

METHODOLOGY FOR DEFINING INDICATOR – DIRECT BENEFICIARIES AND COST – BENEFIT ANALYSIS OF THE “CLIMATE SMART URBAN DEVELOPMENT CHALLENGE” PROJECT

1. DEFINITIONS

1.1. Indicator – Number of direct beneficiaries disaggregated by gender

In line with GEF Guideline¹ and GEF-7 result framework, core indicator – “Number of direct beneficiaries disaggregated by gender” is introduced to allow a basic level of systematic capture and aggregation across the GEF’s portfolio.

However, for project over the course of GEF -6, definition of direct beneficiaries is not precisely defined. At the time the “Climate Smart Urban Development Challenge” project was implemented, the GEF Secretariat was still working on proposing more detailed arrangements for portfolio-level monitoring and reporting on results and associated lessons learned, building on the experience with the Annual Portfolio Monitoring Reports in GEF -6.

In line with the GEF guideline one of the main indicators is “Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment”.

Definition: This indicator captures the total number of direct beneficiaries including the proportion of women beneficiaries.

Details: This indicator captures the number of individual people who receive targeted support from a given GEF project/activity and/or who use the specific resources that the project maintains or enhances. Support is defined as direct assistance from the project/activity. Direct beneficiaries are all individuals receiving targeted support from a given project. Targeted support is the intentional and direct assistance of a project to individuals or groups of individuals who are aware that they are receiving that support and/or who use the specific resources.

Beneficiaries may receive monetary and nonmonetary benefits.

Examples of monetary benefits may include, but are not limited to, increased income due to government policies relating to climate change mitigation, such as tax benefits or access to loans, payments for avoided emissions or carbon sequestration, job creation, and payment by local governments for other ecosystem services that also achieve climate change mitigation results (e.g., implementation of a specific activity).

Examples of nonmonetary benefits may include, but are not limited to, access to programs, services, or education; infrastructure development; health benefits; access to markets; preferential investment or finance terms; land titling or registration; increased access to environmental services; newly defined rights or authorities; protection of traditional livelihoods and customary rights; and environmental and other benefits from avoided deforestation and degradation, improved afforestation, or increased productivity from climate-smart agricultural practices. Individuals receiving benefits from more than one sustainable

¹ https://www.thegef.org/sites/default/files/documents/Results_Guidelines.pdf

landscapes activity, or receiving multiple benefits from a single activity, should be counted once per fiscal year.

Moreover, indicator enables the Project team to better identify those supported projects that are most likely to provide significant socio – economic co-benefits.

The Guideline also provides some examples:

- A project facilitates access to credit to fund operations of organic coffee farmers: support targets participating farmers, who are direct beneficiaries.
- A project facilitates transition to low carbon urban development through capacity building of municipality managers and workers, as well as improving access to innovative finance options for participating municipalities: staff participating in training within the municipal agency and end users who benefit from a lower utility bill are direct beneficiaries.

Gender: Reporting disaggregated by sex (male, female) is mandatory. This may be estimated using the best available data on the composition of sex for the relevant population.

Type: Cumulative, annual in-year total number of beneficiaries summed to total over the project/program implementation period.

Unit of measure: The indicator is expressed in absolute numbers of direct beneficiaries

1.2. Socio and economic cost-benefit analysis

Cost-Benefit Analysis (CBA) and Social cost-benefit analysis (SCBA) are widely used in public infrastructure investment evaluations and other ex-ante policy evaluation in many EU countries.

CBA is an analytical tool to be used to appraise an investment decision in order to assess the welfare change attributable to it and, in so doing, the contribution to EU cohesion policy objectives. The purpose of CBA is to facilitate a more efficient allocation of resources, demonstrating the convenience for society of a particular intervention rather than possible alternatives². CBA is methodology used for major projects. In line with the Guideline and according to Article 100 (Major projects) of Regulation (EU) No 1303/2013, a major project is an investment operation comprising ‘a series of works, activities or services intended to accomplish an indivisible task of a precise economic and technical nature which has clearly identified goals and for which the total eligible cost exceeds EUR 50 million.’ The total eligible cost is the part of the investment cost that is eligible for EU co-financing.¹ In the case of operations falling under Article 9(7) (Thematic objectives) of Regulation (EU) No 1303/2013, the financial threshold for the identification of major project is set at EUR 75 million.

