

# Monitoring and Evaluation – Result Indicators and Output Indicators definitions

EUROPEAN URBAN INITIATIVE  
– INNOVATIVE ACTIONS

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## List of abbreviations

EUI	European Urban Initiative
IA	Innovative Action



# INTRODUCTION

The present document introduces definitions of the Result Indicators and Output Indicators predefined by the European Urban Initiative – Innovative Actions (EUI-IA) and proposed for the applicants and beneficiaries. EUI-IA applicants and beneficiaries who will select predefined indicators are expected to use their common definitions as provided in this document.

This document should be read in conjunction with:

- the [EUI-IA Call 4 Guidance](#) – a key document for EUI-IA applicants and beneficiaries;
- the Application Form Courtesy Working Document which can be found on the fourth Call for Proposals page.

Indicators are the main instrument of monitoring and provide critical information for the evaluation of a project's effectiveness, impact, relevance and sustainability. We distinguish two types of indicators: Result Indicators and Output Indicators.

Result Indicators are used to measure the expected results of the projects, i.e. the change in the local situation as a direct consequence of the project implementation. Output Indicators are used to measure and monitor the delivery of products and/or services. Refer to the Annex for a practical example.

## Result Indicators

Result Indicators are used to measure the expected results of the project. They reflect the immediate advantages for beneficiaries or end users as a direct consequence of the project implementation. A project should focus on measuring a select range of Result Indicators. In most cases, the number of indicators is not more than 10. Each EUI-IA Call for Proposals provides a set of predefined Result Indicators for use. Utilizing a predefined indicator in your project means the scope of what you measure can be narrower than what is outlined in the indicator's description, but it should not exceed that scope.

In case predefined Result Indicators are not sufficient or relevant to measure the project's expected results, project specific Result Indicators should be developed. Good quality indicators should follow the RACER criteria: Relevant through a clear link with the project's objectives, Accepted by the project partners and stakeholders, Credible for non-experts, Easy to monitor and Robust against manipulation.

## Applying indicators to your project

Result Indicators can be developed either quantitatively or qualitatively. At times, a qualitative indicator may more effectively capture the essence of the anticipated change, albeit this often necessitates a more comprehensive approach to data collection, such as conducting surveys. Consequently, projects should thoughtfully weigh the trade-off between ease of measurement and the depth of insight into the envisaged change. Generally, it is advisable for projects to maintain a limited number of qualitative Result Indicators.

## Output Indicators

The products and services generated by the various EUI-IA project's Work Packages can be monitored using Output Indicators. This should be done by linking activities within a Work Package to specific Output Indicator, even though this is not mandatory for all activities. It's also possible for a single Output Indicator to encompass similar activities across multiple Work Packages, potentially reducing the total number of Output Indicators relative to the number of key actions. This scenario underscores the critical role of indicator ownership among Project Partners, ensuring clear accountability and effective tracking of progress.

## Logical links

Frequently, Output and Result Indicators are connected through logical links, as the activities of a project (tracked by Output Indicators) are designed to effectuate changes in a specific situation (monitored by Result Indicators). The absence of any logical connections between these indicators could indicate an incomplete indicator framework, suggesting a need for review and potential revision to ensure all aspects of the project's impact are accurately measured and aligned.

## Baseline

Establishing a baseline for indicators is useful for setting a realistic target value. Baseline data may already be available or can be collected at the project's inception, prior to any interventions. In instances where the Result Indicator pertains to a new element, the baseline may be zero. Conversely, the baseline for Output Indicators is invariably set at zero, reflecting the starting point before any project outputs have been realized.



# RESULT INDICATORS – DEFINITIONS

**Title:** Jobs created in supported entities

**Code:** R1

**Measurement unit:** Annual FTEs

**Type of indicator:** Result

**Definition:** *This indicator measures the average annual number of full-time jobs created by the project, excluding existing vacancies and expecting these jobs to last over a year post-project. These jobs can be measured across all entity types addressed by the project (i.e. NGO's, cities, enterprises etc.). The new jobs can be full time, part time or recurring seasonally.*

**References:** [NACE rev2 classification](#)

**Baseline:** The baseline should be set at zero.

## Additional comments

- The indicator is calculated by comparing the total annual full-time equivalents (FTEs) before and after the project, within its supported activities. An FTE reflects the total worked hours in a year divided by the typical working hours, following national standards. Only one FTE per person is allowed annually.
- While developing your project reflect on the sectors in which these jobs will be created. Please refer to the appropriate NACE code (linked under References).
- We kindly request projects to also keep track of jobs created in the 12 months prior to the project's start. While there is no baseline requirement for this indicator (since it represents new jobs created), the Permanent Secretariat might request these figures to put planned target value into perspective.

**Title:** Users of new and upgraded digital services, products and processes

**Code:** R2

**Measurement unit:** Users/year

**Type of indicator:** Result

**Definition:** *This indicator measures the yearly count of users for newly developed or significantly upgraded digital services, products, and processes within enterprises. "Significant upgrades" are those that add new functions. It applies when enterprises receive support to enhance their digital offerings. Users include both clients of these new or improved services/products and enterprise staff utilizing these processes.*

**Baseline:** The starting point (baseline) can only be zero for entirely new digital innovations. In case of upgraded services, products and processes please use the number of users during the 12 months prior to project implementation as a baseline.

**Title:** Estimated greenhouse emissions

**Code:** R3

**Measurement unit:** Tonnes of CO2 equivalent/year

**Type of indicator:** Result

**Definition:** *This indicator measures the total estimated greenhouse gas emissions for the supported entities or processes. The achieved value represents the estimated emissions after the project intervention(s) based on the achieved level of energy performance.*

**Baseline:** The baseline should represent the emissions during the 12 months before starting the project.

#### **Additional comments**

- When reporting, please specify the methodologies used for estimating emissions, any assumptions made, and the specific interventions that contributed to changes in energy performance.

**Title: Waste collected separately**

**Code:** R4

**Measurement unit:** Tonnes /year

**Type of indicator:** Result

**Definition:** *This indicator measures additional annual tonnage of waste collected separately due to the project's activities such as awareness campaigns or investments in facilities for separate collection of waste. The focus is on capturing the enhanced capacity to segregate waste by waste type.*

**References:**

[Directive 2008/98/EC of the European Parliament and of the Council on waste](#)

[Commission Decision 1004/2019 for the calculation, verification, and reporting of waste data](#)

**Baseline:** The baseline should reflect current levels of waste collected separately (during the 12 months prior to the project's start).

**Additional comments**

- Please specify the total figure of waste collected in adherence with the waste types mentioned in the Commission Decision 1004/2019 (linked under References): metals; metals separated after incineration of municipal waste; glass; plastic; paper and cardboard; bio-waste; bio-waste separated and recycled at source; wood; textiles; electrical and electronic equipment; batteries; bulky waste; mixed waste. Beyond this collective figure (adding up the figure for each of the waste types above), you are kindly requested to also keep track of the individual waste types to provide more context when deemed appropriate.
- For more details, refer to the Commission Decision 1004/2019 which lays down rules for the calculation, verification and reporting of data on waste in accordance with Directive 2008/98/EC).

