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| Programme: | Management of natural resources and safeguarding of ecosystem services for sustainable rural development in the South Caucasus (ECOserve)  |
| PN: | 2018.2062.0-004.00  |
| Assignment: | Baseline data collection – Energy demand, supply and efficiency, Georgia |
| Period: | 10.12.2018 to 31.05.2019 |

1. **Brief programme information**

The programme “ Management of natural resources and safeguarding of ecosystem services for sustainable rural development in the South Caucasus” (ECOserve) is part of the wider German support in the priority area “Environmental policy, conservation and sustainable use of natural resources in the South Caucasus”, which aims at the sustainable use of natural resources, biodiversity conservation and climate protection, particularly for the benefit of the rural population, and at increasing the share of renewable energies in the energy mix and enhancing energy efficiency.

The objective of ECOserve is to improve the pre-conditions for the sustainable and biodiversity-friendly use of natural resources in the prevailing land-use systems in the South Caucasus, with a special focus on energy security for the rural population.

ECOserve primarily contributes to achieving the SDG 15 (Protect, restore and promote sustainable use of terrestrial ecosystems) of the UN Agenda 2013, but also to achieving SDG 7 (Ensure access to affordable, reliable, sustainable and modern energy for all), SDG 13 (Take urgent action to combat climate change and its impacts), SDG 1 (End poverty in all its forms everywhere), and SDG 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all).

The programme addresses the core problem in each of the three countries of the South Caucasus, that the main land-use system (forests in Georgia, pasture land in Armenia, agriculture land in Azerbaijan) is threatened by serious, progressive degradation. Furthermore, the rural population in Armenia and Georgia struggles with energy insecurity. Across various levels, the data, regulations, practices and skills required for the sustainable and biodiversity-friendly use of natural resources are lacking.

State and private groups of resource users in rural areas of the South Caucasus, especially farmers, shepherds, state forestry enterprises and rural households that use fuelwood or manure as a source of heating energy, are the main target groups of ECOserve.

Political partners and lead executing agency of the programme are in Armenia the Ministry of Territorial Administration and Development (MoTAD), in Azerbaijan the Ministry of Agriculture (MoA), and in Georgia the Ministry of Environmental Protection and Agriculture (MoEPA).

The programme addresses the predominant land use systems in the three countries by integrating environmental protection and natural resource conservation into the respective national reform processes. In rural Georgia and Armenia, it further addresses the issue of energy poverty.

The key outputs of ECOserve are as follows:

1. The availability of data as a basis for decision-making for the sustainable, biodiversity-friendly management of natural resources is improved.
2. The legal framework for the sustainable use of natural resources and the safeguarding of ecosystem services is improved.
3. Adapted practices for sustainable, biodiversity-friendly natural resource management in rural areas of the South Caucasus are available.
4. Information and education for resource users, service providers and specialised government bodies on sustainable and biodiversity-friendly natural resource management is improved.
5. Exchange between professionals of the three countries on the sustainable and biodiversity-friendly use of natural resources is promoted.

The German commitment for the programme is up to EUR 13,100,000 for the three countries for the duration of three years (December 2018 to November 2021).

In October 2016, GIZ received the accreditation as International Accredited Entity (AE) from the Green Climate Fund (GCF). In July 2018 GIZ submitted a concept note (CN) to GCF for the project “Enabling implementation of forest sector reform in Georgia to reduce GHG emissions from forest degradation and build ecosystem resilience to climate change” (see Annex 1) which was reviewed and commented by the GCF Secretariat in September 2018.

Taking those comments into consideration, GIZ is preparing a GCF Funding Proposal (FP) which is based on the CN for the project and which will include elements of technical cooperation (TC) as well as financial cooperation (FC) components.

1. **Context**

ECOserve formally is a new programme and not a successor programme of the IBiS programme (Integrated Biodiversity Management in the South Caucasus). Nonetheless, ECOserve builds on the experiences of IBiS. Partners of IBiS by and large continue to be partners of ECOserve (with the one major exception that the political partner in Azerbaijan will not be the Ministry of Ecology and Natural Resources any more, but the Ministry of Agriculture).

