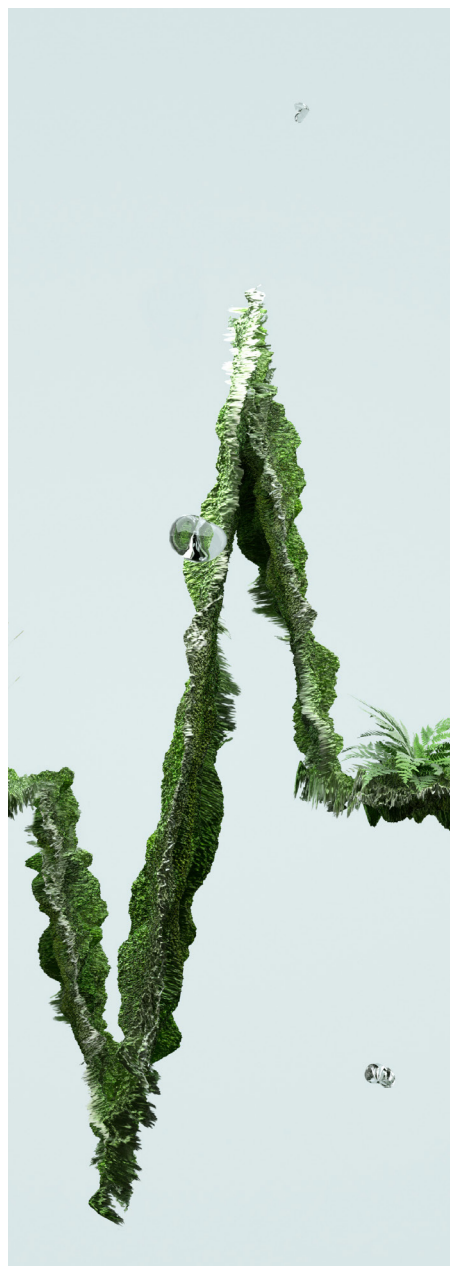


MONITORING AND IMPACT EVALUATION

Methodological
Guidelines



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1. Introduction

INTRODUCTION

For over 170 years, Cassa Depositi e Prestiti has held a crucial role within the nation, partnering with Italy in its socio-economic progress by enhancing structural growth. While the achieved results hold significance, the emerging challenges demand an ongoing refinement of tools and operational approaches. The green and digital transition, environmental preservation, and support for strategic industrial supply chains represent some of the new and demanding objectives, in addition to those traditionally pursued by CDP.

The Strategic Plan for 2022-2024 has introduced a new vision guiding CDP's actions towards fostering sustainable growth. This entails evaluating financing and investments in alignment with Strategic Guidelines and adopted Policies, assessing their potential to create positive impact. Indeed, for increased effectiveness, it is crucial to move beyond the conventional approach of merely minimizing risks and maximizing returns, as typically seen in financial institutions. There is a need for continuous monitoring of our activities and a systematic evaluation of the impact resulting from our interventions, as they contribute to the economic, social, and environmental progress of businesses, regions, and the nation as a whole.

This represents a front in which we have introduced an important and hopefully irreversible innovation in our operations, moving from a risk-return approach to a risk-return-impact model, aligned with the most advanced international financial institutions that promote economic policy goals. The Methodological Guidelines on Monitoring and Impact Assessment outline our intended approach for this activity.

This is a substantial shift that changes how we interact with our customers, our corporate culture, and how we aim to be perceived. We are no longer just a bank providing loans or facilitating investment transactions under favorable economic terms. Instead, we position ourselves as a financial intermediary dedicated to supporting our partners in realizing sustainable projects that can generate significant impacts.

Systematically monitoring and evaluating our business requires widespread changes in our operating model, affecting those who have relationships with the financed parties and need to request new information, those who manage the IT systems, and those who prepare contracts. However, the most crucial transformation stems from the cultural dimensions of this shift. It involves CDP professionals recognizing that they operate within a broader context, where generating positive impacts takes a central role in our endeavors, setting us apart from traditional financial institutions.

The benefits that this new model can bring to Cassa Depositi e Prestiti and the country are numerous. Firstly, it provides transparency to our actions, measuring and communicating the achieved results in relation to the resources invested. Secondly, through monitoring, we can promptly identify obstacles to our customers' expected results, assisting them during the implementation phases. Lastly, impact assessment allows us to measure the effects of our actions ex-post and potentially adjust our action strategy.

Laying the foundations to maximize the impact of Cassa Depositi e Prestiti's action is our way of looking towards the future with responsibility and an awareness of our capabilities and objectives. This serves as a driving force to sustain the sustainable growth of our country.

2. The transformation of CDP towards a risk- return-impact model

**2.1
CDP's role**

**2.2
Monitoring and impact
evaluation experiences
of international
financial institutions**

**2.3
CDP's transformation
towards a risk-
return-impact model
and the strategic
and operational
implications**

2. THE TRANSFORMATION OF CDP TOWARDS A RISK-RETURN-IMPACT MODEL

2.1 CDP's role

Cassa Depositi e Prestiti (CDP) works to support sustainable development in the Italian production system, using country's savings.

In its longstanding role, CDP has provided financing for infrastructure projects and investments targeted at Public Administrations and local regions, acting as a privileged partner with local authorities. Through its gradual evolution, from a state-owned company to a joint-stock entity and subsequently into a National Promotional Institution, CDP's scope of operations has expanded to encompass novel sectors of activity.

Today, CDP holds a significant position as a key participant in extending loans to the private sector, acquiring direct equity stakes in prominent Italian enterprises, engaging in the private equity and venture capital arenas, and facilitating export-related activities. As the Italian Financial Institution for Cooperation and Development, CDP also plays a pivotal role in financing international cooperation endeavours within critical sectors. These efforts encompass combatting climate change, fostering financial inclusivity, and advancing female entrepreneurship within developing nations and emerging markets.

CDP activities can be organised according to the type of counterparty, whether they are public (Regions, Local Authorities, Non-local Entities) or private (companies, financial institutions).

In the first case, CDP supports the Public Administration through:

- ▶ special-purpose loans, generally for building infrastructures in the local area;
- ▶ support, with the management of public funds (mandate management);
- ▶ technical advisory activities both in favour of the central PA and local administrations, for planning investments and implementing programme creation models and in all phases of public works construction (advisory).

In the second case, CDP supports company investments through funding and equity actions. In both cases CDP can act in two ways:

- ▶ direct management, supporting company investments with full involvement in all financing phases, from the preliminaries and management of the measures to the disbursement of resources to the end recipients in the case of a loan, or by taking a direct stake in the company's equity or through property investments;
- ▶ indirect management, when the disbursement of resources to the end recipients takes place through other banking institutions or is invested in a fund of funds.

CDP'S ACTIVITY

	PRIVATE ENTITIES	NATIONAL AND INTERNATIONAL PUBLIC ENTITIES
Loans		
Direct	financing, bond issue subscription, project financing, export finance, development financing and basket bonds	financing, project financing, cash advances
Indirect	Bank plafond's, bank liquidity, investments in diversified credit funds and international funds, financial guarantees	mandate management, sovereign counterparties (cooperation fund)
Equity		
Direct	Private equity	
Indirect	Funds of funds	

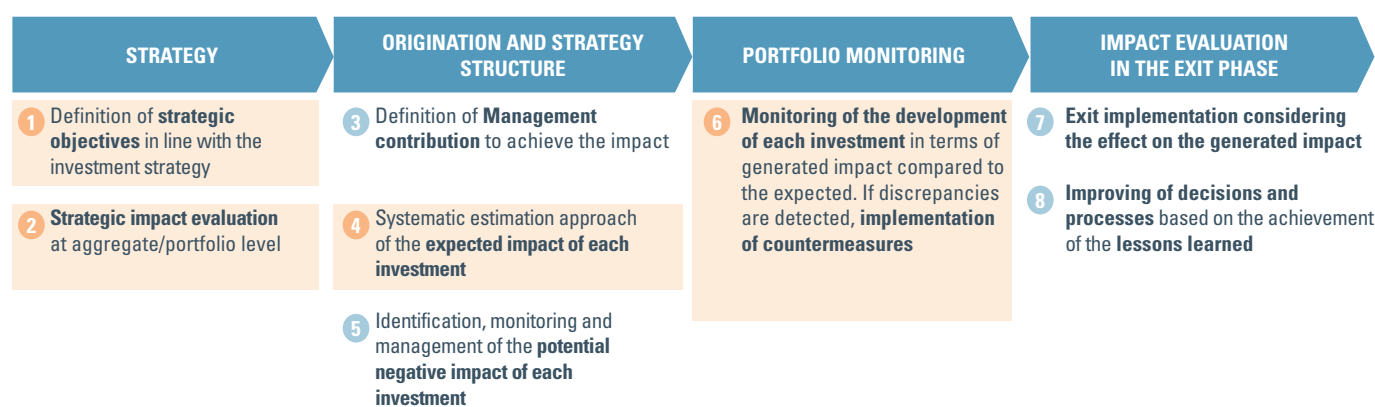
2.2 Monitoring and impact evaluation experiences of international financial institutions

The main financial institutions that share CDP’s mission to contribute to economic development, consider impact evaluation phase as crucial to their operations. Through an empirical analysis this activity determines whether a policy action has produced the expected results.

The principles and methodologies that must guide impact evaluation are well established and, in many respects, standardised in the international community. The OECD has defined the criteria that must guide the evaluation of projects¹, identifying for each object of evaluation the fundamental elements to be considered: relevance, coherence, effectiveness, efficiency, impact and sustainability.

In 2019, the Operating Principles for Impact Management were launched, outlining a common framework for impact evaluation with the aim of defining an end-to-end process to design and implement evaluation and monitoring processes. Together with the other National Promotional Institutions, CDP is a signatory of these principles for its International Cooperation activities². The key elements of the process are strategy, origination and structuring, portfolio management and exit. They are set out in Principles, deemed necessary for a solid impact management system (Figure 1).

FIGURE 1. THE OPERATING PRINCIPLES FOR IMPACT MANAGEMENT



Internationally, the two institutions that display the best practices in the way they organise their impact evaluation activities are the World Bank Group and the European Investment Bank Group (EIB).