**Title:** Waste recycled

**Code:** R5

**Measurement unit:** Tonnes /year

**Type of indicator:** Result

**Definition:** *This indicator measures additional annual tonnage of waste recycled due to the project's activities (for example due to increased capacity). The waste recycled is to be measured in terms of tonnage at the stage of preparation for recycling. Waste recycling is to be understood as any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes.*

**References:** [Directive 2008/98/EC of the European Parliament and of the Council on waste](#)

**Baseline:** The baseline should reflect current levels of waste recycled (during the 12 months prior to the project's start).

#### Additional comments

- Waste recycled does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations (see Directive 2008/98/EC in references).
- If it's not feasible to accurately measure how much a facility can recycle because its operations are integrated with the processing of raw materials (making it difficult to separate recycling), then the indicator should not be used (i.e. where recycling is carried out in the same facilities also processing raw-materials, e.g. waste oil is refined in refineries which also process raw oil).

**Title:** Waste used as raw materials

**Code:** R6

**Measurement unit:** Tonnes /year

**Type of indicator:** Result

**Definition:** *This indicator measures additional annual tonnage of waste made available as raw materials as a result of the supported projects.*

**Baseline:** The baseline should reflect current levels waste made available as raw materials.

#### Additional comments

- In comparison to R5 "Waste recycled" this indicator seeks to measure the volume of recycled waste that is made available following recycling process.

**Title:** Rehabilitated land used for green areas, social housing, economic or other uses

**Code:** R7

**Measurement unit:** Hectares

**Type of indicator:** Result

**Definition:** *This indicator measures the surface area of rehabilitated land within environmentally degraded zones, which benefits from project support, and for which rehabilitation efforts are enhanced through the adoption of an action plan aimed at the site's redevelopment and reuse.*

**Baseline:** The baseline should be set at zero.

#### **Additional comments**

- The action plan may encompass a variety of purposes, including the creation of green spaces, provision of social housing, and facilitation of economic, cultural, sports, or community activities.

**Title: Annual users of modernised and/or buildings reconverted  
in social housing**

**Code:** R8

**Measurement unit:** Users /year

**Type of indicator:** Result

**Definition:** *This indicator measures the number of individuals who occupy social housing units within a year, following the modernization or reconversion of existing structures resulting from the project's activities.*

**Baseline:** To establish a baseline for this indicator, quantify the initial number of occupants in social housing units before the intervention. This entails recording the current occupancy of targeted buildings or the housing capacity prior to project implementation (on an annual basis twelve months prior to the project's start). This initial figure serves as the reference point against which the post-project increase in social housing users can be measured, highlighting the project's direct impact on housing accessibility and affordability. The target value should represent the additional occupants, and should not be aggregated with the existing number of occupants.

**Additional comments**

- To cater to temporary occupations, individuals occupying a social housing unit for at least a month can be included in the annual figures.

**Title:** Visitors of cultural heritage sites preserved and/or transformed

**Code:** R9

**Measurement unit:** Visitors /year

**Type of indicator:** Result

**Definition:** *This indicator measures the count of individuals who visit cultural heritage locations that have been either maintained or repurposed through project interventions.*

**Baseline:** To establish a baseline for this indicator, count the number of visitors to the site(s) during the past 12 months before any project intervention begins. This pre-intervention visitor count will serve as the baseline, enabling comparison with post-intervention visitor numbers to assess the impact of the preservation or transformation efforts on public engagement and site attractiveness. The target value should represent the additional number of visitors post-project, and should not be aggregated with the historical visitor numbers.

#### **Additional comments**

- Maintenance refers to any actions taken to preserve the site's historical integrity and accessibility, while repurposing involves adapting the site for new uses that respect its cultural significance but may broaden its appeal or functionality.

**Title:** Proportion of stakeholders representing creative sectors in the partnership

**Code:** R10

**Measurement unit:** Percentage

**Type of indicator:** Result

**Definition:** *This indicator measures the percentage of partners from creative sectors (such as designers, architects, artists) contributing to the project. It aims to assess the representation of creative industries within the collaborative framework of the project.*

**References:** [Cultural and Creative Industries](#)

**Baseline:** The baseline reflects the number of partners from creative sectors.

#### Additional comments

- Cultural and Creative Industries (CCI's) encompass a wide variety of sub-sectors. This includes architecture, archives, libraries and museums, artistic crafts, audiovisual (including film, television, video games and multimedia), tangible and intangible cultural heritage, design (including fashion design), festivals, music, literature, performing arts, (including theatre and dance), books and publishing, radio, and visual arts. Refer to the link under References for more information.
- For this particular indicator, the baseline and target values are identical.

**Title:** Level of participation achieved in the engagement with local communities – information, consultation, co-creation, co-decision.

**Code:** R11

**Measurement unit:** Persons /year

**Type of indicator:** Result

**Definition:** *This indicator measures the level of interaction between a project partner and the local communities it affects or serves. It assesses how well the project engages with community members at different stages of participation.*

**Baseline:** The baseline should be set at zero.

### Additional comments

- The different stages of participation may include (but are not limited to):  
Information: The basic level at which the community is provided with information about the project or issues at hand without any direct feedback or input solicited.  
Consultation: A more interactive form of engagement where the community's opinions and feedback are sought, typically through surveys, public meetings, or forums.  
Co-creation: A collaborative stage where community members actively contribute ideas and work alongside the project to develop solutions, programs, or initiatives.  
Co-decision: The most involved level of participation, where the community has a direct role in making decisions that shape the project or policies.

**Title: Visitors of cultural and tourism sites supported**

**Code:** R12

**Measurement unit:** Number of visitors per year

**Type of indicator:** Result

**Definition:** *This indicator measures the estimated number of annual visitors of cultural and tourism sites supported by the project. The definition of cultural and tourism sites is broad and includes any supported site with the vocation to attract visitors, both local inhabitants and tourists.*

**Baseline:** The baseline of the indicator refers to the estimated annual number of visitors of the supported sites the year before the intervention starts, and it is zero for new cultural and tourism sites.

**Additional comments**

- The indicator does not cover natural sites for which an accurate estimation of number of visitors is not feasible.

**Title:** Percentage of visitor attractions that are accessible to people with disabilities and/or participating in recognised accessibility schemes.

**Code:** R13

**Measurement unit:** Percentage of attractions

**Type of indicator:** Result

**Definition:** *This indicator measures the percentage of visitor attractions that are accessible to people with disabilities and/or participating in recognised accessibility schemes within the project area, e.g. the city. Visitor attractions are public or private places that people visit for leisure or interest, such as museums, landmarks, parks. Recognised accessibility schemes are support programmes by the project that aim to increase accessibility for people with disabilities.*

**Baseline:** A baseline can be established by taking stock, at the start of the project, of the percentage of visitor attractions that are accessible and participate in accessibility schemes in the project area.