SCBA provides an overview of current and future pros and cons of a particular investment or policy project for society as a whole as objectively as possible. This means that SCBA differs fundamentally from a financial analysis (business case), which reveals the costs and benefits for a party. As SCBA assesses the overall public interest, certain financial costs and benefits that are included in a business case disappear as they are offset by benefits respectively costs of another party. A SCBA is based on a broad definition of

² https://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/cba_guide.pdf

the term 'welfare'. Besides goods and services, SCBA considers intangible effects and expresses them in monetary terms. SCBA can be both qualitative and quantitative.

However, the CBA and SCBA are still not precisely defined for the innovative solutions and new technologies. Namely, assessment of social and economic benefits for this type of project must differ from the business-as-usual approach. Moreover, CBA and SCBA are implemented in standard investment projects with over 50 million investment which is rarely applicable for innovation-based projects. Also, Innovation Challenge approach is mainly focusing on the pilot projects for which CBA and SCBA can be developed once pilot solutions are commercially available.

Therefore, standard calculation of Economic Benefits such as CAPEX, Economic net present value (ENPV), Economic rate of return of the project (ERR) cannot be calculated precisely as for standard investment projects.

When evaluating socio economic benefits of projects and investment non-monetary externalities also must be considered. Non-monetarized externalities are: job creation, GDP growth, improved living conditions in local communities, increasing the use of renewable energy, technological improvement, reducing pollution and waste.

2. DEFINING DIRECT BENEFICIARIES IN THE "CLIMATE SMART URBAN DEVELOPMENT CHALLENGE PROJECT" AND SOCIO – ECONOMIC BENEFITS

Number of direct beneficiaries in the "Climate Smart Urban Development challenge" project can be divided into 3 main groups:

1. **Direct beneficiaries due to the implementation of the innovative solutions**

- "Reduce garbage for collective health and happiness" proposed by the Esotron Ltd. The company is collecting organic waste from more than 3,500 operators. Collected organic waste is instead of landfilling used to produce biogas. The company also hired 2 new employees.
- New Approach in Production of Heat and Electricity from Woody Biomass" proposed by Green Energy Point L.t.d. The company established a new business model of cooperation with local owners of private forests. The number of newly established agricultural holding by the owners of private forests is 8, out of which 63% are women (5 households).
- "Polyurethane foams - end of waste" proposed by the "Jugo-impex e.e.r.". The direct beneficiary is the company and the indirect are producers of electric and electronic appliances (their products did not end in landfills).
- "Innovative approach to the production of pellets from medicinal herbs" proposed by the Sanicula I.t.d. The Company has expanded the production of medical herbs on additional 150 hectares that triggered the creation of new jobs – on average 30 seasonal workers, out of which 27 are women (90%) and 3 are men.
- "Establishing SCADA system for Supervision and Management of Heat Distribution Substations at district Heating System of the City of Šabac" proposed by the Public Utility

Company for Production and Distribution of Thermal Energy, Šabac. Introducing the SCADA system led to decreasing the bills for heat for 10,000 households and 550 businesses. In line with the Census 2011, the average number of people per household in the urban area of Sabac is 2.75, which leads to 27,500 direct beneficiaries, out of which 51% are women, 49% are men.

- “Innovative business models for solar energy” proposed by Global Sustainability Experts Ltd. The Company introduces a new business model for enabling the solar energy market. Considering that the electricity produced is sold on the market number of direct beneficiaries cannot be precisely defined. The Company also initiated the establishment of the Climate Change Training Center. The Company organized the first training course for 10 participants, 2 were women (20%) and 8 were men (80%).
- “Smart Land” proposed by the Institute Mihajlo Pupin. The pilot project is installed for one agricultural household that hires up to 6 seasonal workers, out of which 60% are women.
- “LIQUID3” was proposed by the Institute for Multidisciplinary Research. This photo-bioreactor was installed in the centrum of Belgrade. Considering that the system is also a solar bench, users are all citizens and data cannot be disaggregated by sex.
- “E-mobility Cloud Center” proposed by the National Association of Autonomous and Electrical Vehicles. In June 2022, in Serbia were registered 1,400 hybrid and 102 electric vehicles. Data cannot be disaggregated by sex considering that this information is not publicly available, and owners of the hybrid and electric cars are still mainly companies.
- “Solar Portable Aggregator” proposed by Telefon-Inzenjering Ltd. The mobile solar aggregator is a pilot. Since now, 3 systems were sold, and their users are both men and women.
- “Evergreen”, proposed by the City of Kraljevo. The early warning system for forest fires is located in the forest above the Municipality of Usce and the vicinity of the Studenica monastery. Direct beneficiaries are 1881 citizens of the municipality, out of which 46% are women and 44% are men.