The World Bank conducts impact evaluation on three levels³: in overall terms, to define the Bank’s impact on general development objectives; at a national level, to support the country in reducing the most significant gaps identified and on the individual projects financed. The principle that guides the approach to measuring and monitoring results is transparency and accountability of choices, as well as continuous learning that allows further policy choice adjustments based on the evaluation of the results achieved.

In the EIB Group, evaluation is divided into two streams: the evaluation of individual projects to measure the impact of each intervention, and the macroeconomic impact of the Bank’s activities as a whole, in terms of growth and employment in the European area.

The only National Promotional Institution with a complex impact evaluation structure is the German KfW, which addresses the issue of impact in the broader context of sustainability. Evaluation is carried out for individual projects in terms of their effects on the sustainable development goals (SDGs) and by monitoring the activities throughout the life of the funded projects.

¹ OECD EvalNet (Network on development evaluation), Evaluation criteria

² Each signatory is required to publish an annual disclosure statement describing how each principle is incorporated into its investment process and how its impact and process management system is aligned with the principles. The rationale underlying their design is that they are reviewed and implemented thanks to the knowledge transfer among participants. To date, these principles have been signed by 158 Participants from 38 countries.

³ The World Bank Group, Measuring & Reporting Results in the World Bank.

2.3 CDP's transformation towards a risk-return-impact model and the strategic and operational implications

CDP has embarked on a transformation process, to align its practices with the most advanced institutions that, like the EIB, assess the impacts of their interventions in a structured manner.

However, the operations of many National Promotional Institutions, including CDP, differ from those of multilateral institutions. In many cases, the activity aims at supporting the development of the country and the Italian business system rather than financing individual investment projects. For example, CDP intervenes to support the development of businesses through financing business plans, as well as through liquidity advances to local authorities for various purposes, such as projects.

Although, on the one hand, CDP has borrowed a well-established project evaluation structure from other international institutions with success, on the other hand it really needs to take account of these features of its work, in order to be able to effectively measure the impact of all its activities.

The investment and financing policies that guide CDP's activities are defined through sectoral strategies that allow interventions to be directed towards additional and market complementary actions able to generate an impact. The starting point to define the strategic priorities for the Institution is the identification of the gaps that Italy must bridge, which guide its action on the market.

This means that investment and financing transactions need to satisfy selection criteria that are in addition to the regulatory constraints and the risk and return evaluations also common to other financial institutions, to verify whether the transaction falls within the scope of CDP's commitment to bridge Italy's gaps and ensures an additional contribution with respect to the market.

Monitoring and measuring these interventions, during and at the end of their life cycle, integrate this approach. They measure the effective additional contribution of CDP's initiatives and allow operations to be continuously adjusted towards a model geared to generating impacts.

In particular, the monitoring of investments and loans during their life cycle enables timely intervention to ensure that the expected objectives are achieved. Evaluation is fundamental to quantify the effects of the various interventions, to identify the most effective and efficient technical forms, to improve the definition of objectives, to optimise the use of scarce resources and to understand the mechanisms that have favoured or impeded the achievement of objectives.

CDP's transformation from a traditional "risk-return" approach to a "risk-return-impact" approach, typical of the large international financial institutions that promote the achievement of economic policy objectives, has important implications both in strategic and operational terms.

From a strategic point of view, the fundamental principles guiding the Institution are those of additionality and complementarity. In terms of additionality, CDP enters the market to support it and not to displace the operators: therefore, it operates mainly in the event of market failures to generate economic, social and environmental impacts. Its role as a "patient investor" permits to intervene even in areas where the private market cannot operate independently.

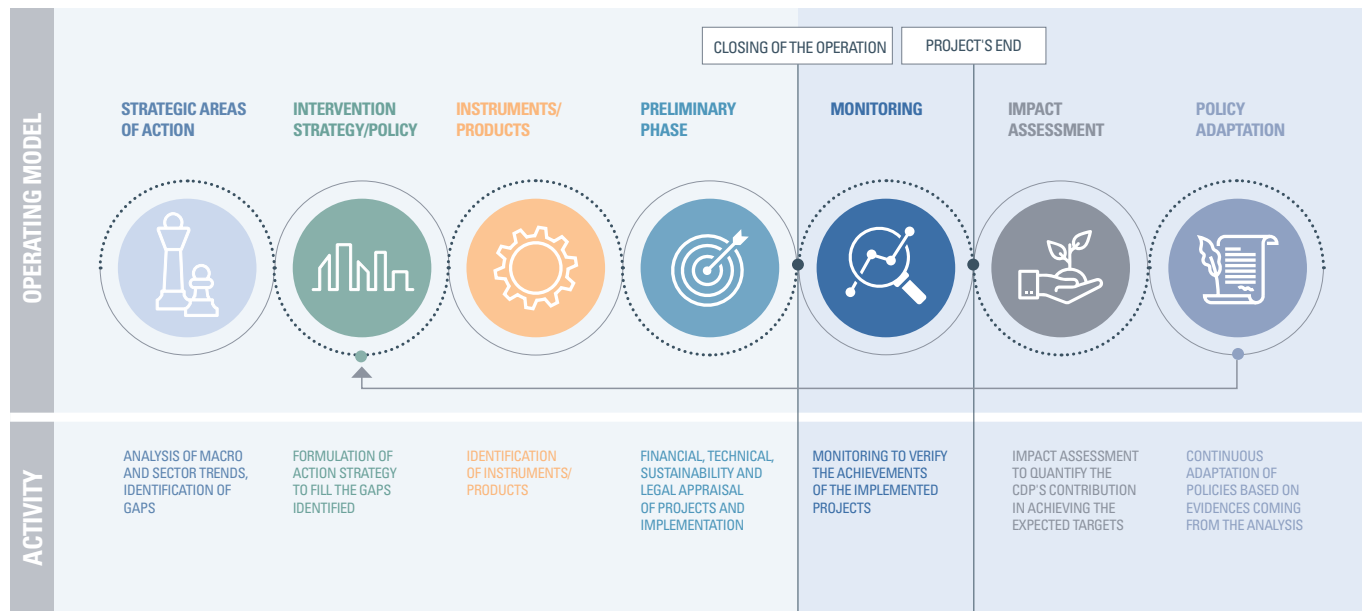
Within mature markets, CDP can act to create innovation, driving sectors towards the most advanced and competitive technological standards, also supporting the design and implementation of funded projects. In the case of markets that need to be developed or created from scratch, Cassa is a pioneer and can leverage its resources and technical skills.

The principle of additionality is reinforced by the principle of complementarity that CDP intends to pursue generating crowding-in effects, i.e., attracting resources from third-party investors to generate inflow of capital into sectors, companies and markets perceived as too risky, but which can generate significant benefits or positive outcomes.

From an operational point of view, the transition to a "risk-return-impact" model requires significant changes (Figure 2). Firstly, of a cultural nature: in the approach to the market, CDP professionals are required to make a broader evaluation of an initiative, which can also qualify the contribution that the investment can make in previously unconsidered areas, such as

employment or generated emissions. This also results in a profound change in the relationship with counterparties and in the related organisational processes, to meet a broader demand for information, which does not end with the preliminaries but follows the entire life process of the project. Finally, the products could also gradually change, defining reward systems in favour of those projects that guarantee the most significant impacts.

FIGURE 2. CDP'S RISK-RETURN-IMPACT MODEL



Source: CDP strategic Plan 2022-2024 documentation

3. The CDP Model

**3.1
The approach:
the impact value chain**

**3.2
CDP's framework**

**3.3
The perimeter of
monitoring and impact
evaluation activities**

3. THE CDP MODEL

3.1 The approach: the impact value chain

In CDP's activities, monitoring and impact evaluation are defined in terms of process and system, in line with the approach recommended by the European Commission to ensure transparency, together with an efficient and effective implementation of European policies⁴

Monitoring and impact evaluation rely on a pre-established logical and causal sequence of actions (**process**), although it remains open to revisions, such as those prompted by evolving international practices. The rationale behind the process is **systemic**, fostering continuous interaction across each phase, facilitating feedback loops among various components to promote an ongoing learning perspective.

In the case of CDP, monitoring and impact evaluation are part of a broader framework that starts from an analysis of Italy's strengths and weaknesses and defines a strategy of interventions, i.e., it identifies strategic priorities to direct its action in order to be additional and complementary to the market. The model foresees a dedicated team to monitoring and ex post impact evaluation with the task of verifying whether (and to what extent) CDP's action is actually addressing the predefined strategy. **Monitoring** aims at organising the data and information collection system in order to reconstruct the framework of the activities implemented. Conversely, ex post **evaluation** target is to interpret and analyse the effectiveness of the projects and whether or not the initially defined objectives have been achieved.

The adopted approach applies the so-called impact value chain to the reality of CDP. The impact value chain concept illustrates the value-generation process by linking inputs, outputs, outcomes, and impacts in a schematic manner (see box).

Potentially, this model lets CDP achieve three important objectives:

- monitor the physical results achieved by the interventions promoted by CDP during their life cycle, to check whether the resources used are actually producing the expected results;
- assess whether the projects have contributed to achieving CDP's strategic objectives and, more generally, to improve economic, social and environmental conditions;
- finely adjust and update the strategy and methods of intervention, prioritising those actions that generate greater impacts while optimising the use of financial resources.

⁴The model incorporates and adopts the recommendations of the European Commission in "Guidance Document on Monitoring and Evaluation – Concepts and Recommendations" (2014) and adapts them to the reality of the CDP Group.

