by encouraging local renewable energy generation, supporting low-income households, and generating new jobs; and
- Influencing, facilitating, and implementing goals, strategies, and tactics that address energy access and poverty.

GCoM signatories pledge to implement policies that facilitate energy access and/or reduce energy poverty and **shall** undertake measures to:

- Contribute to achieve SDG7 by ensuring access to affordable, reliable, sustainable and modern energy for all;
- Contribute to increase the level of energy access within the boundary of jurisdiction;
- Contribute to reduce energy poverty within the boundary of jurisdiction; and
- Track progress toward these objectives.

GCoM signatories **shall** respect the EAPP reporting requirements. Aligned with the requirements for climate change mitigation and adaptation, the EAPP structure consists of: assessment, target setting and action planning. The reporting timeline will be initiated according to the EAPP activation date. For local governments that are GCoM members before the EAPP activation date, the reporting requirements timeline will start from the EAPP activation date. For local governments joining GCoM after the EAPP activation date, the reporting requirements timeline will start upon the date of joining GCoM.

2. Energy Access and Poverty Assessment

Local governments **shall** prepare and submit an energy access and energy poverty assessment within two years after committing to the GCoM.

The assessment **shall** analyse the energy access and energy poverty conditions of the municipality considering three key energy attributes:

- Secure energy
- Sustainable energy
- Affordable energy

For further information on the rationale behind the three energy attributes please refer to the accompanying Guidance Note (forthcoming in early 2023).

The energy access and energy poverty assessment **shall** provide information on the energy attribute(s) deemed most relevant by each Regional and National Covenant. Region- and country-specific energy sector characteristics are introduced in the Guidance Note.

The energy access and energy poverty assessment is framed by indicators for which local governments are invited to collect and provide information.

In particular:

- The assessment **shall** include at least one mandatory indicator for each energy attribute deemed relevant by the local government's respective Regional/National Covenant.
- The assessment **should** include information on non-mandatory global indicators.
- The assessment **should** include information on regionally relevant indicators.

Local governments **may** voluntarily report against any type of indicator, including indicators part of energy attributes that have not been selected by their respective Regional/National Covenant.

The list of mandatory global indicators is reported below and in Annex A:

- 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

- Percentage of households within the municipality with access to clean cooking fuels and technologies
- Affordable Energy
 - Percentage of households or population within the city boundary that spending up to X% of income on energy service

The list of non-mandatory global indicators is reported below and in Annex B:

- Secure Energy
 - Estimated share of electricity consumed within the municipality but not billed (non-technical losses, illegal connections)
 - Average number of electric supply interruptions in a typical month (or year)
 - % energy consumption per capita from i) electricity, ii) gas, iii) other sources
- Sustainable Energy
 - Total installed energy capacity within local boundary
 - Number of local energy efficiency programs
 - Number of local renewable energy programs
- Affordable Energy
 - Percentage of households within the municipality experiencing heating or cooling discomfort
 - Percentage of clean energy investment at local level going to low- and moderate-income households
 - Price of green electricity

The list of regionally relevant indicators is available in Annex C. The list of indicators reported in the Annex is not exhaustive and can be expanded.

Further detail on the reporting timeline and associated requirements can be found in Section 5 and Annexes A-C.

3. Energy Access and Poverty Targets

Local governments **shall** set and report city-wide targets that facilitate energy access and/or alleviate energy poverty for their communities through a composite approach that considers three distinct, yet interconnected characteristics: secure energy, affordable energy, and sustainable energy.

Local governments shall set their target in line with the universal energy access component of UN Sustainable Development Goal #7 (SDG 7) and set *at least one* target that facilitates energy access and alleviates energy poverty across the three mentioned characteristics within two years upon joining GCoM or, for signatories that are a GCoM members, upon the activation of the EAPP.

(1) Boundary (geographic coverage)

The target boundary **shall** be consistent with the city boundary. Local governments **may** develop goals jointly with neighboring signatory(ies). If the boundary is larger than the city boundary, this needs to be specified.

(2) Target setting

It is recognized that there exist conceptual and practical differences when setting and reporting targets that address energy access and energy poverty. This is in addition to regional and local specificities and contexts.

Local governments **shall** adopt a target for a quantified relative increase of energy access and/or alleviation of energy poverty towards universal access to energy in alignment with SDG 7. The target **shall** define the estimated percentage increase of energy access and/or decrease in energy poverty in 2030 compared to their selected base year.

In addition, local governments **shall** set **at least** one target that addresses energy access and alleviates energy poverty from the regionally selected energy attribute.

Local governments **should** select their target(s) from the list of targets reported below.