In Georgia, ECOserve will focus on two interlinked topics – sustainable forest management and the promotion of energy efficiency and alternative fuels/renewable energy to combat forest degradation and, thus, contributing to reduced emissions of greenhouse gases (GHG) and strengthening forest ecosystem resilience. The wider pilot region of ECOserve in Georgia is Kakheti with a special focus on Akhmeta municipality, including Tusheti (and possibly Dedoplistskaro municipality – to be confirmed by partners).

The intervention logic of ECOserve and the planned GCF project are closely interlinked. Timewise, ECOserve starts about two years earlier given the GCF proposal is accepted timely. This will allow preparing well founded baselines for rural energy demand, supply and efficiency, market evaluations for energy efficient products, as well as to continue supporting Georgia’s ongoing forest sector reform (under the umbrella of the National Forest Programme process – NFP). It is further expected that the ongoing first National Forest Inventory (NFI), as well as forest management inventories on 100,000 ha will have been completed by the time the GCF project starts. Both inventories will provide the basis for introducing the principles of sustainable ecosystem-based forest management on the ground to be further supported by the GCF project.

Georgia’s forests play a pivotal role in regulating net greenhouse gas (GHG) emissions of Georgia and their sink potential is critical in securing net removal of GHG emissions. Climate change impacts and the demand for fuelwood from rural population, however, puts significant pressure on forests resulting in significant degradation of forests and loss of its carbon absorption capacity.

In order to address this problem, both projects enable the Government of Georgia to implement its forest sector transformation program by supporting the establishment of a nation-wide sustainable forest management (SFM) system at policy, planning and implementation levels. The projects will thus help the Government of Georgia to reach its ambitious forest policy goal to cover 1.8 million hectares of NFA-managed forests with SFM that will ensure the improvement of quantitative and qualitative characteristics of the Georgian forests. The GCF project thereby reduces GHG emissions from forest degradation by 4 million tCO2eq and builds forest ecosystem resilience to climate change on 250,000 ha to achieve Georgian’s NDC target (in the target regions Kakheti, Mtskheta-Mtianeti and Guria). The complementary objective of the projects is to promote market development for energy efficient (EE) and alternative fuels (AF) to address the main driver of Georgia’s forest degradation, i.e. unsustainable fuelwood consumption by rural population. To its end, it is expected to facilitate over 20-fold increase in the annual sales of improved wood stoves and other EE/AF solutions in rural areas thereby effectively reducing annual demand for fuelwood by up to 40% compared to baseline.

The GCF project will consist of a technical and a financial cooperation component and will follow a two-pronged approach to achieve its objective. Under Component 1 “Sustainable Forest Management” the GCF project will support the Ministry of Environmental Protection and Agriculture (MoEPA), NFA and the DES (Department of Environmental Supervision) in putting in place main building blocks of SFM at national level in the form of appropriate policy and regulatory environment, knowledge and data, as well as institutional capacities. At the local level, the project will support SFM implementation in three targeted regions covering, in line with Georgia’s NDC conditional target, up to 250,000 ha. By doing so, the project will create and demonstrate an appropriate institutional and business model for SFM, which will then be replicated by the NFA and DES to cover all forest areas under their mandate.

Under Component 2 “Rural market development for energy efficiency and alternative fuels”, the GCF project will address the main driver of forest degradation, unsustainable fuelwood consumption, by promoting the development of a market for energy efficient technologies and alternative low-carbon fuels. This will be done by work at the national level on creating a conducive policy and regulatory framework for EE and AF market development in rural areas, as well as at the local level predominantly in the targeted regions by supporting the development and strengthening of the supply chain for EE and AF, creating consumer awareness about available alternatives and implementing a blended financial support mechanism in partnership with financial institutions to stimulate investment in EE and AF technologies and production capacities. As a result of this EE/AF market development, it is expected that fuelwood demand in the targeted regions will be substantially curtailed thus enabling implementation of the project’s SFM objective.