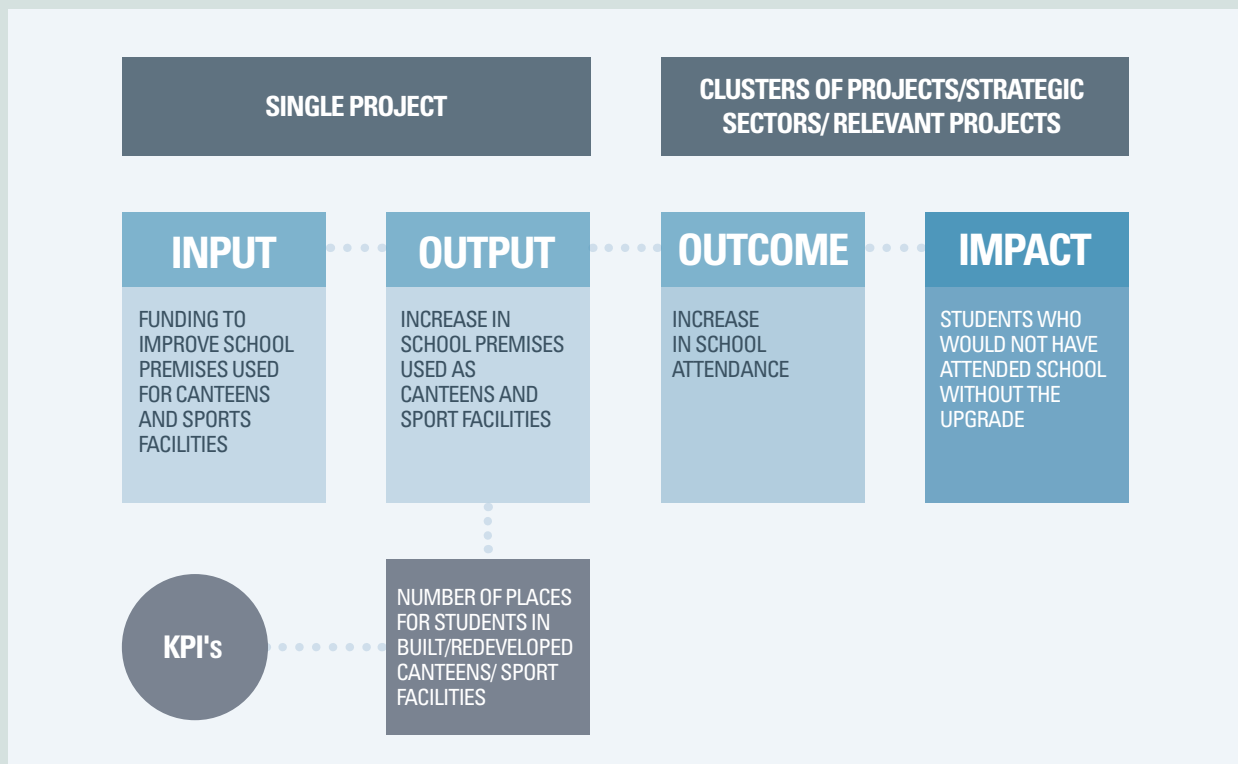
Box 1. The impact value chain model

The main financial institutions that promote the achievement of economic policy objectives use a monitoring and evaluation system that is based on the impact value chain. This model explains the process of impact generation through the chaining of inputs (resources and activities), outputs (results of the activity), outcomes (medium- to long-term effects) and impacts (effects attributable to the funded intervention).

In the example of schools (figure A), the inputs are the amount and type of funding allocated to the improvement of areas for school canteens and sports facilities used to achieve the desired change. The outputs (increase in the places available in school canteens), measured via specific indicators (number of places for students in the built/redeveloped premises), correspond to the immediate results of the activities that are relevant to achieve the outcome (increase in school attendance). Therefore, the outcomes represent the medium- to long-term benefits whose achievement should depend on the outputs of the intervention itself and, possibly, other external factors. However, the concept of impact is more complex, as is its measurement, and can be defined as the change in the outcome attributable solely to the supported intervention and thus without any external influences⁵.

In other words, since the increase in school attendance seen in the areas where the interventions were financed may depend on a number of other contributory causes (for example, availability of new public transport services, improved economic conditions of households, etc.), specific analyses are necessary to see to what extent the increase in school attendance can be attributed to the extended facilities. This is possible through statistical and econometric estimates.

FIGURE A. THE VALUE CHAIN – EXAMPLE ON COMBATING SCHOOL DROPOUTS.



⁵ The definition incorporates the concept of impact developed by the OECD in *Applying Evaluation Criteria Thoughtfully* (2019).

3.2 CDP's framework

In CDP's model, the value chain presented in the previous box (which summarises the content of the monitoring and impact evaluation activities) is integrated with the rest of the company's activities, including intervention strategy formulation and initial steps for loans via debt or capital.

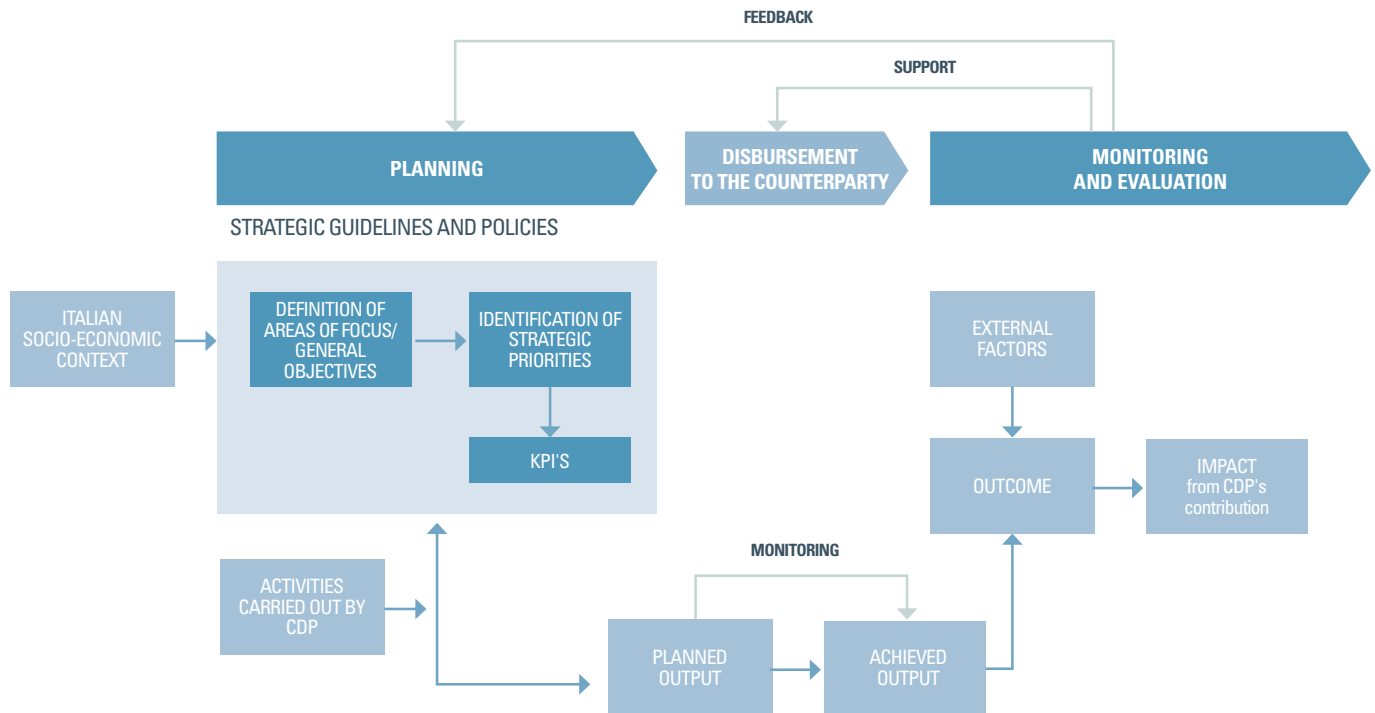
The foundation (Figure 3) is rooted in Italy's economic and social context, alongside an analysis of the nation's strengths and weaknesses. Particular attention is devoted to market deficiencies and the potential for supplementary and complementary contributions alongside other financial entities. Building on this groundwork, CDP has developed a model to encourage interventions deemed strategic for the institution and the country. More specifically:

- 10 key areas of action have been identified, aligning interventions with the objectives of the 2030 Agenda Sustainable Development Goals (see "Box 3. The correspondence between the 10 intervention fields and the 17 SDGs objectives" at the end of chapter 3);
- Sectoral Strategic Guidelines (SSGLs) have been approved for each of the 10 action domain, offering more specific guidance:
 - ▶ determining the "areas of focus" for interventions, which are tied to overarching objectives (termed "outcomes") to be pursued;
 - ▶ outlining the necessary actions ("strategic priorities") for each focus area, directing the company's funding toward endeavours with the greatest potential for impactful outcomes. In this manner, CDP's initiatives favour projects that contribute most comprehensively to societal well-being encompassing economic, environmental, and social realms;
 - ▶ a physical result indicator (KPI) for each strategic priority with the aim of monitoring and standardising the physical results achieved by the interventions to support a given purpose. This activity also allows to intervene if any delays during the life cycle of the project is detected, supporting the counterparties in the execution phase;
 - ▶ three cross-cutting indicators, common to all SSGLs, which make it possible to assess the value created by CDP in the three key summary indicators of economic, social and environmental well-being, namely contribution to national GDP, employment and the reduction of pollutant emissions.

Figure 4 shows an example of the content of the SSGLs, for the area of action "Transport and logistics hubs". One of the areas of focus is enhancing the transport "networks"; its associated general objective (outcome) is the improvement of travel times and safety. In order to achieve this general objective, the SSGLs indicate that action should be taken on a number of strategic priorities, such as maintenance and upgrading the road and motorway network to safety standards. Each of these strategic priorities is associated with a physical result indicator, KPI (e.g., kilometres of network maintained and/or upgraded to safety standards) that allows the physical result of all those interventions aimed at the same priority to be monitored in a simple and standardised manner.

Evaluation takes place after the monitoring, serving to comprehend whether, how, and to what extent CDP's actions have influenced the progression of desired outcomes. Impact evaluation yields noteworthy advantages for updates and meticulous strategy adjustments. On one hand, it identifies CDP's actions yielding the most pronounced economic, social, and environmental effects, distinguishing them from those with limited positive or even detrimental outcomes. On the other hand, it enables the tracing of causal relationships generating impacts, providing valuable insights into external factors that can accelerate desired enhancements.

FIGURE 3. THE CDP MODEL



Source: Representation adapted from Guidance Document on Monitoring and Evaluation – Concepts and Recommendations. European Commission, 2014

FIGURE 4. SSGLS ON TRANSPORT AND LOGISTICS HUBS

AREA OF FOCUS	GENERAL OBJECTIVES	STRATEGIC PRIORITIES	PHISICAL RESULT INDICATOR
	Improvement of travel times and safety	Upgrading and modernization of rail infrastructure for interurban mobility	New km prepared/replaced for the railway network (single and double track, electrified and not)
		Maintenance and upgrading the road and motorway network to safety standards	Km of network maintained and/or adapted to safety standards
		Strengthening and rationalization of the road and motorway network	Km of network affected by expansion/rationalization interventions
		Technological enhancement and digitalization of road and motorway sections (smart road)	N. of new digital services offered on the network (user services, alert services, etc.)