Improving access to secure energy

- Increase average duration of available electricity by 2030 in relation to their base year
- Increase the percentage of population or households with access to electricity by 2030 in relation to base year
- “Improve” the average yearly energy consumption per capita (without affecting the level and quality of energy services used)

Improving access to affordable energy

- Reduce percentage of households or population within the city boundary that face energy poverty
- Increase energy efficiency of buildings

Improving access to sustainable energy

- Increase the installed capacity of renewable energy sources (RES) within local boundary

- Increase total energy generated from RES within local boundary
- Increase energy consumption from RES
- Increase the households within the municipality with access to clean cooking fuels and technologies
- “Improve the greenness” of the source mix of thermal energy (heating and cooling) consumed in your city

Local governments **may** choose to select targets from the list above or define other targets of their choosing that correspond to their energy attribute(s) of interest.

Local governments **may** report against additional targets addressing energy access and alleviating energy poverty from the list above.

Local governments **may** also identify and set additional complementing targets suited to their local conditions and needs.

(3) Target year

The target year (the year in which local governments aim to achieve the stated target) **shall** be aligned with national commitments such as Nationally Determined Contributions (NDC) (where applicable) or as set by Regional/National Covenants. However, in alignment with SDG 7 and the Mitigation and Adaptation pillars, an additional target for 2030 **should** be set, in case existing national and/or regional targets aim to be achieved before or beyond 2030.

(4) Base year value

The base year **shall** be the one set within national frameworks or Regional/National Covenants (where applicable or available) or the year used for the energy access and poverty assessment, in which the status of the local government is well documented.

(5) Reporting year value

The target year **shall** not be same or older than the reporting year.

(6) Ambition

When setting a target, local governments **shall** demonstrate commitments to increase in energy access and/or reduction in energy poverty. Local governments **shall** declare these commitments in their plan(s).

(7) Units

The target **shall** be reported as a percentage (%) in relation to the base year. If absolute data is available, signatory **shall** report the percentage in addition to their quantitative data.

4. Climate Action and Energy Access Plan(s)

Local governments **shall** develop plans for climate change mitigation, adaptation (climate resilience) and energy access and/or poverty, which **may** be presented in separate or integrated form.

This section provides guidance and requirements on the energy access plans and/or the dedicated section within integrated climate action plans. It complements the existing climate action plan requirements outlined for climate mitigation and adaptation and integrated plans.

The climate action plan is one of the key steps undertaken by GCoM signatories, it describes the intentions and concrete policies and measures foreseen by the local authorities to address the GCoM commitments. It is also important that the climate action plan (stand-alone or integrated) includes clear provisions for tracking progress and regular progress reporting.

The plan **shall** be formally adopted by the local government and should be in an official language used by the local government. When mainstreamed in sectoral or local development plans, the climate and energy objectives and actions should be clear and able to be monitored.

The timeline for climate action plan's submission is within three years upon joining GCoM. Likewise, the submission of climate action plans or standalone plans that address energy access **shall** occur within three years upon joining GCoM.

As with mitigation and adaptation plans, EAP stand-alone action plan(s) or the EAP section of an integrated climate action plan **shall** include the following information:

- Name the local government(s) which formally adopted the plan and the date of adoption.
- Lead author team/Action Plan responsible/coordination team in the local governments
- Description of the stakeholder engagement processes
- Energy access targets;
- All actions of priority sectors (identified from energy access and poverty assessments and indirectly from the other pillars' assessments)
- Descriptions for each action
- Synergies, trade-offs, and co-benefits of mitigation, adaptation actions and energy access
- Where a stand-alone action plan is made, an indication of how the actions have been incorporated into statutory and sectoral development plans of the local government should be added.

The EAP target(s) **shall** be in line with requirements outlined in section 3 above. Local government should also employ the metric and indicators from the assessments for tracking the progress and monitoring plans.

For each action/action area/sector, the action plans **shall** provide the following information:

- Brief description of the action/action area/sector
- Assessment of energy saving, renewable energy production, vulnerabilities tackled, potential (optional) GHG emissions reduction by action.

- Related indicators and how the implementation of the action impacts the value of the EAP indicators
- Financial strategy for implementing the action/action area/sector
- Information on the implementation status, cost and timeframe
- Implementing agency(ies)
- Stakeholders involved in planning and implementation
- The identification of policy instrument(s) foreseen to implement the actions

In addition, the plan **should** contain information on how the actions contained in the plan have been prioritized.

Actions are the core of climate action plans; therefore, local governments **should** report actions in as much detail as possible.

5. Monitoring and reporting

The reporting framework includes timelines for different elements of reporting. The following table shows the overall reporting time after joining GCoM.