#### Additional comments

- The calculation is based on the number of accessible or participating attractions, divided by the total number of attractions, multiplied by 100.

**Title:** SMEs introducing product, process, marketing or organisational innovation

**Code:** R14

**Measurement unit:** Number of SMEs

**Type of indicator:** Result

**Definition:** *This indicator measures the number of SMEs that introduce product, process, marketing or organisational innovation over the course of the project lifetime. Introduction can mean the introduction of an innovation to the market or in internal processes.*

**References:** [Definition of SMEs](#)

**Baseline:** Because the indicator measures SMEs that innovated due to the project, the baseline is zero.

#### Additional comments

- Each SME is counted once, also if they introduce various innovations.

**Title:** New enterprises surviving in the market

**Code:** R15

**Measurement unit:** Number of enterprises

**Type of indicator:** Result

**Definition:** *This indicator measures the number of new enterprises supported by the project that are still active in the market at least one year after completion of project actions. The fact that an enterprise is active in the market can be determined, for example, based on the enterprise turnover declared for the fiscal year following the year when the project action is completed. An enterprise is considered new if it did not exist during the three years period before the project started. An enterprise will not be considered new if only its legal form changes. The indicator also covers spin-offs.*

**References:** Refer to O14 for the definition of an enterprise.

**Baseline:** Because the indicator measures new enterprises the baseline is zero.

**Title:** Number of enterprises supported to register to EMAS

**Code:** R16

**Measurement unit:** Number of enterprises

**Type of indicator:** Result

**Definition:** *This indicator measures the number of supported enterprises by the project that have registered to the EU's Eco-management and Audit Scheme (EMAS) for the first time.*

**References:** [Eco-Management and Audit Scheme](#)

Refer to O14 for the definition of an enterprise.

**Baseline:** Because only enterprises that have received support from the project are counted, the baseline is zero.

**Title:** Number of enterprises supported to apply for EU Ecolabel or other EN ISO 140024 type I ecolabels or equivalent voluntary labels, which are independent, multi-criteria based and third party verified

**Code:** R17

**Measurement unit:** Number of enterprises

**Type of indicator:** Result

**Definition:** *This indicator measures the number of supported enterprises by the project that have applied for EU Ecolabel, another EN ISO 140024 type I ecolabel or equivalent voluntary labels for the first time.*

**References:** [EU Ecolabel](#)

Refer to O14 for the definition of an enterprise.

**Baseline:** Because only enterprises that have received support from the project are counted, the baseline is zero.

**Title:** SMEs participating in destination governance activities

**Code:** R18

**Measurement unit:** Number of SMEs

**Type of indicator:** Result

**Definition:** *This indicator measures the number of SMEs that participate in destination governance activities. Where destination governance aims to develop the destination on the principles of sustainability by involving local stakeholders in decision making.*

**Baseline:** A baseline can be established by taking stock, at the start of the project, of the number of SMEs that do participate in destination governance activities.

**Title:** Annual final energy consumption reduced

**Code:** R19

**Measurement unit:** Terrawatt hours per year

**Type of indicator:** Result

**Definition:** *This indicator measures the reduction of the annual final energy consumption. Final energy consumption covers energy supplied to the final consumer for all energy uses. Final energy consumption is defined as the use of energy for the generation of heat, light or power. Instances of final energy consumption are the combustion of natural gas in boilers, household electricity consumption and the consumption of motor fuels for transport.*

**References:** [Final Energy Consumption](#)

**Baseline:** A baseline can be established by measuring the final energy consumption within the project boundaries (e.g. neighborhood or SMEs) at the start of the project.

#### Additional comments

- Final energy consumption should be measured at the start of the project and at the end of the project. The difference is the reduction in final energy consumption.
- This indicator does exclude non-energetic final consumption, which is the use of energy sources for making products which do not carry energy. The energy used for the production process is stored in the product. Instances of non-final energy consumption are the use of petroleum as raw material for the manufacture of plastics or natural gas for artificial fertilizers.

**Title:** Improvement of air quality

**Code:** R20

**Measurement unit:** Fine particulate matter (PM2.5) concentrations

**Type of indicator:** Result

**Definition:** *This indicator measures the enhancement in the quality of air within a specific area, specifically by measuring fine particulate matter (PM2.5) concentrations.*

**References:** [EU Clean Air Policy and the Ambient Air Quality Directives](#)

**Baseline:** The baseline should reflect the current levels of air pollutants if available, otherwise be set at zero.

#### **Additional comments**

- EU Clean Air Policy mandates the assessment of ambient air quality on the basis of common methods and criteria, as detailed in the Ambient Air Quality Directives 2008/50 and 2004/107.

**Title:** Rehabilitated land used for green areas and protected biodiversity

**Code:** R21

**Measurement unit:** Hectares

**Type of indicator:** Result

**Definition:** *This indicator measures the surface area of rehabilitated land within contaminated zones, which benefits from project support, and for which rehabilitation efforts are enhanced through the adoption of an action plan aimed at the site's redevelopment and reuse. This plan is specifically aimed at the creation of green areas or protected biotopes.*

**Baseline:** Because only rehabilitated land supported by the project is counted, the baseline is zero.

**Title:** Increase of population using options for active mobility

**Code:** R22

**Measurement unit:** Percentage

**Type of indicator:** Result

**Definition:** *This indicator measures the growth in the number of people who opt for physically active forms of transportation over a certain period of time. Active mobility refers to modes of transportation that require physical effort, such as walking or cycling.*

**Baseline:** A survey in the project area at the start of the project can establish a baseline. The calculation is based on the number of people using active mobility divided by the total population in the project area, multiplied by 100.

#### **Additional comments**

- The percentage increase or decrease is the difference in percentage measures between the baseline and the end of the project.

**Title:** Population benefiting from flood protection measures

**Code:** R23

**Measurement unit:** Persons

**Type of indicator:** Result

**Definition:** *This indicator measures the number of individuals residing in areas where flood protection infrastructure has been constructed or significantly upgraded. The focus is on green infrastructure that reduces vulnerability to flood risks.*

**Baseline:** The baseline should be set at zero.

#### **Additional comments**

- When documenting this indicator, it is important to provide insight into the method used to estimate or count the number of individuals benefitting from these interventions, including any assumptions made regarding the affected population's distribution or the infrastructure's protective reach.

**Title:** Population benefiting from protection measures against climate related natural disasters (other than floods and forest fires)

**Code:** R24

**Measurement unit:** Persons

**Type of indicator:** Result

**Definition:** *This indicator measures the number of people living in areas that are susceptible to climate-related natural risks, excluding floods and wildfires, such as storms, droughts, and heatwaves. It assesses the decrease in vulnerability due to targeted project interventions that implement specific local protection measures.*

**Baseline:** The baseline should be set at zero.

#### **Additional comments**

- In contrast to broader regulatory measures implemented at national or regional levels, this indicator specifically highlights the impact and outcomes of solutions applied within local contexts by the project. By focusing on localized interventions, the indicator provides insight into how tailored, ground-level strategies contribute to broader climate resilience goals, complementing the wider-reaching, regulatory approaches.