Source: Strategic Guidelines "Transport and logistic hubs".

3.3 The perimeter of monitoring and impact evaluation activities

The monitoring and impact evaluation activities detailed in these guidelines pertain to interventions supported by the CDP Parent Company and its direct subsidiaries, subject to its management and coordination. This choice is consistent with:

1. the extent of data and outcomes presented in the Annual Financial Reports and the Integrated Report;
2. the perimeter of influence of the SSGLs shared throughout the entire CDP Group. This monitoring and impact evaluation framework seeks to verify the alignment of CDP Group-supported interventions with the funding and investment strategies delineated in the SSGLs.

Nevertheless, the feasibility of monitoring and impact evaluation within this framework hinges on the availability of requisite information. Specifically, the effectiveness of monitoring relies on the efficacy of the data collection process tied to the physical outcome KPIs linked to the SSGLs. Meanwhile, the impact assessment of project clusters concerning the strategic objectives identified in the SSGLs may be influenced by the accessibility of suitable micro-data necessary for constructing robust statistical models.

In cases where substantial data concerning the physical advancement of interventions endorsed by the CDP Group is lacking, the monitoring and impact evaluation analyses predominantly utilize financial metrics to quantify the value generated across the three overarching dimensions in the SSGLs, namely contribution to the national GDP, employment, and the mitigation of pollutant emissions.

Box 2. The methodological approach of ex-ante evaluation⁶

CDP assesses in a structured way the potential positive and negative impact at the environmental, social, governance and, where relevant, technical-economic impacts of the initiatives being financed, to increase awareness and intentionality about the areas and interventions to greater expected impact. These assessments feed the internal decision-making process, alongside the more traditional assessments of risk profiles, compliance and anti-money laundering, financial conditions and legal aspects. The valuation process is designed to provide indications regarding (i) the alignment of business operations with the strategic objectives that CDP has identified, (ii) the additionality that CDP brings to the operations, also in terms of the ability to catalyze the participation of other investors (iii) in the quality of the counterparties benefiting from the ESG loans, (iv) in the alignment of business operations with sustainable development issues and, where possible and relevant, (v) in the technical and economic quality of the projects underlying the loans.

The analysis takes into account the specific characteristics of each business line, considering the nature of the counterparties, the type of transaction as well as the areas of intervention, without compromising an adequate level of comparability between the initiatives. The assessment takes place on the basis of a qualitative-quantitative analysis methodology ("Sustainable Development Assessment" or "SDA") which defines a "score", capable of expressing the expected impact of the projects and initiatives financed by CDP, to promote those with the greatest impact. In particular, the assessment process is a part of the credit granting process and, in support of the final decision, complementary to the analysis of the admissibility of the transaction (eg: legal, credit risk, compliance and anti-money laundering, etc.).

The evaluation activity is carried out on a progressively increasing perimeter of the Financing operations, considering the following dimensions:

- strategic consistency with CDP's strategic objectives, with the priority focus areas for CDP, also identified through structured listening to CDP's stakeholders, as well as with ESG objectives;
- additionality, expression of CDP's additional role in the financial sphere, considering the ability to operate in strategic market sectors, subject to bankruptcy or credit restrictions and to catalyze financial resources of other public and private entities;
- quality of the counterparty according to the operating model adopted in its area of operation and the conduct regarding the ESG dimensions;
- expected impact of the project in terms of macro-level alignment of the intervention with respect to the issues of sustainable development and the specific impact obtained on these issues.

In the case of loans granted for the realization of specific investment projects, depending on their complexity, relevance and strategic importance and where possible, the sustainability assessment is supplemented by a technical-economic analysis, which also takes into consideration innovative components, according to the following dimensions: i) technical quality of the project according to the characteristics of the design, the technical experiences of the counterpart and industrial hypotheses, ii) expected environmental impact in terms of the level of climate-altering emissions and intensity of environmental externalities deriving from the project iii) expected social impact in terms of direct and indirect employment supported and final beneficiaries impacted by the project and, iv) expected economic impact in terms of costs and monetary benefits produced for the community.

⁶ CDP General Responsible Lending Policy. 2022.

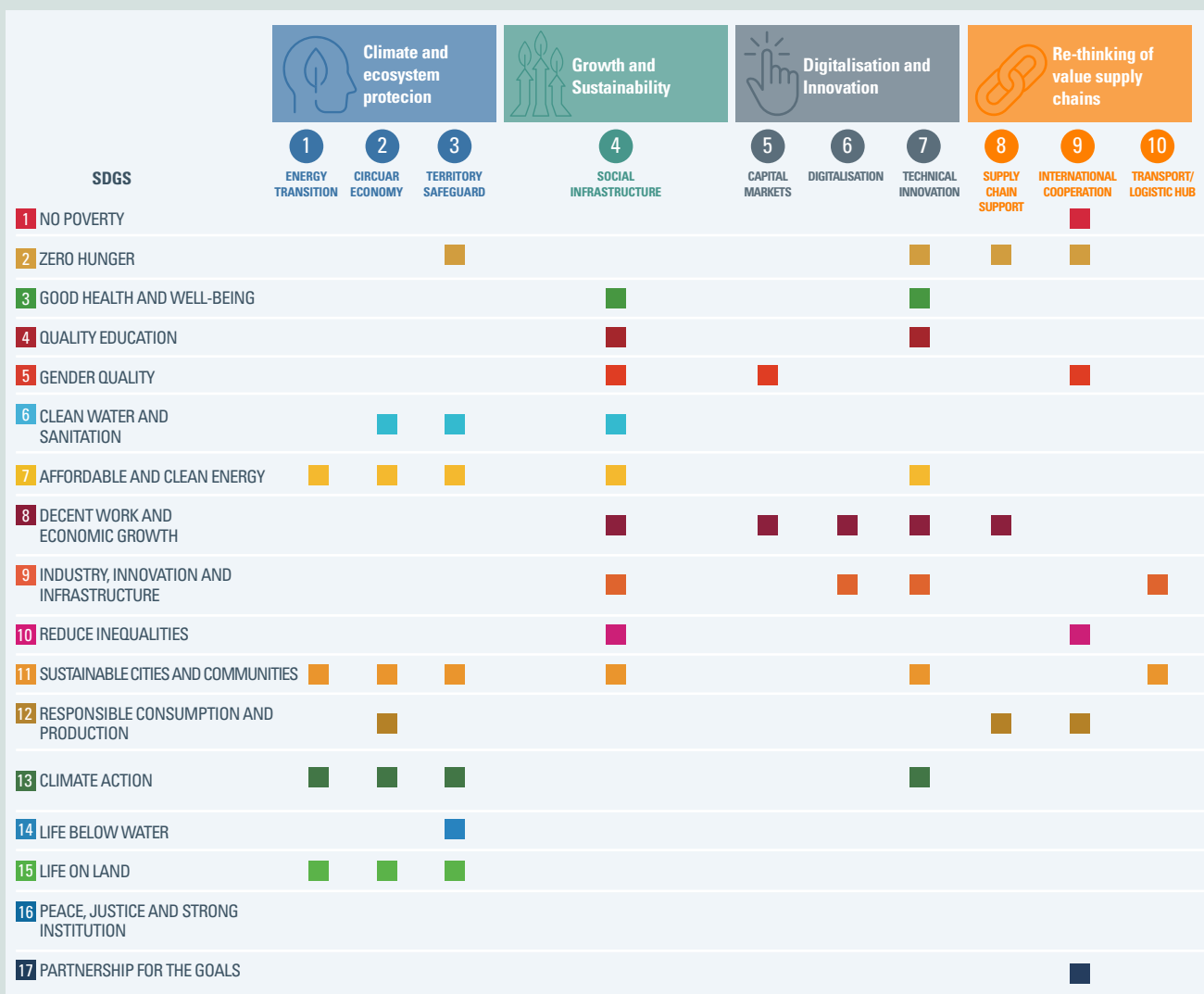
Box 3. The correspondence between the 10 intervention fields and the 17 SDGs objectives.

The 2030 Agenda and its implementation through the 17 Sustainable Development Goals (SDGs) find a direct reference in the 10 fields of intervention identified by the 2022-2024 Strategic Plan (Figure B).

CDP's monitoring and evaluation model makes it possible to verify how the activities supported by CDP are contributing to the SDGs. In fact, the correspondence between SDGs and the fields of intervention allows to associate the progress of the KPIs defined in the SSGL with the indicators identified for monitoring progress towards the SDGs and, therefore, to qualify the transmission mechanisms through which CDP is contributing to the European agenda in line with the methodology proposed by the European Commission for the programming period 2021-2027⁷.

For example, with regard to the intervention field 1 (energy transition), by monitoring the indicator "installed power of new plants from renewable sources" referred to the area of focus "increase and integration of generation capacity from renewable sources", it will be possible to qualify CDP's contribution to SDGs 7 (clean and accessible energy) and 13 (fight against climate change).

FIGURE B. CORRESPONDENCE BETWEEN THE 10 FIELDS OF INTERVENTION OF CDP AND THE SDGS.



⁷ In particular, this methodology makes it possible to investigate the interconnections between the 169 targets of the 2030 Agenda and the Intervention Fields (CI, Intervention fields, IFs) proposed by the European Commission for the monitoring of the 2021-2027 programming of the European Structural and Investment Funds (ESI).

4. Monitoring

**4.1
The need for structured
data collection
processes and KPIs**

**4.2
The data collection
processes and KPIs**

**4.3
Monitoring KPIs**

**4.4
Monitoring as an
instrument of learning
and counterparty
support**

4. MONITORING

4.1. THE NEED FOR STRUCTURED DATA COLLECTION PROCESSES AND KPIS

Monitoring and evaluating the impact of CDP's activity requires a significant amount of available data and information on the physical progress of the supported projects (the KPIs or physical indicators discussed in prior sections). These indicators, not typically collected in conventional funding or investment transactions guided by a risk-return approach, are contingent upon factors such as the type of counterparty, transaction scale, and utilized financial instruments. Additionally, these indicators can be revised as activities progress to ensure that collected data effectively aligns with funded transactions and identified strategic priorities.