1. **Objectives and tasks**

The objective of the assignment is to support GIZ in getting a comprehensive overview of the energy demand, supply and efficiency in Georgia, both, at national, as well as at regional (Kakheti, Mtskheta-Mtianeti and Guria) level. Besides providing important baseline data for ECOserve’s pilot region, Kakheti, the surveys will further help GIZ in developing a technical feasibility study and full funding proposal for the Green Climate Fund project, focussing on Component 2: Energy Efficiency and Alternative Fuels (see above).

The final result of the assignment will be written input in form of texts, tables, figures and data sets/data bases. These inputs will be used to plan the project components related to energy efficiency and alternative energy under ECOserve in Georgia, as well as the justify and design the structure of Component 2 of the GCF project.

Collection for this assignment means: Screening of all available primary (official statistics, government surveys etc.) and secondary (studies, reports etc.) sources to identify the required data and information. In case the data is not available, conduct specific data and information collection via surveys, focused group discussions or interviews with relevant persons (households, governments, experts etc.). In case primary data cannot be generated, develop sound assumptions with justifications and clear methodologies. The collection and/or derivation of data and the respective methodologies have to be well documented (format to be agreed upon with GIZ and international experts at the start of the assignment). Wherever possible, data and information need to be gender-differentiated.

Verification for this assignment means: GCF applies strict requirements on the quality of data and information. Verification of primary, secondary and developed data/information as well as of the assumptions is therefore crucial. The consultants ensure that all data/information are verified and quality proofed, and, if possible are triangulated and checked / backed up by more than one independent source. All sources need to be referenced and checked.

Analysis for this assignment means: To develop a clear project narrative based on sound analysis of data and information, certain analyses of collected and verified data and information might be necessary. The scope and level of detail for analyses will be defined at the beginning of the assignment together with the international experts and GIZ.

These three steps have to be applied for the following detailed tasks and areas:

**At national level:**

Task 1: Collection, verification and analysis of data and information on the policy/institutional framework for energy efficiency and renewable energy/alternative fuels on national level.

The consultants will collect, verify and analyse data and information on the following policy framework items:

* Compilation and review of Georgia’s obligations regarding energy efficiency (EE) and renewable energy (RE)/alternative fuels (AF) in the light of international processes (such as the EU Association Agreement, but also others) with a focus on EE/RE/AF application in building sector
* Institutional framework: Agencies in charge of policies and regulations for EE and RE/AF and their capacities (a format for the capacity needs assessment will be provided at the beginning of the assignment)
* Status and plans/ schedule of regulatory framework:
* Minimum energy performance requirements for buildings (energy building code)
* Minimum energy performance requirements for appliances, in particular stoves
* Quality standards for stoves, insulation materials, briquettes, SWH systems
* Intended (or working) auditing institutions and frameworks
* Incentives for producers/consumers of EE, RE/AF solutions: tax exemption/reduction, discounts, non-financial incentives, etc.
* Status and plans/ schedule of NEEAP and REAP and other relevant policy documents

Task 2: Collection, verification and analysis of data and information on the energy efficiency and alternative fuel market profile on national level.

The consultants will collect, verify and analyse data and information on the status of local markets for energy efficiency and alternative fuel solutions in particular for EE/AF application in rural areas (households, SMEs, public buildings). This entails producers, range of products, product characteristics, process, volumes of production and sales, size of enterprises, existence of certified products (incl. existing certification options and gaps) etc. The products to be analysed are: (1) energy efficient stoves, (2) building insulation materials, (3) solar water heaters, and (4) briquettes.

Task 3: Collection, verification and analysis of data and information on the financing framework for energy efficiency and alternative fuels.

The consultants will collect, verify and analyse data and information on the status of the financing framework for energy efficiency and alternative fuel solutions, with a special focus on regional differences (especially of the pilot regions!). This entails current financing options for small and medium enterprises (SMEs), households and public buildings:

* Access to finance for SMEs from EE/AF sector and households for EE/AF products:
* Market terms for SME / household loans: Interest rate, maturity, size, requirements (collateral, min turnover), banks and other institutions working with SMEs/ households in the specific sector, current market volume and loan performance
* SME support schemes by the Government/IFIs/donors in general and for EE/AF sector specifically: concessional credit lines, any forms of subsidies/grants, etc.
* Financing of public building retrofits:
* Average costs of public building renovation works, GEL/m2 in current practice
* Main sources and average annual budget for capital renovation of public buildings (national and/or in targeted regions)

Task 4: Collection, verification and analysis of data and information on the energy demand, supply and efficiency profile.