**Title:** Trademark and design applications

**Code:** R25

**Measurement unit:** Number of trademark and design applications

**Type of indicator:** Result

**Definition:** *This indicator measures the number of EU trademark and Community design applications submitted to the European Union Intellectual Property Office (EUIPO) and validated ("filing"), and which are due to the project. The ultimate granting of the application is not a requirement. The project should have clearly identifiable contribution to the trademark or design for which the applications are made.*

**Baseline:** Because this indicator measures the number of EU trademark and Community design applications which are due to the project, the baseline is zero.

**Additional comments**

- Trademark refers to words, symbols or other marks which are used by firms to distinguish their products or services from those offered by others. A European Union trademark application has to be filed and validated at the European Union Intellectual Property Office (EUIPO). Design refers to the "appearance of the whole or part of a product resulting from the features of, in particular, the lines, contours, colours, shape, texture and/ or material of the product itself and/ or its ornamentation." The indicator covers applications for registered Community designs (CD). The application for a registered CD has to be filed and validated at the European Union Intellectual Property Office (EUIPO).

**Title:** Apprenticeships supported in SMEs

**Code:** R26

**Measurement unit:** Number of persons

**Type of indicator:** Result

**Definition:** *This indicator measures the number of people completing an apprenticeship in an SME due to project support. Apprenticeships are normally part of formal education and training at upper secondary level (ISCED 3), the duration of the training is 2-3 years, and a successful completion leads to a nationally recognised qualification in a specific occupation. The characteristics of the apprenticeship (e.g. occupation, duration, skills to be acquired, wage or allowance) are defined in a training contract or formal agreement between the apprentice and the employer directly or via the education institution.*

**References:** [SME definition](#)

**Baseline:** Because the indicator measures apprenticeships that came about due to project support, the baseline is zero.

**Title:** SMEs staff completing training for skills for smart specialisation, for industrial transition and entrepreneurship (by type of skill: technical, management, entrepreneurship, green, other)

**Code:** R27

**Measurement unit:** Number of participants

**Type of indicator:** Result

**Definition:** *This indicator measures the number of participants from SMEs (including micro enterprises) who complete training/ activity for skills development for smart specialisation, for industrial transition and entrepreneurship, due to the project.*

**References:** [SME definition](#)

**Baseline:** Because the completed trainings are due to project support, the baseline is zero.

#### Additional comments

- The types of skills include the following categories: - Technical skills: skills required for problem solving, design, operation, rethinking and maintenance of machinery or technological structures, IT professional skills; - Management skills: skills relating to business planning, complying with regulations and quality control, human resources planning, and allocation of resources; - Entrepreneurial skills: specific skills for start-up companies such as risk acceptance/ management, strategic thinking and confidence, the ability to make personal networks, and the ability to deal with challenges and requirements of different nature; - Green skills: specific skills to modify products, services or operations due to climate change adjustments, environmental protection, circular economy, resource efficiency and requirements or regulations; - Other skills: skills other than the four types described above.

**Title:** Annual users of new or modernised facilities for employment service

**Code:** R28

**Measurement unit:** Users per year

**Type of indicator:** Result

**Definition:** *The indicator measures the number of unique registered annual users of the new or modernised facility for employment services (including users accessing facilities via the internet or telephone). The number of registered users is to be determined based on the administrative records of the facility.*

**Baseline:** The baseline of the indicator refers to the number of users registered for the year before the intervention starts, and it is zero for newly built facilities.

**Title:** Annual users of new or modernised childcare facilities

**Code:** R29

**Measurement unit:** Users per year

**Type of indicator:** Result

**Definition:** *This indicator measures the annual number of unique registered children using the childcare facility supported. Childcare facilities such as creches and pre-schools are designed for children from birth to the start of primary education. The indicator covers childcare facilities that are newly built or modernised (for example, for increasing hygiene and safety standards).*

**Baseline:** The baseline of the indicator refers to the number of users of the facility supported estimated for the year before the intervention starts, and it is zero for newly built facilities.

#### **Additional comments**

- The indicator does not cover teachers, parents, auxiliary personnel or any other persons who may use the facility too.
- For achieved values, the estimation should be carried out ex post based on the number and size of groups of children using the facility at least once during the year after the completion of the intervention.

**Title:** Annual users of new or modernised education facilities

**Code:** R30

**Measurement unit:** Users per year

**Type of indicator:** Result

**Definition:** *The indicator measures the annual number of unique registered pupils/ students using the education facility supported. The indicator covers education facilities such as schools and universities that are newly built or modernised.*

**Baseline:** The baseline of the indicator refers to the number of users of the facility supported estimated for the year before the intervention starts, and it is zero for newly built facilities.

#### **Additional comments**

- For achieved values, the calculation should be carried out ex post based on the number and size of groups of pupils/students using the facility at least once during the year after the completion of the intervention.
- The indicator does not cover teachers, parents, auxiliary personnel or any other persons who may use the facility too.

**Title:** Annual users of modernised and/or buildings reconverted in social housing

**Code:** R31

**Measurement unit:** Users per year

**Type of indicator:** Result

**Definition:** *This indicator measures the annual number of unique registered tenants using the modernised or reconverted social housing. The indicator covers modernised social housing estates and reconverted buildings into social housing.*

**Baseline:** The baseline of the indicator refers to the number of users of the social housing supported estimated for the year before the interventions starts, and is zero for newly converted buildings into social housing.

**Title:** Annual users of new or modernised temporary reception facilities

**Code:** R32

**Measurement unit:** Users per year

**Type of indicator:** Result

**Definition:** *The indicator measures the number of unique registered asylum seekers using the newly build or modernised temporary reception facilities at least once during the year after the completion of the intervention supported.*

**Baseline:** The baseline of the indicator refers to the number of users of the facility supported estimated for the year before the intervention starts, and it is zero for newly built facilities.

**Title:** Annual users of new or modernised health and/or social care facilities

**Code:** R33

**Measurement unit:** Users per year

**Type of indicator:** Result

**Definition:** *This indicator measures the annual registered users of new or modernised health and/or social care facilities. Social care facilities are dwellings wherein the occupants are provided with specialized care such as supervision, medical, counselling or psychiatric services. Health facilities can include for example hospitals, nursing homes, infirmaries, sanatoria, outpatient clinics, etc.*

**Baseline:** The baseline of the indicator refers to the number of users of the facility supported estimated for the year before the intervention starts, and it is zero for newly built facilities.