Reporting elements	Commit to join GCoM (Year 0)	Years 1+2	Year 3	Year 4	Year 5	Year 6	Year 7
Baseline GHG emissions inventory	submit by year 2 at the latest						
Monitoring GHG emissions inventory						submit four years after GHG emission inventory and every subsequent four years thereafter at the latest	<i>exception:</i> submit five years after baseline inventory only if accompanying second progress report
Risk and vulnerability assessment	submit by year 2 at the latest						
Energy access and poverty assessment	submit by year 2 at the latest						
Targets and goals (mitigation, adaptation, and energy access & poverty)	submit by year 2 at the latest						
Climate action plan(s) (mitigation, adaptation, energy access & poverty, or integrated plan)	submit by year 3 at the latest						
Progress report					submit every two years after submitting the corresponding climate action plan		submit every two years after submitting the corresponding climate action plan

The submission of integrated climate action plans or standalone plans that address energy access **shall** occur within three years upon the official release of the update of the EAPP or within three years upon joining GCoM if afterwards

Monitoring

The local government **shall** submit monitoring reports every two years after submitting the action plan(s). The monitoring reports **shall** provide information about the implementation status of each action/action area/sector contained in the action plan, helping to monitor progress made. The local government **shall** update and resubmit the action plan(s) when there are significant changes to the existing plan(s). The local government should also report the implementation cost for each action/action area/sector.

Annex A. Global Mandatory Indicators

Indicator	Response format options	Description	Existing sources/methodologies
Access to secure energy			
Percentage of municipality population or households with access to electricity	[%] of households or [%] of municipality population	Signatory could detail % of on-grid and % of off-grid electricity access.	data.worldbank.org (country level)
Average duration of available electricity	[h/day] or [days/y] or [h/week] or [min/year] or [h/y]	The average length of time during which electricity is available (or inversely, unavailable). In the case of unavailable periods, please refer to the Guidance Note.	data.worldbank.org (country level)
Average yearly energy consumption per capita	[kWh/year/person] or TEP/person		data.worldbank.org (country level)
Access to sustainable energy			
Installed capacity of renewable energy within local boundary	[MW]	Provide value disaggregated per type of technology (wind, hydro, solar, etc)	Local utilities/energy authority
Total energy generated from renewable energy sources within local boundary	[MWh]	Provide value disaggregated per type of technology (wind, hydro, solar, etc)	Local utilities/energy authority
Energy consumption from renewable energy sources	[MWh]	Municipality to provide information regarding PPAs or other schemes used to purchase green electricity used within the municipality boundary	Local utilities/energy authority
Source mix of thermal energy (heating and cooling) consumed in your city	[%] per thermal energy source	Percentage of the energy mix for each of the following: Coal, Gas, Oil, Bioenergy (Biomass and Biofuels), Geothermal, Solar (Thermal), Waste to energy (excluding biomass component).	Local government/utilitie
Percentage of households within the municipality with access to clean cooking fuels and technologies	[1 to 5]	Qualitative 1: <10% 2: 10.01-30% 3: 30.01-50% 4: 50.01-75% 5: >75%	Household surveys data.worldbank.org (country level)

Access to affordable energy

Indicator	Response format options	Description	Existing sources/methodologies
<p>Percentage of households or population within the city boundary that face energy poverty</p> <p>-----</p> <p>Threshold used for energy poverty</p>	<p>[%]</p> <p>-----</p> <ul style="list-style-type: none"> ' - up to 5% of income spent on energy services - up to 10% of income spent on energy services - up to 15% of income spent on energy services - up to 20% or more of income spent on energy services - other please specify - do not measure energy poverty within the municipality boundary 	<p>The Municipality can provide additional information if available</p> <p>Sub-Saharan Africa signatories have the possibility to answer also the regional indicator 'Electricity bill collection rate'</p>	<p>Potential sources (valid only for some countries):</p> <ul style="list-style-type: none"> - https://www.aceee.org/research-report/u2006 - https://www.energypoverty.eu/indicators-data

Annex B. Global Non-mandatory Indicators

Indicator	Response format options	Description	Existing sources/methodologies
Access to secure energy			
Estimated share of electricity consumed within the municipality but not billed (non-technical losses, illegal connections)	[1 to 5]	1: <5% 2: 5.01-10% 3: 10.01-25% 4: 25.01-50% 5: >50%	Possibly from distribution companies or locally run surveys
Average number of electric supply interruptions in a typical month (or year)	[n°/month] or [n°/year]	Interruptions would include power outages, network overload, weak power capacity, extreme voltage fluctuations, other Signatory may also indicate the average duration or indicate the number of significant ones (significant is locally determined)	Distribution companies
% energy consumption per capita from - electricity - gas - other sources (please list)	[%]	Measures the carrier consumption, rather than the source consumption	
Access to sustainable energy			
Total installed energy capacity within local boundary	[MW], possibility of disaggregation. Non-renewable energy sources is not mandatory (or Included Elsewhere), while renewable energy sources segments are mandatory (see three indicators below)	Signatories can voluntarily provide a full disaggregation including all type of energy sources.	Local utilities/energy authority
Number of local energy efficiency programs	[n° (municipality)] / disaggregate per sector plus extra info (n° beneficiaries, n° stakeholders, energy savings, GHG emissions reduced, amount of mobilized investments)	Sub-Saharan Africa (SSA) signatories have the possibility to respond to the regional indicator "financial and regulatory incentives for renewable energies in place"	Local government
Number of local renewable energy programs	[n° (municipality)] / disaggregate per sector plus extra info (n° beneficiaries, n° stakeholders, energy savings, GHG emissions reduced, renewable energy generated, amount of mobilized investments)	SSA signatories have the possibility to respond to the regional indicator "financial and regulatory incentives for renewable energies in place"	Local government