Defining the monitoring KPIs assumes critical importance, serving both to more accurately represent expected results of the funding and to facilitate impact analysis. Nonetheless, the selection process must consider potential constraints or limitations in data availability, as well as any potential information-related costs incurred by counterparties. Generally, KPIs are chosen according to the SMART approach⁸: they should be *specific, measurable, achievable, realistic and time related*.

Furthermore, the information for the specific and cross-cutting KPIs common to all planned interventions (value added, employment and GHG emissions) is sourced from data collected directly from CDP counterparties and external sources. These sources encompass public and private databases, national and international statistical agencies, administrative sources, and specially tailored surveys.

Established processes detail methods for collecting this information and delineate responsibilities across various CDP functions. Data collection activities adhere to protocols that uphold the accuracy, transparency, and usability of information, ensuring centralized access across relevant structures. This necessity is counterbalanced with the aim of minimizing costs related to producing and collecting information from CDP counterparties.

4.2. THE DATA COLLECTION PROCESSES AND KPIS

Data collection processes and KPIs are structured to account for the life cycle of interventions, commencing from the initially defined reference framework and extending to the ex-post evaluation phase upon project completion.

In the pre-screening phase⁹, during creditworthiness and reputation analysis, CDP entities are tasked with data collection and a preliminary assessment of counterparties' alignment with sectoral and sustainability policies. This aids in excluding transactions that fail to meet minimum sustainability criteria¹⁰.

During the preliminary phase, as initial documents are gathered for transaction feasibility analysis, the monitoring process initiates by gauging its relevance to the SSGLs. For specific "purpose" transactions surpassing a designated threshold (outlined in CDP's operational regulations), a dedicated examination of technical, environmental, and social criticalities is carried out by Company entities equipped with specialized expertise (competence centres)¹¹.

During the preliminary phase, when transactions with the counterparty are concluded, CDP structures allocate the project to:

- one or more SSGLs;
- one or more focus areas within the SSGLs identified;
- one or more strategic priorities within the selected focus areas.

The allocation is made filling in the strategic coherence grid, which also provides the KPIs that the counterparty will need to collect. For major transactions, an ex-ante impact analysis is also required from a technical, economic and sustainability point of view and the issuance of the SDA 2.0.

⁸ Specific, Measurable, Achievable, Realistic and Time-related, SMART. As defined for the first time in the Management Review (Doran, 1981).

⁹ When funding PA local authorities, the process defined differs in some stages.

¹⁰ As regards "systematic exclusions" see CDP General Responsible Lending Policy (2022)

¹¹ The competence centres are specialised technical units responsible for the ex ante evaluation for the sectors: Innovation and Digitisation, Urban Regeneration and Infrastructure, Natural Resources and Energy and Environment.

The methods for the regular measurement of the KPI (or KPIs if the transaction covers several strategic priorities) are defined in the pre-signing phase during preparation of the contracts and final documentation. The counterparty should indicate the expected development of the project, enabling ongoing monitoring of transaction progress and assessment of deviations from in the execution of the project with respect to the initial expectations.

During the project execution phase, the counterparty should send regular reports on the progress of the KPIs defined at the time the loan was granted.

Box 4. The strategic coherence of CDP’s transactions

The strategic coherence evaluation grid is the tool used to assess how much the expected impact of a single transaction responds to the strategic objectives defined by CDP in the SSGLs. The use of the grid is based on the following steps:

1. for each transaction to be financed, one or more areas of action are identified to which the project may refer and similarly, one or more areas of focus and one or more strategic priorities;
2. for each of the identified strategic priorities, the related amounts of investment or funding are established.

Based on the amount of funding/investment of the specific project in the individual strategic priorities together with the respective degree of relevance¹² (predefined by the SSGLs), the grid shows a numerical value that summarises the degree of relevance of each action.

FIGURE C. STRATEGIC COHERENCE EVALUATION GRID

STRATEGIC CONSISTENCY EVALUATION GRID

Semi-automated tool for the Business to collect information:
example of functioning

STRATEGIC GUIDELINE	AREA OF FOCUS	STRATEGIC PRIORITIES	AMOUNT % FUND./ INV.	DEGREE OF RELEVANCE OF CDP'S ROLE	DEGREE OF STRATEGIC CONSISTENCY PROJECT	PHYSICAL RESULT INDICATOR
ENERGY TRANSITION	INCREASE AND INTEGRATION OF GENERATION CAPACITY FROM SOURCES	Building new plants	70%	Medium (2)	1.4	Power of new plants(MW)
		Repowering and revamping works existing plants	0%	Medium (2)	-	-
		Consolidating existing plants	0%	Low (1)	-	-
		Storage systems development	30%	High (3)	0.9	Power of new storage system
		...	0%
			100%		2.3 medium	

Source: SSGLs documentation

¹² The degree of relevance of CDP's role is calculated according to the importance attributed to CDP's intervention in the reference market/sector based on four aspects covering all areas of action: i) the degree of technological maturity of the sector; ii) the degree of uncertainty or complexity of the legislative/regulatory framework; iii) the degree of economic maturity of the operators in the sector and, iv) the presence of policy guidelines.

4.3. MONITORING KPIS

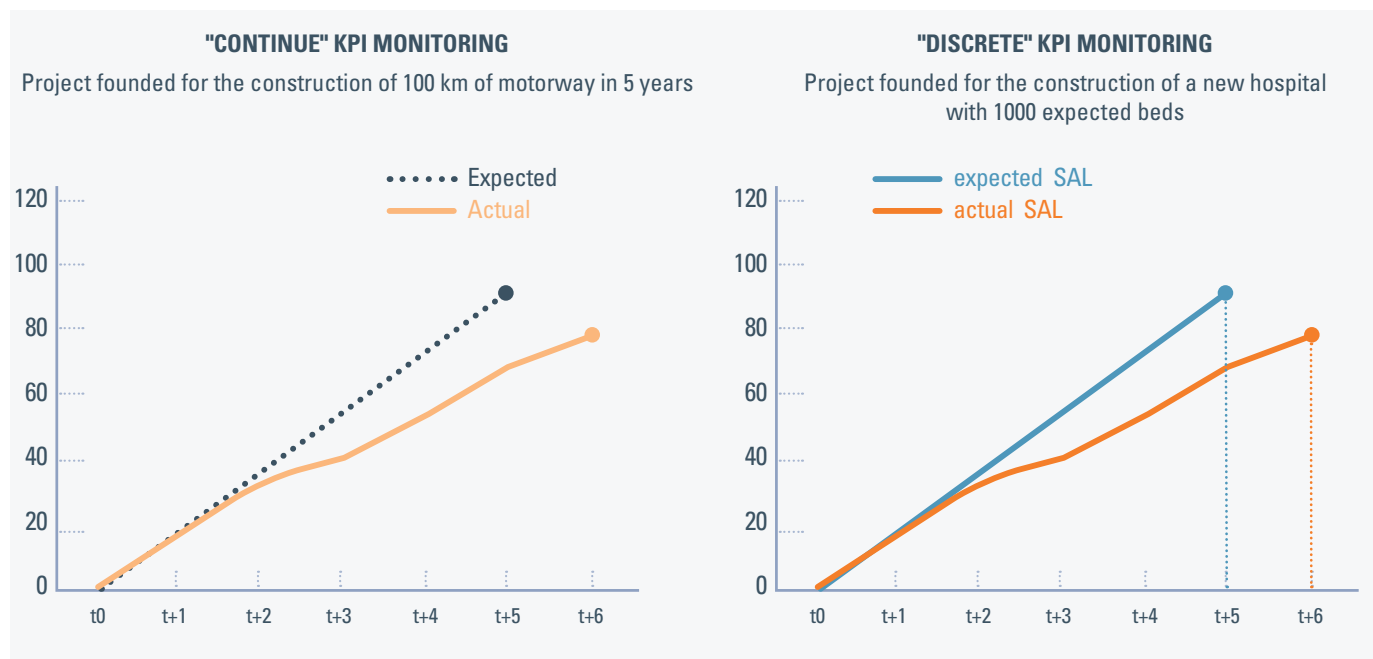
Monitoring occurs throughout the project's execution, systematically and continuously gathering information on the individual project's performance. The insights garnered from monitoring lay the foundation for subsequent and supplementary ex-post evaluations. Furthermore, to provide enhanced support in assessing medium- and long-term impacts, projects are subject to continued monitoring even beyond the conclusion of the funding or investment period.

Regarding KPIS associated with individual projects, the monitoring process seeks to quantify:

- the absolute value of the KPI expected at the end of the intervention period (e.g., kilometres of motorways maintained);
- project progression (e.g., % of the total motorways to be maintained by the end of the project);
- deviations (e.g., any difference in absolute or % terms of the kilometres of motorways maintained compared to expectations).

For certain KPIS, calculating deviations during the project's lifecycle is feasible, while for other cases, the project's nature may hinder such computations. For instance, consider a scenario where five-year funding is allocated for constructing a public hospital; it is highly probable that all beds (KPI) will be accessible when the facility becomes operational at the project's end. As shown in Figure 5, monitoring allows for verification of a project's one-year delay in completion and the availability of only 800 beds instead of the anticipated 1,000 beds. Nevertheless, tracking the specific KPI's development during the project's lifecycle might not be possible. In such cases, KPI monitoring is complemented by scrutinizing the project's progress reports. This approach ensures the identification of ongoing delays or non-fulfillments, facilitating timely intervention.