**Title:** Population benefiting from wildfire protection measures

**Code:** R34

**Measurement unit:** Percentage of population protected

**Type of indicator:** Result

**Definition:** *The indicator measures the population living in areas exposed to wildfire risks and where vulnerability to wildfires decreases as a result of actions by the project. The indicator covers protection measures which are clearly localised in high risk areas and which address directly wildfires risks, as opposed to more general measures implemented at national or regional level.*

**Baseline:** Because the indicator measures people protected due to project actions, the baseline is zero.

#### Additional comments

- The indicator is measured by dividing the protected population by the total population in the area, multiplied by 100.

**Title:** Population benefiting from protection measures against non-climate related natural risks and risks related to human activities

**Code:** R35

**Measurement unit:** Percentage of population protected

**Type of indicator:** Result

**Definition:** *The indicator measures the population living in areas exposed to non-climate related natural risks and risks related to human activities, and where vulnerability to such risks decreases as a result of actions by the project. The indicator covers protection measures which are clearly localised in high risk areas and which address directly the specific risks, as opposed to more general measures implemented at national or regional level.*

**Baseline:** Because the indicator measures people protected due to project actions, the baseline is zero.

#### Additional comments

- The indicator is measured by dividing the protected population by the total population in the area, multiplied by 100.

**Title:** Annual users of new or modernised e-health care services

**Code:** R36

**Measurement unit:** Users per year

**Type of indicator:** Result

**Definition:** *The indicator measures the annual number of registered unique users of the e-health care services newly created or modernised. E-Health is the delivery of healthcare by means of information and communication technologies. Modernised services are to be considered in terms of new significant functionalities offered to the users.*

**Baseline:** The indicator baseline refers to the number of users during the year before the intervention starts, and it is zero for services newly created.

#### **Additional comments**

- The achieved number of users is to be calculated over a period of one year after the completion of the intervention.

**Title:** Total renewable energy produced (of which, e.g. electricity, thermal) (measurement unit: MWh/year).

**Code:** R37

**Measurement unit:** MWh

**Type of indicator:** Result

**Definition:** *This indicator measures the annual production of renewable energy in supported projects before and after an intervention. The "achieved value" quantifies the energy produced annually after completing the intervention. This metric is further broken down by the type of energy, specifically electricity and thermal, indicating the renewable energy's source.*

**References:** [Directive 2018/2001 of the European Parliament and the Council on the promotion of the use of energy from renewable sources](#)

**Baseline:** The baseline is the energy produced annually before starting the intervention, which might include existing production that's being expanded.

#### Additional comments

- Renewable energy encompasses sources like wind, solar (thermal and photovoltaic), geothermal, tide, wave, hydropower, biomass, and various gases from organic decay, as defined by Directive 2018/2011.
- If the capacity is financed by multiple forms of support (ex: grants and financial instruments) in the same specific objective, it should be counted once.

**Title:** Users connected to smart energy systems (measurement unit: end users/year)

**Code:** R38

**Measurement unit:** Users

**Type of indicator:** Result

**Definition:** *This indicator measures the number of users linked to smart electricity and heat grids enhanced by projects yearly. It covers a range of users from households to enterprises. The achieved value represents users after the project's completion.*

**Baseline:** For upgrades or expansions of existing systems, the baseline is the count of users before the intervention. For newly established systems, the baseline is zero.

#### **Additional comments**

- Smart energy systems, such as smart electricity grids and heat networks, integrate user behaviors and actions cost-effectively to create a sustainable and efficient power system.

**Title:** Annual users of new or modernised public transport (measurement unit: end users/year).

**Code:** R39

**Measurement unit:** Users

**Type of indicator:** Result

**Definition:** *This indicator measures the number of passengers using enhanced or newly introduced urban and suburban transport services, like buses, trams metros and water buses.*

**Baseline:** The baseline is the pre-intervention user count (or zero for new services).

#### Additional comments

- Modernization includes significant infrastructure improvements and better access and service quality

# OUTPUT INDICATORS – DEFINITIONS

**Title:** New products and services created

**Code:** O1

**Measurement unit:** Number of new products and services created

**Type of indicator:** Output

**Definition:** *This indicator measures the innovative products and services generated as a result of project initiatives, particularly focusing on urban development and sustainability.*

**Baseline:** The baseline should be set at zero.



**Title:** Infrastructure supported (new, renovated, reconverted or modernised)

**Code:** O2

**Measurement unit:** Surface area of infrastructure supported

**Type of indicator:** Output

**Definition:** *This indicator measures the surface area of infrastructure supported. This entails newly created infrastructure as well as renovated, reconverted or modernised infrastructure.*

**Baseline:** The baseline should be set at zero.

**Title:** New equipment created and/or supported

**Code:** O3

**Measurement unit:** Number of new equipment units

**Type of indicator:** Output

**Definition:** *This indicator measures the development, acquisition, or enhancement of new technological equipment or tools as a direct outcome of the project. It aims to capture the investment in physical assets that support the call's objectives, focusing on innovative solutions for sustainable urban development. This includes equipment for green infrastructure, climate resilience, digital transformation, or any other technology that facilitates the transition towards a more sustainable, inclusive, and resilient urban environment.*

**Baseline:** The baseline should be set at zero.

**Title:** People supported (trained, upskilled, accompanied or assisted)

**Code:** O4

**Measurement unit:** Number of people supported

**Type of indicator:** Output

**Definition:** *This indicator measures the number of individuals who have received support in the form of training, upskilling, mentorship, or assistance as a result of project's activities. It measures the human capital development aspect of the projects, focusing on enhancing the skills, knowledge, and capabilities of individuals. This support could include educational programs, vocational training, professional development workshops, or any other activities designed to improve employability, foster innovation, or empower communities.*

**Baseline:** The baseline should be set at zero.

**Title:** Dwellings with improved energy performance

**Code:** O5

**Measurement unit:** Number of dwellings

**Type of indicator:** Output

**Definition:** *This indicator measures the number of residential units, including social housing, whose energy efficiency has been enhanced by at least one energy class, as a result of project-funded interventions. The improvement in energy performance is verified through Energy Performance Certificates (EPC), adhering to national standards set in accordance with Directive 2010/31/EU. A dwelling is considered as a room or suite designed for year-round habitation by a single private household.*

**Baseline:** The baseline should be set at zero.

#### **Additional comments**

- A dwelling is defined as "a room or a suite of rooms in a permanent building or a structurally separated part of a building which (...) is designed for habitation of one private household all year around."