The consultants will collect, verify and analyse data and information on the energy demand, supply and efficiency profile at national level (aggregated by regions). This shall allow checking the representativeness of the three pilot regions (of the GCF proposal).

* Energy demand profile data and information encompasses e.g. building stocks, building types, age, current state, photos representative buildings, energy consumption per type of building, appliances in use etc.
* Energy supply/efficiency profile data and information encompasses the key sources of energy supply for heat and hot/water, in particular in rural areas (level of gasification: current situation and plans for the future; overview of prevailing energy conversion technologies (e.g. stoves) in use: performance characteristics (efficiency range), source of production; fuelwood supply: sources, channels, type of wood).

Task 5: Collection, verification and analysis of data and information on past and ongoing baseline projects of international or national institutions in the sector.

The consultants will collect, verify and analyse data and information on past (back to 2010) and ongoing projects in the energy sector (including summaries of existing evaluation reports), which relate to the topics of ECOserve and the GCF funding proposal. This entails projects for technical assistance and for financial assistance:

* Technical assistance: Donor, main objective and results (incl. lessons learnt with a special focus on obstacles for up-scaling), budget, duration, link to web info, if available and collaboration potential
* Financial assistance: (International) finance institutions’ lending for:
* Energy efficient building retrofits: Number and type of buildings, financing volume, status, targeted level of energy saving and/or achieve results (for completed projects)
* SME (in particular if there is a specific focus on green or climate friendly SMEs): type of instrument (loan, equity, guarantee), volume, conditions, partner banks/local financial institutions, type of beneficiary SMEs, status/duration

**At local/target region level:**

All data and information need to be disaggregated by gender and region (i.e. Kakheti, Mtskheta-Mtianeti and Guria), and, where reliable and verifiable data exist, also at municipality and town/village/settlement level. If such data do not exist at municipality or lower administrative levels, additional survey tools need to be applied (see “Collection for this assignment” further above), to be agreed upon with GIZ.

Task 6: Collection, verification and analysis of data and information on the socio-economic, demographic and administrative profile of each of the three target regions.

The consultants will collect, verify and analyse data and information on the socio-economic, demographic and administrative profile of each of the three regions. Socio-economic, demographic and administrative data and information encompasses e.g. total population, number of households, income per households /household groups, government administration structure, municipality administration profiles, key economic sectors, number and profile of SMEs, rate of unemployment, etc.

Task 7: Collection, verification and analysis of data and information on the energy demand, energy supply/energy efficiency profile of each of the three target regions.

The consultants will collect, verify and analyse data and information on the energy demand profile of each of the three regions. Energy demand profile data and information encompasses e.g. building stocks, building types, age, current state, photos representative buildings, energy consumption per type of building, appliances in use etc. There might be the need to conduct sample energy audits and household surveys, in case the respective information is not available.

The consultants will collect, verify and analyse data and information on the energy supply/energy efficiency profile of each of the three regions. Data and information shall be disaggregated for public buildings, SMEs and private households. Energy supply/energy efficiency profile data and information encompasses e.g.

* Key source of energy supply for heat and hot/water in the region, in particular in rural areas
* Level of gasification: current situation and plans for the future
* Overview of prevailing energy conversion technologies (e.g. stoves) in use: performance characteristics (efficiency range), source of production
* Fuelwood supply: sources, channels, type of wood

Task 8: Collection, verification and analysis of data and information on past and ongoing baseline projects of international or national institutions in the sector in the three regions.