FIGURE 5. MONITORING KPIS RELATED TO SINGLE PROJECTS

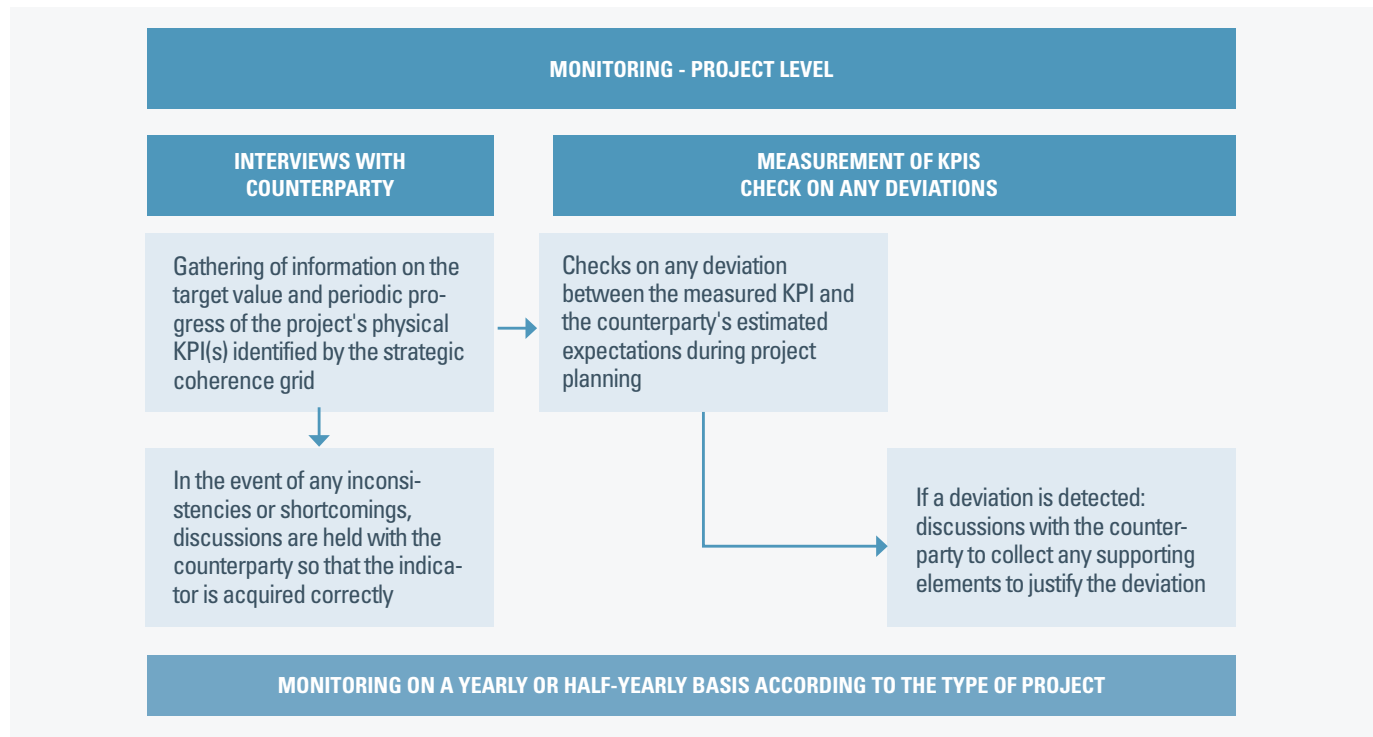


The monitoring activity (Figure 6) serves a dual purpose: not only does it reveal potential delays in executing individual projects, but it also enables an evaluation of project clusters focusing on the same KPIS or common objectives. In instances where projects focus on the same KPIS, it's feasible to consolidate indicators while considering staggered activity commencements. This approach aids in discerning, as projects advance, whether shared delays exist across all projects (such as challenges in sourcing raw materials) or if difficulties are confined to a limited subset of counterparties.

By using progress reports, it is also possible to aggregate projects that do not focus on the same KPIS but refer to the same strategic objective. For example, in the case of actions aimed at strengthening networks (whose common objective is to improve

travel times and safety), monitoring should make it possible to identify how many projects are on time, how many are accumulating slight delays and how many are accumulating serious delays. This is true when considering interventions providing new kilometres in the railway network, new kilometres of maintained motorways and those aimed at rationalising/expanding existing networks or new digital services to be offered on the network. When aggregating KPIs across individual projects, particular attention must be directed towards data quality and completeness. In certain cases, counterparties might lack the capability to provide requisite information for monitoring purposes. In such instances, reminders are dispatched, although these actions might not suffice to procure the required data. When KPI coverage is limited (where numerous counterparties fail to furnish reliable data), project aggregation might not accurately mirror the actual trend within that cluster due to possible statistical distortions¹³. In such scenarios, adopting assumptions and statistical methodologies becomes necessary for interpreting the data.

FIGURE 6. MONITORING



4.4. MONITORING AS AN INSTRUMENT OF LEARNING AND COUNTERPARTY SUPPORT

Monitoring holds significant potential for both CDP and funded counterparties, facilitating an understanding of whether their advancements align with progress in analogous projects, identifying specific delays, and exploring strategies employed by other parties to surmount implementation challenges. In cases where noteworthy disparities arise between the measured physical indicator's value and the anticipated value established upon financial agreement signing, the manager has the option to engage in further discussions with the counterparty. This process aims to pinpoint the underlying causes that contributed to such variations. Furthermore, the presence of deviations from initial plans at the agreement's inception enables CDP, particularly in substantial financing transactions, to extend guidance and support to counterparties. This assistance aims to mitigate hindrances to project execution.

Therefore, in the CDP model, monitoring is not only preparatory to impact evaluation, but plays a fundamental role of learning and transparency and has two fundamental characteristics:

- the detection of deviations and the constant reviewing of the project. On the one hand, monitoring allows the acquisition of information on what has been achieved so that project changes and adaptations can be examined. On the other hand, the project implementation phase may reveal discrepancies compared to the initial planning;
- transparency, through drafted monitoring reports: a tool to provide key players with always up-to-date information on the physical and financial progress of the project, even after its completion.

¹³ Projects where KPIs are lacking may have similar characteristics, such as being owned by counterparties unable to produce the required information due to financial difficulties. Taking these distortions into account allows monitoring data to be interpreted correctly.

5. The ex-post impacts evaluation

5.1 Methodological approach

5.2 Evaluation of strategic objectives

5.3 Evaluating CDP's cross-cutting objectives

5. THE EX-POST IMPACTS EVALUATION

5.1. METHODOLOGICAL APPROACH

The transformation of CDP towards a “risk-return-impact” model is fulfilled with the quantification of the generated impact in the ex-post evaluation activity. Potentially, CDP’s impact monitoring and evaluation model provides a systematic and predefined answer to some key questions related to the impact that the company’s transactions generate in the economic and social system.

The monitoring activity indicates whether, during its life cycle, the funded project is generating the expected outputs, for example, if the construction of some infrastructure follows the timing defined ex ante.

Impact evaluation comes at the end of a cycle of similar projects (for example, projects funded through venture capital instruments, projects that concentrate on the same area of focus defined in the SSGs or in the same local area), covering a broader and more ambitious spectrum of questions, but is subject to greater uncertainty.

The questions it intends to answer are the following:

- For similar project clusters:
 - ▶ Was the intervention effective?
 - ▶ Has it impacted the strategic objective it intended to address?
 - ▶ Has it generated economic, employment and emission reduction impacts?
 - ▶ What are the causes that can explain why it has generated (positive or negative) impacts?
- As regards CDP activities as a whole or its sub-classifications:
 - ▶ What is the impact of CDP’s action in economic, employment and emission reduction terms?
 - ▶ What are the geographical impacts of CDP’s action?
 - ▶ What types of interventions generated the greatest impacts at a macro-system level?

In a context such as that of CDP, featuring complex and well-structured operations, answering these questions isn’t always straightforward. Varieties of financial instruments are employed, multiple beneficiaries (counterparties) are targeted, and interventions are carried out both directly and indirectly. This intricate landscape precludes reliance on a single evaluation method, also due to challenges in collecting dependable data and information. This complexity necessitates a versatile evaluation model that offers a toolbox of options, facilitating the selection of the most suitable approach on a case-by-case basis, contingent on products, objectives, and intervention types.

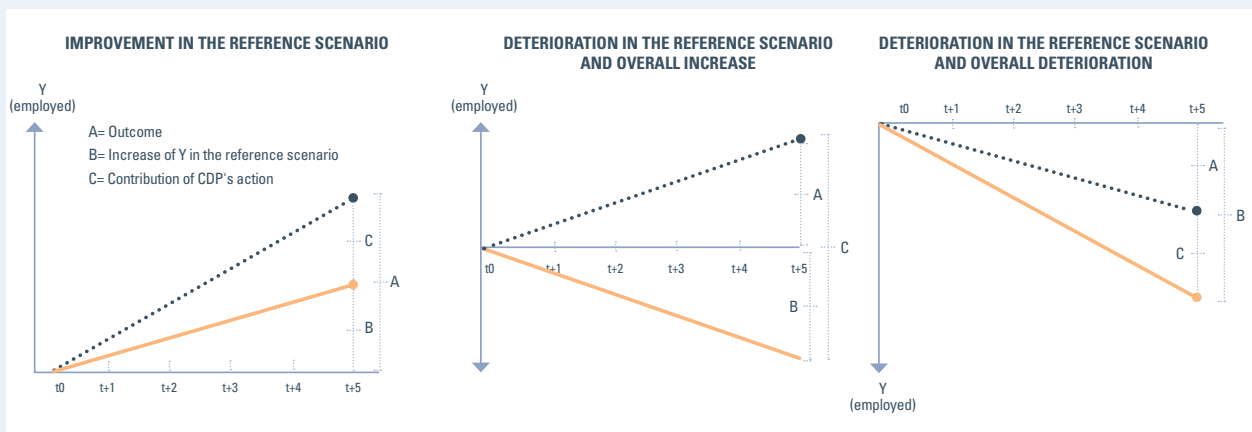
Therefore, the CDP evaluation model is based on a mixed approach that draws on both empirical (micro and macro) methodologies and methodologies included in the theory-based macro category. The empirical methodologies, based on statistical and econometric techniques, verify the existence of causal relationships between different indicators, isolating the contribution of the intervention. This enables, for example, to determine whether funding on transport networks has had an effect on travel times (has the intervention been effective?), quantifying its impact (what is the reduction in journey times thanks to CDP funding?). On the other hand, based on the evidence of the literature and logical cause-and-effect links, the theory-based approach establishes whether the interventions have produced the desired results, without precisely quantifying their impact (see box) but using multipliers and parameters consolidated in economic practice.