**Title:** Public buildings with improved energy performance

**Code:** O6

**Measurement unit:** Square meters

**Type of indicator:** Output

**Definition:** *This indicator measures the net floor area of public buildings that have achieved an improved energy performance as a result of the project. Improvement in energy performance is defined as an upgrade in the building's energy classification by at least one class, as documented by Energy Performance Certificates (EPC). The energy classifications follow national EPC standards, aligning with Directive 2010/31/EU. Public buildings include those owned by public authorities or non-profit organizations, which operate for public, collective, or social benefits rather than profit-making. Typical examples encompass administrative buildings, schools, and hospitals.*

*The indicator does not cover:*

- social housing (as this is included in O5).*
- private schools or private hospitals that are owned by private investors. Support to such private entities should be reported as support to enterprises using O14.*

**References:** [Directive 2010/31/EU on the energy performance of buildings](#)

**Baseline:** The baseline should be set at zero.

**Title:** Green infrastructure supported for other purposes than adaptation to climate change

**Code:** O7

**Measurement unit:** Hectares

**Type of indicator:** Output

**Definition:** *This indicator measures the surface area of green infrastructure, excluding climate change adaptation projects, that's newly built or significantly upgraded. Upgrades enhance the functionality or ecological value of existing green spaces, not including (routine) maintenance.*

**References:** [EEA \(2011\) - Green infrastructure and territorial cohesion, Technical report 18.](#)

**Baseline:** The baseline should be set at zero.

#### Additional comments

- Examples are biodiversity-rich parks, green walls, and roofs (also refer to EEA 2011 under References).

**Title:** Surface area of rehabilitated land supported

**Code:** O8

**Measurement unit:** Hectares

**Type of indicator:** Output

**Definition:** *This indicator measures the surface area of land previously contaminated—such as former military bases or landfill sites—that has been cleaned and repurposed for new uses, including green areas, social housing, and various community activities.*

**References:** [Directive 2004/35/CE of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage.](#)

**Baseline:** The baseline should be set at zero.

#### Additional comments

- All rehabilitation efforts must comply with the principle of environmental liability, specifically following the guidelines set out in Directive 2004/35/EC regarding the prevention and remedying of environmental damage.
- Directive 2004/35/EC emphasizes the prevention of environmental damage, holding operators accountable for remediation based on the "Polluter Pays" principle. It outlines the necessity for immediate action and reporting in cases of damage or imminent threats to biodiversity, water, and land. Furthermore, it advocates for public involvement in environmental protection, ensuring transparency and community participation in the remediation process.

**Title:** Capacity of new or modernised social housing

**Code:** O9

**Measurement unit:** Persons

**Type of indicator:** Output

**Definition:** *This indicator measures the total capacity of individuals accommodated in newly constructed or updated social housing units aimed at low-income or special needs groups.*

**Baseline:** The baseline should be set at zero.

#### **Additional comments**

- This indicator highlights social housing developments excluding simple maintenance or repairs.

**Title:** Stakeholders involved in the preparation and co-implementation of the project

**Code:** O10

**Measurement unit:** Participation of stakeholders

**Type of indicator:** Output

**Definition:** *This indicator measures the number of stakeholders actively involved in creating and executing the project's strategy.***Baseline:** The baseline should be set at zero.

#### **Additional comments**

- Counts are based on unique participation instances in meetings or events, with an organization counted once per meeting, regardless of multiple representatives attending. Passive engagement activities, such as mere information sessions or consultations, are excluded.

**Title:** Citizens involved in the preparation and co-implementation of the project

**Code:** O11

**Measurement unit:** Participation of citizens

**Type of indicator:** Output

**Definition:** *This indicator measures the number of citizens actively involved in creating and executing the project's strategy.*

**Baseline:** The baseline should be set at zero.

#### **Additional comments**

- Counts are based on unique participation instances in meetings or events, with an organization counted once per meeting, regardless of multiple representatives attending. Passive engagement activities, such as mere information sessions or consultations, are excluded.
- Stakeholders participating in several meetings / events are to be counted multiple times. If two or more representatives from the same stakeholder organisation participate in the same meeting, the organisation is to be counted once.

**Title:** Open space created or rehabilitated in urban areas

**Code:** O12

**Measurement unit:** Square metres

**Type of indicator:** Output

**Definition:** *This indicator measures the surface area of public spaces—such as parks, squares, riverbanks, and beachfronts—that have been made newly available or renovated to be freely accessible and enjoyable by all. This indicator focuses on spaces without a profit motive, excluding areas primarily intended for road modernization or land rehabilitation. Routine maintenance and repairs are not counted.*

**References:** [Glossary of the Habitat III \(United Nations Conference on Housing and Sustainable Urban Development\) Preparatory Process and the Conference \(published in 2017\)](#)

**Baseline:** The baseline should be set at zero.

**Title:** Number of cultural and tourism sites supported

**Code:** O13

**Measurement unit:** Number of cultural and tourism sites

**Type of indicator:** Output

**Definition:** *This indicator measures the number of cultural and tourism sites supported by the project. The definition of cultural and tourism sites is broad and includes any supported site with the vocation to attract visitors, both local inhabitants and tourists.*

**Baseline:** The baseline should be set at zero.

**Title:** Enterprises supported (of which: micro, small, medium, large)

**Code:** O14

**Measurement unit:** Number of enterprises

**Type of indicator:** Output

**Definition:** *This indicator measures the number of enterprises that receive support from the project. For the purpose of this indicator, enterprises are profit-oriented organisations that produce goods and services to satisfy market needs. An enterprise can be a legal person, as well include natural persons who are engaged in an economic activity in their own right, such as the owner and operator of a shop or a garage, a lawyer or a self-employed handicrafts-person.*

**References:** [ESTAT: Eurostat - OECD Manual on Business Demography Statistics](#)

[European Commission Communication, Social Business Initiative](#)

**Baseline:** The baseline should be set at zero.

#### Additional comments

- Classification of enterprises:  
Micro enterprise ( $\leq 10$  employees and annual turnover  $\leq$  EUR 2 million, or balance sheet  $\leq$  EUR 2 million);  
Small enterprise (10-49 employees and annual turnover  $>$ EUR 2 million -  $25 \leq$  EUR 10 million or balance sheet in  $>$  EUR 2 million -  $\leq$  EUR 10 million);  
Medium enterprise (50-249 employees and annual turnover  $>$ EUR 10 million -  $\leq$  EUR 50 million or balance sheet in EUR  $>$  EUR 10 million -  $\leq$  EUR 43 million);  
Large enterprises ( $>$ 250 employees and turnover  $>$  EUR 50 million or balance sheet  $>$  EUR 43 million).
- Each enterprise is counted only once, even if they receive several forms of support.