The consultants will collect, verify and analyse data and information on past (back to 2010) and ongoing projects in the energy sector (including summaries of existing evaluation reports), which relate to the topics of ECOserve and the GCF funding proposal. This entails projects for technical assistance and for financial assistance:

* Technical assistance: Donor, main objective and results (incl. lessons learnt with a special focus on obstacles for up-scaling), budget, duration, link to web info, if available and collaboration potential
* Financial assistance: (International) finance institutions’ lending for:
* Energy efficient building retrofits: Number and type of buildings, financing volume, status, targeted level of energy saving and/or achieve results (for completed projects)
* SME (in particular if there is a specific focus on green or climate friendly SMEs): type of instrument (loan, equity, guarantee), volume, conditions, partner banks/local financial institutions, type of beneficiary SMEs, status/duration

Additional quantitative and qualitative data and information needs may arise during implementation of the assignment. As these tasks cannot be quantified at this stage, an optional number of up to 30 person days is foreseen to be confirmed if needed by GIZ (see schedule and time demand).

The consultants will be responsible for planning and supporting the required assessments and dialogues with stakeholders (beneficiaries, funding partners, national counterparts, local authorities; co-financing institutions and potential implementation partners) for completing the assignment, and the timely delivery of the agreed documents. They will coordinate their work with relevant GIZ units and international experts. The work of the consultants will build on the project design (proposed module) of ECOserve and the existing concept note and pre-feasibility study of the proposed GCF project, including field research and other analyses ordered by the GIZ. The concept note, accompanying annexes and studies of GIZ or other relevant institutions will be made available to the consultants.

Nota bene: The outcome of the assignment shall further contribute to a long-term, initially informal exchange between all respective partners involved in the sector in Georgia, similar to the National Forest Programme (NFP) process in the forest sector.

1. **Expected outputs**

Each task specified under 3 will result in a well-structured and designed Word/Excel report in English. Tasks 5 and 8 shall lead to a database including bibliographic details, summaries of the collected reports and web-links.

The reporting format as well as the to be collected data and information will be re-confirmed, extended and specified in more detail at the beginning of the assignment together with GIZ and international experts. Individual reports may be combined, depending on the agreement between GIZ and the consultants.

All documents shall be delivered electronically (text and spreadsheet files) in English language to GIZ.

1. **Time frame and work schedule**

The consultant has to follow the deadlines for submission of deliverables, as follows:

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| --- | --- | --- | --- |
| **Level** | **Task** | **Expected Time Input**  | **Submission deadline** |
|   |   | (in person days, up to) |
| National level | Task 1: Collection, verification and analysis of data and information on the policy/institutional framework for energy efficiency and renewable energy/alternative fuels on national level. | 10 | 15 January 2019 |
| Task 2: Collection, verification and analysis of data and information on the energy efficiency and alternative fuel market profile on national level. | 20 | 31 January 2019 |
| Task 3: Collection, verification and analysis of data and information on the financing framework for energy efficiency and alternative fuels. | 5 | 15 January 2019 |
| Task 4: Collection, verification and analysis of data and information on the energy demand, supply and efficiency profile. | 5 | 15 January 2019 |
| Task 5: Collection, verification and analysis of data and information on past and ongoing baseline projects of international or national institutions in the sector. | 15 | 15 January 2019 |
| Regional level | Task 6: Collection, verification and analysis of data and information on the socio-economic, demographic and administrative profile of each of the three target regions. | 10 | 15 January 2019 |
| Task 7: Collection, verification and analysis of data and information on the energy demand, supply and efficiency profile. | 30 | 15 February 2019 |
| Task 8: Collection, verification and analysis of data and information on past and ongoing baseline projects of international or national institutions in the sector in the three regions. | 5 | 15 January 2019 |
|   | Availability for refinement and additional collection, verification and analysis of additional data and information sets. | 50 | 31 May 2019 |
|   | **Total days up to** | **150** |   |

The contract period is longer than the deadlines of the individual tasks in order to allow time for refining data and answering possible questions by GCF. The maximum total working days for the Consultant to develop the above-listed deliverables is **up to 150 working days**.

1. **Requirements on the format of the offer**

The consultant shall submit a technical proposal for the assignment, including up-dated CVs of the experts proposed, as well as (in a separate envelope) a financial offer.