Table 1: Number of direct beneficiaries and other socio-economic benefits per project

Project title	Direct beneficiaries	Indirect beneficiaries	Social – economic benefits (non-monetarized)
“Reduce garbage for collective health and happiness” Esotron Ltd.	3,500 operators	Citizens in local communities where operators are located	2 new jobs Increased use of renewable energy technological improvement Reduction of pollution and waste
New Approach in Production of Heat and Electricity from Woody Biomass” (Green Energy Point L.t.d.)	8 newly established agricultural households (63% women)	Citizens in local communities	Income for 8 agricultural households Increased use of renewable energy Technological improvement Reduction of pollution and waste

"Polyurethane foams - end of waste" ("Jugo-impex e.e.r.")	Company (new product)	Public Utility Company "Mediana" Nis,	Technological improvement Reduction of pollution and waste on the landfills
"Innovative approach to the production of pellets from medicinal herbs" proposed by the Sanicula I.t.d.	30 new seasonal workers (out of which 90% are women)	Citizens in local communities (Gornja Mutnica and Boljevac)	30 new seasonal jobs Increased used of renewable energy (biomass) Technological improvement Reduction of pollution
"Establishing SCADA system for Supervision and Management of Heat Distribution Substations at district Heating System of the City of Šabac" (PUC Toplana Sabac)	10,000 households and 550 businesses which is 27,500 direct beneficiaries, out of which 51% are women, 49% are men.	Citizens of the City of Sabac	Technological improvement Improved living conditions in local communities
"Innovative business models for solar energy" (Global Sustainability Experts Ltd.)	Participants of the training course (total 10, out of which 2 women and 8 men)	Citizens of the local community	Increased used of renewable energy (solar)
"Smart Land" (Institute Mihajlo Pupin)	Owner of agricultural household 6 new seasonal jobs (4 are women)	Other small agricultural households	6 new seasonal jobs Technology improvement Increased use of renewable energy (solar, wind) Reduction of pollution
"LIQUID3" (Institute for Multidisciplinary Research)	Citizens of the Municipality of Stari grad	Citizens of the City of Belgrade	Technological improvement Improved living conditions in local communities
"E-mobility Cloud Center" (National Association of Autonomous and Electrical Vehicles)	Owners of hybrid and electric vehicles	New owners of hybrid and electric vehicles	New digital tool Reduction of pollution
"Solar Portable Aggregator" (Telefon-Inzenjering Ltd)	3 buyers of solar portable aggregate	Local communities where solar portable aggregate will be used	Technological improvement Increased use of renewable energy (solar) Improved living conditions in local communities Reduction of pollution
"Evergreen" (City of Kraljevo)	1881 citizens of the Municipality of Usce (46% women and 44% men)	Other municipalities on the territory of the City of Kraljevo	New use of technology Improved living condition in local communities

2. Direct beneficiaries through capacity building of cities and municipalities and participants in the Climate Incubator/Accelerator

Innovation Challenge – 38 teams

Open Data Challenge – 8 teams, Agency for Environmental Protection

List of trainings and workshops is provided in the separate Annex.

3. Direct beneficiaries who participated in the knowledge management related activities

List of events to promote experience, knowledge and lessons learned under the Project is provided in the separate Annex.

Note: The project team and supported stakeholders have participated in more than 50 events, conferences and workshops in Serbia and abroad promoting results of the CSUD project.

In addition, the Mobile application “Ukloni divlju deponiju” (Remove illegal dumpsite) for identification and reporting of illegal dumpsites by citizens was downloaded more than 1,000 times.