Access to affordable energy

Indicator	Response format options	Description	Existing sources/methodologies
Percentage of households within the municipality experiencing heating or cooling discomfort	[1 to 5]	qualitative 1: <5% 2: 5.01-10% 3: 10.01-25% 4: 25.01-50% 5: >50%	Household surveys
% of clean energy investment at local level going to low- and moderate-income households	[%]	This indicator helps provide some starter detail from an equity perspective, helping measure the extent to which clean energy is affordable	Local government
Price of green electricity	Price/kWh	Average price of green electricity per kWh Please refer to the Guidance Note for further details.	

Annex C. Regional Indicators (Non-mandatory)

Description	Unit
MW of installed rooftop and community solar in your jurisdiction.	MW
Percentage of households adopting energy efficient appliances through municipality run or nationwide energy efficiency programs	[%]
% of population employed in non-renewable energy sectors	[%]
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	[%]
% of public building expenditure on energy	[% electricity; % thermal]
Average percentage of revenue spent in energy generation for: - % for industries - % for commercial - % for tertiary of the municipality	[%]
Financial and regulatory incentives or subsidy mechanisms in place for clean cooking	[binary; n°]
Percentage of population/households relying on the traditional use of biomass for cooking	[%]
Time spent and distance covered gathering fuelwood	Numbers (time and distance)
Number of improved cookstoves being used	Number
Percentage of household income spent on cooking	[%]
Electricity bill collection rate	[%] of subscribers regularly paying bill
Transmission and Distribution losses	[%]
Average fuel poverty gap	[%]
Population able to/willing to pay for electricity	[%]
Population able to/willing to pay for clean cooking	[%]
Minigrids and stand-alone systems	[%]
Sustainable production for clean cooking (i.e charcoal)	[Y/N]
Awareness and/or Education programmes in place on energy access and clean cooking	[Y/N]
Frequency of heat waves	Average per monthly/year

Frequency of cold waves	Average per monthly/year
Number of heating degree days per year	Number of HDD and CDD /year
Number of cooling degree days per year	Number of HDD and CDD /year
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.	[kWh/sqm]
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	Years
Dwelling ownership	[%]
Over and under occupation of dwellings	[%]
The local public transport travel frequently enough, covering the essential necessities the population	Yes / No
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	[%]
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	[%]
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	[%]
Existence of energy poverty strategy	Yes / No
Existing rent regulation	Yes / No
Specific measures related energy poverty	Yes / No
Existing incentives of landlord's programs	Yes / No
Awareness-raising campaigns targeting vulnerable households	Yes / No
Engagement and cooperation with local stakeholders on energy poverty	Yes / No

Annex D. Members of the Energy Access and Poverty Pillar Subcommittee

Below are the members of the Energy Access and Poverty Pillar Subcommittee at time of launch of the Pillar. The EAPP Subcommittee operates under the GCoM Data Technical Working Group (D-TWG).

Co-Chairs	
Marco Pittalis	Joint Research Centre, European Commission
Valentina Palermo	Joint Research Centre, European Commission
Members	
Chris Dixon O'Mara	CDP
Emmanuel Michael Biririza	UN-Habitat
Irene Skoula	C40 Cities Climate Leadership Group
Karishma Asarpota	ICLEI World Secretariat
Miguel Morcillo	Covenant of Mayors – Europe / Climate Alliance
Rohit Sen	ICLEI World Secretariat
Teresa Aristegui	European Commission - DG ENER
Tabare Curras	WWF Cities
Andy Deacon	GCoM Global Secretariat
Benjamin Jance IV	GCoM Global Secretariat
Peter Haems	GCoM Global Secretariat
Laura Noriega (until July 2022)	ICLEI World Secretariat
Shannon McDaniel (until July 2021)	GCoM Global Secretariat
Silvia Rivas-Calvete (until June 2021)	Joint Research Centre, European Commission