**Title:** Destination management organisations supported

**Code:** O15

**Measurement unit:** Number of destination management organisations

**Type of indicator:** Output

**Definition:** *This indicator measures the number of destination management organisations (DMOs) supported by the project. Destination Management Organisations (DMOs) exist to promote destinations, attract visitors, and develop a regional economy in a sustainable manner.*

**Baseline:** The baseline should be set at zero.

**Title:** Value of digital services, products and processes developed for enterprises

**Code:** O16

**Measurement unit:** Euro

**Type of indicator:** Output

**Definition:** *This indicator measures the total value of digital services, products or processes newly developed or significantly upgraded for enterprises by the project. Total value can be measured either in terms of market value or in terms of total investments required for the development/ significant upgrade of the respective digital service, product or service. Significant upgrades cover only new functionalities. The digital service/product/process may be developed by the enterprise supported or by a contracted third party.*

**Baseline:** The baseline should be set at zero.

**Title:** Population covered by projects in the framework of integrated actions for socio-economic inclusion of marginalised communities, low-income households and disadvantaged groups

**Code:** O17

**Measurement unit:** Persons

**Type of indicator:** Output

**Definition:** *This indicator measures the number of persons that benefit directly from integrated actions by the project for socio-economic inclusion of marginalised communities, low income households and disadvantaged groups. Integrated actions combine investments in two or more of the following social inclusion areas: employment, education and training, housing, health and social care.*

**Baseline:** The baseline should be set at zero.

#### **Additional comments**

- Marginalised communities, low income households and disadvantaged groups are defined at national level.

**Title:** Participations in joint actions promoting gender equality, equal opportunities and social inclusion

**Code:** O18

**Measurement unit:** Persons

**Type of indicator:** Output

**Definition:** *This indicator counts the number of persons attending a joint activities principally addressing horizontal principles (gender equality, equal opportunities and social inclusion) implemented by the project. Participations (i.e. number of persons attending a joint action) are counted for each joint activity organised on the basis of attendance lists or other relevant means of quantification. A joint action is considered as the action organised with the involvement of organizations from at least two participating countries. Participations in public events promoting gender equality, equal opportunities and social inclusion, organized in supported projects, should not be counted in this indicator.*

**Baseline:** The baseline should be set at zero.

**Title:** Coastal strip, river banks and lakeshores, and landslide protection newly built or consolidated to protect people, assets and the natural environment

**Code:** O19

**Measurement unit:** Hectares

**Type of indicator:** Output

**Definition:** *This indicator measures the length of coastal strip, riverbanks, and lakeshores protected against extreme weather events. Protection infrastructure supported should be newly built or consolidated significantly.*

**Baseline:** The baseline should be set at zero.

**Title:** Green infrastructure built for adaptation to climate change

**Code:** O20

**Measurement unit:** Hectares

**Type of indicator:** Output

**Definition:** *This indicator measures the area of green infrastructure newly built (or upgraded significantly) in order to enhance adaptation to climate change, for instance by strengthening protection to floods and preventing soil erosion.*

**References:** [Neumann et al. \(2011\) - Assessment of the potential of ecosystem-based approaches to climate change adaptation and mitigation in Europe](#)

[Definition of green infrastructure](#)

**Baseline:** The baseline should be set at zero.

#### Additional comments

- Green infrastructure typically refers to trees, lawns, hedgerows, parks, fields, forests, etc. The indicator also covers blue infrastructure such as water elements, like rivers, canals, ponds, wetlands, floodplains, water treatment facilities, etc. For more information refer to References.

**Title:** Surface area of green infrastructure supported in urban areas

**Code:** O21

**Measurement unit:** Hectares

**Type of indicator:** Output

**Definition:** *This indicator measures the surface area of green infrastructure in urban areas that is supported by the project. Examples of green infrastructure include biodiversity-rich parks, permeable soil cover, green walls, green roofs, green schoolyards etc.*

**References:** [Definition of green infrastructure](#)

**Baseline:** The baseline should be set at zero.

**Title:** Systems for monitoring air pollution installed

**Code:** O22

**Measurement unit:** Number of systems

**Type of indicator:** Output

**Definition:** *The indicator measures the number of air quality monitoring systems realized through the project.*

**Baseline:** The baseline should be set at zero.

### Additional comments

- EU Clean Air Policy mandates the assessment of ambient air quality on the basis of common methods and criteria. For this purpose, Member States establish 'air quality zones and agglomerations' throughout their territory, and in each of these, air quality monitoring networks are installed.

**Title:** Urban spaces available for people, accessible green areas for sports, recreational activities

**Code:** O23

**Measurement unit:** Hectares

**Type of indicator:** Output

**Definition:** *This indicator measures the number of urban spaces and green areas that are accessible for sports and recreational activities. This could for example be parks, playgrounds, publicly accessible sports fields.*

**Baseline:** The baseline should be set at zero.

**Title:** New enterprises supported

**Code:** O24

**Measurement unit:** Number of enterprises

**Type of indicator:** Output

**Definition:** *This indicator measures the number of new enterprises supported by the project. An enterprise is considered new if it did not exist three years before the enterprise applies for the support provided. An enterprise will not be considered new if only its legal form changes. The indicator covers also spin-offs.*

**References:** Refer to O14 for the definition of enterprise.

**Baseline:** The baseline should be set at zero.

**Title:** Enterprises cooperating with research organisations

**Code:** O25

**Measurement unit:** Number of enterprises

**Type of indicator:** Output

**Definition:** *This indicator counts the number of enterprises that cooperate in joint research projects with research organisations. Research organisations are bodies with a primary goal to conduct independently fundamental research, industrial research and experimental development and to disseminate the results of such activities by way of teaching, publication or knowledge transfer. Examples include universities or research institutes, technology transfer agencies, innovation intermediaries, research-oriented or virtual collaborative entities, and they can be public or private.*

*Cooperation in research & development activities may be new or existing and it should last at least for the duration of the project. The indicator covers active participations in joint research projects, and it excludes contractual arrangements with no active cooperation in the supported project.*

**References:** Refer to O14 for the definition of enterprises

**Baseline:** The baseline should be set at zero.

**Title:** Investments in new or upgraded disaster monitoring, preparedness, warning and response systems against natural disasters

**Code:** O26

**Measurement unit:** Euro

**Type of indicator:** Output

**Definition:** *This indicator measures the investment in euros in new or upgraded disaster monitoring, preparedness, warning and response systems against natural disasters by the project.*

**Baseline:** The baseline should be set at zero.

#### **Additional comments**

- A natural disaster is the highly harmful impact on a society or community following a natural hazard event. Some examples of natural hazard events include: flooding, drought, earthquake, volcanic activity, wildfire.

**Title:** Investments in new or upgraded disaster monitoring, preparedness, warning and response systems against non-climate related natural risks and risks related to human activities

**Code:** O27

**Measurement unit:** Euro

**Type of indicator:** Output

**Definition:** *This indicator measures the investments in euros in new or upgraded disaster monitoring, preparedness, warning and response systems against non-climate related natural risks and risks related to human activities.*

**Baseline:** The baseline should be set at zero.

#### **Additional comments**

- Non-climate-related natural risks consist primarily of geophysical events (earthquakes, volcano eruptions, tsunamis, dry mass movements). Risks related to human activities could be for example industrial risks, security threats.