1. **Implementation Arrangements with GIZ**

The GIZ planning officer for GCF projects, Lutz Jarczynski, the GIZ team leader in Georgia, Christian Gönner, the energy efficiency expert of the GIZ Georgia project, Natia Gobejishvili, GIZ’s senior forestry advisor, Giorgi Kolbin, and the international energy efficiency expert Marina Olshanskaya will be the main counterpart to the Consultant on the side of GIZ. The counterparts, in agreement with the local GIZ country management will have responsibility to review and accept all outputs. At the discretion of the GIZ counterparts, other GIZ staff, from the GCF key account managers, other related units from HQ or GIZ country staff may also review and comment the reports and analyses.

The Consultant shall report to Lutz Jarczynski (GIZ HQ) and Christian Gönner (Team leader Georgia).

1. **Qualification requirements for the consultant**

The consultant(s) shall have the following qualification and experience (see also “assessment grid”)

In its bid, the bidder shall propose and describe a Consultant Team capable of performing the necessary tasks. Below, a ‘standard’ – generic – team structure is presented. The bidder can, if he/she wishes, use this ‘standard template’; alternatively, he/she can, with justifications, present alternative team structures. However, the main competencies and task have to be covered by the alternative team structure.

* Team Leader. Responsible for overall findings, reports, annexes and other supporting documents, as well as coordination of the Consultant Team members, liaison with GIZ and project stakeholders, quality control and version control.
* Energy Policy and Sector Specialist. Responsible for the policy and institutional aspects of the assignment.
* Energy Efficiency Technical Specialist. Responsible for the technical aspects of the assignment.
* Financial Expert. Responsible for the economic and financial aspects of the assignment.
* Researcher Pool. Responsible for information collection, field work and analysis support.

Where the ‘standard’ team structure is proposed, the Consultants shall have the following minimum qualification profiles:

Team Leader

Profile General qualification:

* Master’s degree or higher in a relevant discipline (e.g. energy, economics, natural resources)
* Experience (minimum 5 years) in managing multi-expert consulting teams and working on feasibility studies, larger research assignments and or designing donor-funded energy (climate change) projects

Specific qualification:

* At least 8 years of professional experience in donor related research and projects with specific experience in the areas of energy efficiency, renewable energy and energy in general
* Successful track record in preparing international and national studies and research assignments in the energy sector
* Demonstrated professional experience in scientific research methodologies

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| **Profile** | **General qualification:*** Master’s degree or higher in energy, environment or natural resources
* At least 7 years of professional experience in the energy sector

**Specific qualification:*** Professional working experience (minimum 5 years) in energy policy and in/with sector institutions in Georgia.
* Successful track record in energy policy analysis and/or design and/or advice
* Demonstrated professional experience with energy efficiency and renewable energy topics in Georgia

**Language skills:*** Excellent English language skills (i.e. full proficiency in understanding, speaking and writing)
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* Language skills: excellent English language skills (i.e. full proficiency in understanding, speaking and writing)Energy Policy and Sector Specialist

Energy Efficiency Technical Specialist

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| **Profile** | **General qualification:*** Master’s degree or higher in engineering (energy, architecture, civil or related fields)
* At least 7 years of professional experience in energy efficiency in buildings

**Specific qualification:*** Professional working experience (minimum 5 years) with energy efficiency building audits, energy efficient technologies and energy efficiency advisory services in national context
* Successful track record in conducting technical building and technology analyses in energy efficiency field

**Language skills:*** Good English language skills (i.e. good proficiency in understanding, speaking and writing)
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Financial expert

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| **Profile** | **General qualification:*** Master’s degree or higher in finance or related field
* At least 7 years of professional experience in Georgia’s financial sector

**Specific qualification:*** Professional working experience (minimum 3 years) with the financial sector: products for SMEs/households
* Successful track record in financial analysis, preferably of energy efficiency projects

**Language skills:*** Good English language skills (i.e. good proficiency in understanding, speaking and writing)
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Researcher Pool

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| **Profile** | **General qualification:*** Bachelor or Master’s degree in a relevant discipline (e.g. energy, engineering, environmental sciences, socio-economic science)
* At least 3 years of professional experience in the energy sector or socio-economic science

**Specific qualification:*** Professional experience in conducting/contributing to field research and scientific data collection and analysis for donor funded development cooperation projects or international research studies in the energy or related sector(s)