Box 5. Impact evaluation with the theory-based approach and empirical models

Impact evaluation means establishing the existence of a cause-and-effect link between the supported intervention and the outcome, quantifying its size: in the school example, it means evaluating whether the funding of the new school areas led to reducing the school dropout rate and how many students would not have attended school without those actions.

A counterfactual approach is necessary to properly assess the impact. In other words, a simple comparison between the conditions before and after the action is not enough: a comparison with a hypothetical condition is required, to show what would have been observed in the same period and for the same beneficiaries in the absence of the intervention (counterfactual situation). In the school example, it is necessary to compare the reduction in the student's dropout rate observed with what could have been recorded without the intervention.

FIGURA D. ASSESSING THE CONTRIBUTION OF CDP ACTION



In theory-based approaches, the causal attribution of the effects of an intervention¹⁴ takes place by adopting a sequence of logical links that describe its functioning, i.e., the reasons why a certain outcome has been reached and what the transmission mechanisms are. The primary objective is not the quantification of the effect of an intervention but the understanding/interpretation of what type of outcome has occurred based on one or more causal chains (“how” and “why” an intervention can influence a general objective or “outcome”). In devising the SSGLs, the choice of KPIs precisely responded to this rationale, identifying indicators that according to the reference literature are strongly correlated with the strategic objectives (outcomes) on which an impact is to be generated. It is an approach based on searching for empirical evidence, drawn from economic theory, case studies or the available scientific literature. With this approach, for example, the use of multipliers previously estimated by economic literature can provide an estimate of the effects of the interventions.

Where sufficient data is available and the financial instrument analysed permits it, the impact analysis allows the counterfactual situation to be estimated precisely¹⁵ using empirical (quantitative) methods. The empirical methods used to identify an adequate approximation of the counterfactual situation, as suggested by international standards, are two: the use of a reference case or the construction of a control group. The first must be constructed/estimated in parallel with the project life cycle in order to be able to formulate a hypothetical scenario, starting from the pre-intervention or baseline situation that will be compared subsequently to what has been observed. The same rationale applies in a counterfactual situation based on a control group: the impact is given by the difference between the beneficiaries of an intervention and a (control) group of non-beneficiaries with similar characteristics. The two approaches described are not necessarily alternatives but rather complementary to each other. Impact analysis based on empirical methods, in combination with theory-based evaluations, allows the contribution of an intervention to be quantified, and provides an explanation of the mechanisms and conditions that made it possible. In this way, the potential of the evaluation exercise is expanded.

¹⁴Theory-based evaluation is explicitly mentioned, together with empirical methods, as one of the preferred tools for carrying out impact analysis in the European Commission's Guidance on European Structural and Investment Funds (2014). The ex-post evaluations of the 2014-2020 EU programmes implemented by the European Commission used theory-based approaches to investigate the various factors that influenced the generation of results and impacts.

¹⁵It should be noted that the counterfactual analysis, also defined as “with/without”, is substantially different from the “before/after” approach. A pre/post-intervention comparison implies that the outcome is the same as the impact.

CDP's impact evaluation seeks to quantify the effects of CDP-supported interventions on the strategic objectives outlined in the aforementioned SSGLs, along with the cross-cutting goals. This is achieved combining micro and macro techniques (Figure 7).

Specifically, the micro approach relies on statistical and econometric methodologies, utilizing data sourced from individual projects and funded counterparties. Drawing from information collected during the monitoring phase or through dedicated surveys, it offers a quantification of CDP's contribution to achieving predetermined objectives. Methodological rigor is of paramount importance in this context, with various approaches available in the literature (Box 7). On the other hand, the macro approach is based on techniques that estimate impacts in terms of social, economic, or environmental variables, based on the aggregate volume of inputs introduced into the system. The integration of micro and macro methods, alongside the theory-based approach, aligns with international best practices¹⁶.

In the CDP framework, the micro approach is best suited to assess whether a cluster of similar projects has indeed influenced a strategic objective and the extent of its impact. However, obtaining the data necessary to construct statistically significant models is not always feasible. In such scenarios, theory-based approaches come into play. Conversely, if the funding volume activated by a specific cluster of projects is available, evaluating CDP's cross-cutting objectives (value added, employment, emissions) is always possible using macro models.

The ex-post evaluation is, ultimately, a reasoned interpretation based on rigorous analytical methods, analysing the causal mechanisms leading from outcome to impact. Therefore, the main objectives of the analysis meet the accountability criteria, the understanding of the effective contribution to the Italian production system by CDP's activities, and the learning criteria to produce knowledge useful to review the interventions so that their ability to generate impacts can be improved.

FIGURE 7. THE EX-POST EVALUATION OF IMPACTS

EX POST EVALUATION				
EVALUATION OF STRATEGIC OBJECTIVES			EVALUATION OF TRANSVERSE OBJECTIVES	
INPUT	KPIs measured during monitoring Direct survey Data from official sources		Empirical evidence Case studies Economic theory/literature	Volume of (additional) resources entered into the system
EVALUATION METHODOLOGY	MICRO MODELS	THEORY BASED use of micro models not feasible	MACRO MODELS (input/output and general economic equilibrium)	
SCOPE OF EVALUATION	SIMILAR PROJECT CLUSTERS		SIMILAR PROJECT CLUSTERS	TOTAL GDP ACTIVITY
TYPE OF IMPACT	Quantifying direct impacts through micro models	Quantifying direct impacts through the use of conversion coefficients	Direct, indirect and induced	Direct, indirect and induced
CAUSE-AND-EFFECT LINKS	Counterfactual approach	Interpreting the impact transmission mechanism	Modelling the impact transmission mechanisms	
OUTPUT	PERIODIC IMPACT REPORTING			

¹⁶ Micro- and Macro-based methods in assessing the impact of investment, EIB - Bruegel think tank (2017)

5.2. EVALUATION OF STRATEGIC OBJECTIVES

Through the timely collection of KPIs, monitoring enables the reporting of whether funding has yielded the "physical" outcomes that could contribute to an enhancement of CDP's strategic objectives. During the monitoring phase, the focus lies on assessing the level of accomplishment over time and, if necessary, identifying and rectifying any execution delays. Conversely, the impact evaluation phase delves into analysing outcomes and their determining factors, aiming to isolate the effective contribution of the interventions. The impact evaluation is carried out on clusters of similar projects, that is, attributable to the same area of focus that is related to predefined strategic objective. The availability of KPIs strengthens the possibility to measure the impact, but it may still be necessary to conduct direct surveys and/or a collection of data from official sources.

For instance, in the evaluation of the impact generated by a cluster of similar projects to enhance transport networks on actual travel times (overall objective), some sample surveys could supplement the information on physical results summarised by the KPIs. Comparison of a sample of travellers on the routes covered by the CDP funding with an alternative sample could help to verify whether the travel times have been reduced¹⁷. In some cases, when the lack of precise information does not allow the development of micro-econometric models, it is possible to estimate CDP's impact through theory-based approaches. In this example regarding transport, the impact of an intervention can be quantified through an analysis of the cause-and-effect links and the empirical effects already identified by economic literature on journey times. For example, if the literature has estimated that for every 100 km of investment in high-speed networks, the average journey time is reduced by x%, that scale factor can be used to measure the impact of the investments made.

Box 6. Importance of physical KPIs and strategic objectives

Accurately monitoring and evaluating the generated impacts heavily rely on gathering physical indicators that track the progress of supported interventions. Relying solely on monetary metrics (like the invested resource amount) to gauge project progress and measure CDP's contribution to national development could be misleading. Various factors, such as bureaucratic obstacles, inefficiencies in expenditure procedures, fluctuating raw material costs, design complexities, beneficiary characteristics, or the local context of the intervention, might cause the actual physical outcomes of funded investments to deviate from initial projections. Ignoring these deviations—between expected and achieved physical outcomes—could lead to either an overestimation or underestimation of CDP's genuine role in advancing both company capital and local areas. For instance, resources allocated to upgrading municipal road networks might lead to fewer kilometres constructed than initially anticipated, especially in areas with intricate topography or less efficient local administrations in executing public projects (Bank of Italy, "Le infrastrutture in Italia: dotazione, programmazione, realizzazione," April 2011). Monitoring the actual kilometres built helps account for these variations and accurately assess CDP's contribution to road network enhancement.

While monitoring the aforementioned physical indicators (KPIs) is crucial, it's insufficient to measure the medium- to long-term benefits stemming from supported interventions that favor beneficiaries (e.g., companies, public administrations, local regions). Monetary metrics quantify invested resources but fail to convey the actual volume of executed projects. Conversely, physical indicators solely address execution and lack insight into project functionality and its capacity to generate economic, social, and environmental advantages. Taking the aforementioned road network scenario, monitoring kilometres of built roads doesn't indicate whether the intervention genuinely improved the overall network efficiency and usability. This aspect, which citizens, businesses, and local administrations value most, remains unaddressed. For instance, enhancing a congested road network might have a more substantial positive impact on mobility for a larger portion of the population than upgrading an underutilized network.

Impact evaluation bridges the gap between the physical outcomes of interventions and the benefits accrued. Essentially, it leverages the physical KPIs collected during monitoring to ascertain if the tangible results of CDP-supported interventions contribute to achieving medium- to long-term strategic objectives and, on a broader scale, enhancing economic, social, and environmental conditions. In the case of road network interventions, impact evaluation gauges to what extent the constructed kilometres of roads have effectively improved network efficiency, potentially leading to reduced travel times.

¹⁷ Micro models allow a series of other parameters to be checked (e.g., type of vehicles travelled in, network type, etc.) and the significance of the individual parameters to be calculated and their contribution quantified.

5.3. EVALUATING CDP'S CROSS-CUTTING OBJECTIVES

The evaluation of cross-cutting objectives focuses on the impacts in terms of value added, employment and emissions, in line with the other international institutions practice¹⁸. This estimation can differentiate between direct effects (pertaining to loan recipients), indirect effects (stemming from counterparties purchasing goods and services to support increased activity due to funded investments), and induced effects (resulting from increased employment, higher income, and subsequent enhanced consumption). Additionally, a distinction can be made between short-term demand effects and long-term supply effects¹⁹.

Regarding cross-cutting impacts, evaluation is conducted on clusters of similar projects, CDP's overall activities, and diverse groupings like financial instrument types, concentrated geographical areas of interventions, or areas of focus as defined in the SSGLs. This analysis identifies actions that generate the most significant impacts under consistent conditions.