**Title:** Additional production capacity for renewable energy (of which, e.g. electricity, thermal).

**Code:** O28

**Measurement unit:** MW

**Type of indicator:** Output

**Definition:** *This indicator measures the additional capacity for renewable energy generation developed or expanded with support, including capacities not yet connected to the grid or fully operational. It reflects the "net maximum electrical capacity," as defined by Eurostat, which is the highest continuous power output available at the outlet after accounting for internal consumption and transformer losses.*

**References:** [Directive 2018/2001 of the European Parliament and the Council on the promotion of the use of energy from renewable sources](#)

**Baseline:** The baseline should be set at zero.

#### Additional comments

- Renewable energy encompasses sources like wind, solar (both thermal and photovoltaic), geothermal, tide, wave, hydropower, biomass, and various gases, in line with Directive 2018/2011. Capacity is further categorized by the type of energy produced, either electricity or thermal.

**Title:** District heating and cooling network lines newly constructed or improved.

**Code:** O29

**Measurement unit:** KM

**Type of indicator:** Output

**Definition:** *This indicator measures the length of district heating and cooling networks that are newly built or have undergone improvements in energy efficiency. Improvements refer to enhancements in the networks' energy performance, as specified in the technical standards for modernizing or constructing new lines.*

**References:** [Directive EU/2023/1791 of the European Parliament and of the Council on energy efficiency and amending Regulation](#)

**Baseline:** The baseline should be set at zero.

#### Additional comments

- For detailed technical criteria on the energy efficiency of these networks, refer to Directive EU/2023/1791.

**Title:** Renewable energy communities supported.

**Code:** O30

**Measurement unit:** Renewable energy communities

**Type of indicator:** Output

**Definition:** *This indicator measures the renewable energy communities receiving support, defined as legal entities that meet three criteria: a) Open, voluntary participation with control by local shareholders or members close to the projects owned and developed by the entity; b) Shareholders or members are individuals, SMEs, or local authorities, including municipalities; c) The main goal is to deliver environmental, economic, or social benefits to its members or the local area, rather than financial profit.*

**References:** [Directive 2018/2001 of the European Parliament and the Council on the promotion of the use of energy from renewable sources](#)

**Baseline:** The baseline should be set at zero.

#### Additional comments

- Renewable energy encompasses sources like wind, solar (both thermal and photovoltaic), geothermal, tide, wave, hydropower, biomass, and various gases, in line with Directive 2018/2011.

**Title:** Solutions for electricity storage.

**Code:** O31

**Measurement unit:** MWh

**Type of indicator:** Output

**Definition:** *This indicator measures the creation or expansion of electricity storage capacity through supported projects. It measures the additional megawatt-hours (MWh) of electricity that can be stored, serving as a critical component in stabilizing energy grids and enhancing the integration of renewable energy sources.*

**Baseline:** The baseline should be set at zero.

#### Additional comments

- The focus is on solutions that contribute to electricity storage, including both newly established capacities and upgrades to existing storage facilities.

**Title:** Digital management systems for smart energy systems.

**Code:** O32

**Measurement unit:** System components

**Type of indicator:** Output

**Definition:** *This indicator measures the number of components within electricity distribution systems that have been newly created, installed, or significantly upgraded for enhanced smart energy management through digital systems. It encompasses components such as remote sensing equipment, control units in distribution nodes, substations, and data management infrastructures like data hubs.*

**References:** [DIRECTIVE \(EU\) 2019/944 of the European Parliament and of the Council on common rules for the internal market for electricity and amending Regulation \(EU\) 347/2013 of the European Parliament and of the Council on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulation \(EC\) No 714/2009 and \(EC\) No 715/2009](#)

**Baseline:** The baseline should be set at zero.

#### **Additional comments**

- Significant upgrades introduce new functionalities to the digital management systems, facilitating the efficient "final mile" delivery of electricity.
- Upgrades and/or enhancements refer to integrating user behaviors and actions into smart energy systems—including smart electricity grids and heat networks—to achieve economic efficiency, sustainability, reduced energy losses, and improved system quality, security, and safety (also refer to EU/347/2013 and EU/2019/944 under References)

# ANNEX

Please find below a case study – a practical example of a project and a couple of proposed indicators selected to measure it.

## Project description

*A small growing city with affordable housing needs has waste treatment facilities on its territory that collect waste from the region, including construction and renovation materials. The city owns a plot of land in a neighborhood that they want to redevelop with affordable and sustainable housing.*

*The city designs an EU-IA project aiming at building these houses using recycled construction materials. The city ambition is also to go beyond a single neighborhood and to set in motion a mind-shift in how to build and renovate buildings in the city using recycled construction waste.*

*For this, the construction waste needs to be upcycled to construction material and the project will invest in equipment to do this. It will organize trainings and workshops with local construction companies and other construction stakeholders to show the specificities of circular building and it will involve citizens in the design of the urban space and reflections on circular building.*

A predefined Result Indicator for this project could be:

- **Waste used as raw materials**, with the definition:

The indicator measures an additional annual tonnage of waste made available as raw materials as a result of the project. This indicator seeks to measure the mass of recycled waste that is made available following recycling processes.

An additional project specific Result Indicator could be:

- **Circular Materials Partnerships Established**, with the definition:

This indicator measures the number of partnerships, agreements and/or collaborations between the project and suppliers, businesses, organizations to use or supply circular materials in construction projects.

This indicator is:

*Relevant* – since one of the stated aims of the project is to set in motion a mind-shift in circular building, establishing partnerships with relevant organisations to reach this goal is relevant.

*Accepted* – in general, measuring established partnerships is an accepted result indicator. The project should make sure at its start that the main stakeholders agree on this indicator.

*Credible* – the fact that a project led by the municipality should be able to establish Circular Materials Partnerships is credible.

*Easy* – the indicator is easy to understand as a mean of success for the project.

*Robust* – the indicator can be measured by the number of Circular Materials Partnerships signed, which can be verified objectively.

The first two examples are quantitative indicators, which can be measured by counting tonnes of recycled waste into building materials, and the number of partnership agreements signed, respectively.

An alternative Result Indicator could be:

➤ **Community Attitude towards Circular Housing**, with the definition:

An aggregated value of community attitudes towards circular housing due to the urban planning project.

This indicator can be measured in both a quantitative and qualitative manner with the attitude of the community being collected through interviews and focus groups with local residents (qualitative) and pre- and post-project implementation surveys (quantitative).

In our example, the predefined Result Indicator **Waste used as raw materials** could be linked to the predefined Output Indicator **New equipment created and/or supported**, because the project wants to invest in equipment that makes upcycling of building waste possible.

The project specific Result Indicator **Circular Materials Partnerships Established**, could be linked to a project specific Output Indicator **Partnership Outreach Engagements**, which measures the efforts made by the project team to engage with potential partners for the use of circular materials. It captures the frequency and number of outreach meetings, showcase visits, discussions, and negotiations that have been initiated with the goal of forming partnerships. Naturally, these efforts should influence the result of established partnerships.

In our example, the project specific Result Indicator **Community Attitude towards Circular Housing** can have as baseline value an average attitude score (e.g. collected via survey) before project implementation. At the end of the project the same survey can be done to observe the change.