**Language skills:*** Sound English language skills
* Excellent Georgian language skills
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 **Annex 1: Data examples and reporting format suggestions**

**Part I: Local level: Kakheti, Mtskheta-Mtianeti and Guria**

1. **Socio-economic and demographic profile**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indicator | Value | Source of data | Methodology (if applicable) | Verification through (which methodology) |
| Total population |  |  |  |  |
| Share of rural population |  |  |  |  |
| Number of women |  |  |  |  |
| Number of children |  |  |  |  |
| Number of households |  |  |  |  |
| Number of female-headed households |  |  |  |  |
| Average income per household |  |  |  |  |
| Number of households/people below official poverty line\* |  |  |  |  |
| Unemployment rate |  |  |  |  |

*\* officially established subsistence minimum public by Geostat*

1. **Energy demand profile**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indicator | Value | Source of data | Methodology (if applicable) | Verification through (which methodology) |
| Number of buildings |  |  |  |  |
| Total building area, m2 |  |  |  |  |
| Number of public buildings |  |  |  |  |
| Area of public buildings, m2 |  |  |  |  |
| Number of residential individual houses  |  |  |  |  |
| Area of residential individual houses, m2 |  |  |  |  |
| Number of other buildings (tertiary sector) |  |  |  |  |
| Area of other buildings (tertiary sector), m2 |  |  |  |  |
| Average specific energy consumption (SEC) of individual residential houses, kWh/m2/yr |  |  |  |  |
| Average specific energy consumption (SEC) of public buildings, kWh/m2/yr |  |  |  |  |
| Average specific energy consumption (SEC) of tertiary sector buildings, kWh/m2/yr (e.g. hotel) |  |  |  |  |
| Average energy expenses per household, GEL/year |  |  |  |  |
| Average energy expenses by public sector buildings, GEL/year/m2 |  |  |  |  |

1. **Energy supply profile**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indicator | Value | Source of data | Methodology (if applicable) | Verification through (which methodology) |
| Total fuel wood supply, m3 |  |  |  |  |
| Fuelwood supply to households, m3 |  |  |  |  |
| Fuelwood supply to public sector buildings, m3 |  |  |  |  |
| Price of fuelwood, GEL/m3 |  |  |  |  |
| Energy conversion efficiency for baseline stove in use, % |  |  |  |  |
| Share of households with access to gas supply |  |  |  |  |
| Share of public buildings with access to gas supply |  |  |  |  |

**Part II: National level**

1. **Energy Efficiency /Alternative Fuel (EE/AF) market profile**

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| --- | --- | --- | --- | --- |
| Indicator | Value | Source of data | Methodology (if applicable) | Verification through (which methodology) |
| EE stoves |  |  |
| Energy conversion efficiency, % |  |  |  |  |
| Price, GEL |  |  |  |  |
| Annual volume of production/sales |  |  |  |  |
| Number of local producers |  |  |  |  |
| Average production/sales per producer |  |  |  |  |
| Average number of employees per producer |  |  |  |  |
| Building insulation materials |  |  |
| Thermal performance: R value, m2 °C/W |  |  |  |  |
| Price, GEL/m2 |  |  |  |  |
| Cost of works, GEL/m2 |  |  |  |  |
| Annual volume of production/sales |  |  |  |  |
| Number of local producers |  |  |  |  |
| Average production/sales per producer |  |  |  |  |
| Average number of employees per producer |  |  |  |  |
| Solar water heaters |  |  |
| Average capacity, l |  |  |  |  |
| Price, GEL |  |  |  |  |
| Annual volume of production/sales |  |  |  |  |
| Number of local producers |  |  |  |  |
| Average production/installation per producer |  |  |  |  |
| Average number of employees per producer |  |  |  |  |
| Briquettes |  |  |
| Energy content, kWh/kg |  |  |  |  |
| Price, GEL/kg |  |  |  |  |
| Annual volume of production/sales, kg |  |  |  |  |
| Number of local producers |  |  |  |  |
| Average production/sales per producer |  |  |  |  |
| Average number of employees per producer |  |  |  |  |