Input-output matrices or general economic equilibrium models can be employed to evaluate direct, indirect, and induced effects of a given funding volume. The chosen evaluation method considers resources that are additional and complementary to the market as inputs. This can be achieved through preliminary-phase evaluations and assumptions based on the granted funding type.

The input-output tables are matrices developed by ISTAT that describe in detail the internal production processes and constitute a useful tool to assess the impact of a certain investment on the economic system (see box). This type of approach makes it possible to estimate quantities such as the value added and employment generated by a certain volume of investments. Using a regional version of the input-output matrices²⁰, it is also possible to assess the impact of CDP's action on different local areas, thus being able to estimate the effects on regional economies. In addition, through a system called Namea (National Accounting Matrix including Environmental Accounts), the third cross-cutting indicator evaluated by CDP can be associated with the economic values of the value tables in physical units, including GHG emissions.

General equilibrium models can be used to broaden the analysis of investment impacts and/or to have a more precise and differentiated estimate of the impacts. Input-output tables only provide the impacts of interventions at full capacity, whereas general equilibrium models allow the impact and dynamics of investments to be estimated, with an evaluation that diversifies the effects over time, thus also allowing a distinction to be made between short-term and long-term impacts. Furthermore, input-output tables are "neutral" instruments with respect to the type of investment made (for example, the impact of 100 euro of investments in a given sector produces the same effect whether it is in technology or machinery), whereas general economic equilibrium models allow the use of differentiated parameters, based on economic literature.

Input-output matrices, and general equilibrium models, can be used in combination with or as an alternative to micro models. For example, it is possible to evaluate the impact of a cluster of projects in terms of value added or in terms of employment through micro models that typically allow for a more accurate estimate of direct effects than a macro approach. The subsequent application of input-output matrices also makes it possible to quantify the indirect and induced effect of the intervention (Figure 8).

An example can help with understanding how the models can be combined. Funding transport networks generates a certain amount of employment and value added for the enterprises that have received the loans: the direct effect, which is measured on the beneficiaries of the interventions. However, the investment effects do not stop there, for example, because the beneficiary had to purchase additional raw materials or services (indirect effect) or because the new employees increased their consumption (induced effect). With a micro model, whether the increase in value added and employment (direct effect) is determined by CDP's intervention can be checked, together with the magnitude of the impact. The measured direct effect can be used²¹ in input-output matrices to estimate indirect and induced effects. In the absence of micro models, using the volume of investments generated by CDP's intervention²² the macro models can provide the estimation of direct, indirect and induced effects of the funding.

¹⁸ Measuring the EIB Group's impacts - Methods and studies, EIB (2021).

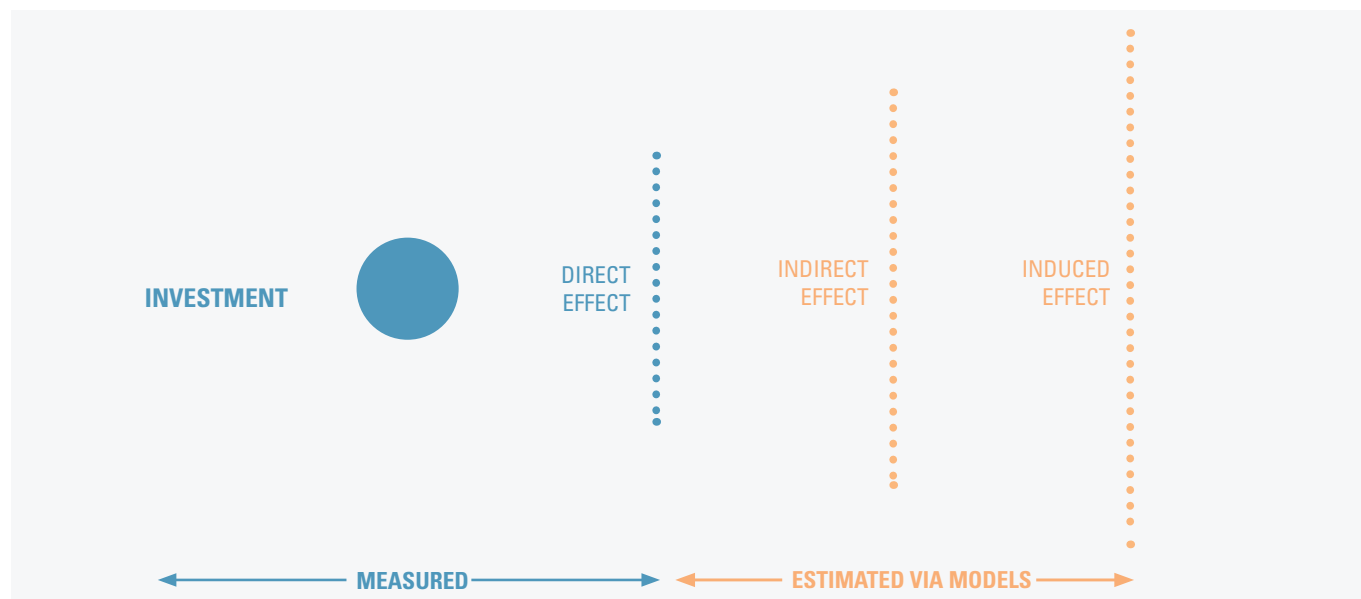
¹⁹ The impact will be quantified by using the various available methods, for example, by developing analyses based on reference scenarios built in conjunction with the life cycle of the project or by using statistical-econometric techniques to identify the counterfactual control groups and explain the cause-and-effect link between CDP's work and the impact generated on the reference system.

²⁰ For several years IRPET (Regional Institute for Economic Planning of Tuscany) has gained well-established and valued experience in building input-output tables and models on a regional and multiregional scale, that is perfectly coherent with the ISTAT-Eurostat system of territorial economic accounts.

²¹ The impact on value added or employment can be traced back to an investment value to be introduced into the input-output matrices.

²² For a correct impact evaluation, it is necessary to introduce in the input-output model the volume of "additional" investments generated by CDP's intervention, compared to the market. This is possible by using the SDA information (the financial additionality of the project is assessed during the preliminary phase) and making assumptions and hypotheses based on the type of funding granted (for example, a loan to the PA generates an additional investment to the market).

FIGURE 8. MODELS AND ESTIMATION OF INDIRECT AND INDUCED EFFECTS



Source: Measuring the EIB Group's impacts - Methods and studies, EIB (2021).

Box 7. The tools and methodologies for impact evaluations

The approaches to be adopted for impact evaluation will need to be differentiated according to the type of instrument, the availability of the information and the chosen aggregation criterion.

Micro Methods²³

- *Matching (propensity score)*. The method consists in associating each beneficiary of the intervention with a non-beneficiary having similar characteristics (e.g structural characteristics) and, therefore, with a similar ex ante estimated probability, i.e., propensity score to become a CDP customer.
- *Difference-in-Difference*. The effect of an action can be calculated through a “double difference”, a difference in time (pre-post) and a difference between entities (recipients and non-recipients). The variation between these differences (the “difference-in-differences”) is attributed to the intervention.
- *Regression discontinuity designs (RDD)*. This method exploits the existence of a variable that has a discontinuous impact on the likelihood of being recipients of the intervention (for example, geographical limits or size of the company).
- *Instrumental variables (IV)*. The method consists of using instruments (economic sector or geographical context) that help to exclude differences between beneficiaries and non-beneficiaries.

Macro Methods

- *Input-Output Model*. The table of sectoral interdependencies provides a matrix representation of the flows of goods and services in an economic system, explaining their inter-industrial or inter-sectoral relationships. By calculating the multipliers, it is possible to measure the direct, indirect and induced economic impact of the intervention at a national or multiregional level.
- *SAM Model*. The Social Accounting Matrix (SAM) is an extension of the input-output table. The feature that makes it interesting is that environmental data can be included in order to understand the relationships between environment, production structure and consumption²⁴.
- *Computable General Equilibrium Models (CGE)*. A general economic equilibrium model is a formal representation of the different markets that make up the economic system. The main advantage of their use in impact evaluation is the possibility of modelling the supply-side system by allowing detailed analyses of structural changes and economic dynamics triggered by the interventions.

²³ In general, these methods are subject to some critical issues caused by selection bias mechanisms. Biases that derive from differences in the starting conditions of the two observed groups (e.g., CDP's customer enterprise group and control group) that do not depend on the intervention but on the selection process itself. One of the main objectives of an econometric analysis is to reduce this self-selection effect in order to distinguish the differences between the performance variables due to ex ante factors and those attributable to the use of CDP tools (ex post effect).

²⁴ If the environmental indicators are expressed in physical units, there is a SAM linked to a set of accounts derived from the NAMEA (National Accounting Matrix including Environmental Accounts). If the environmental data is expressed in monetary terms, it is referred to as an ESAM (Extended Social Accounting Matrix).

Micro Methods

METHOD	KEY POINTS	BENEFITS	LIMITATIONS
MATCHING (PROPENSITY SCORE)	Beneficiaries and non-beneficiaries of an intervention are matched to each other based on their observed characteristics	<ul style="list-style-type: none"> It requires a sound knowledge of selection processes, but it does not require direct control over assignment mechanisms It can be applied retrospectively, if data is available and applicable to a variety of contexts Technically it is a semi-parametric estimation method; it does not require many parameter assumptions (for example, it does not require standard regression assumptions). 	<ul style="list-style-type: none"> It requires considerable amounts of data to allow a complete characterisation of the selection process. It is based on the assumption that the selection process can be adequately characterised by observable data The range of different matching approaches requires sensitivity analyses Results can be complex to explain and interpret, and are potentially ambiguous
DIFFERENCE-IN-DIFFERENCES	It uses the pre-intervention situation (trend) to measure the impact on recipients and non-recipients	<ul style="list-style-type: none"> As regards some aspects, it checks undetected differences between beneficiaries and non-beneficiaries It can be used in combination with Matching 	<ul style="list-style-type: none"> It requires the assumption of common trends between participants and the control group The analysis can become quite complex and subject to misinterpretation It requires significant amounts of data to verify assumptions of common trends It cannot be used to estimate multiple effects of the intervention
REGRESSION DISCONTINUITY DESIGNS	<p>Potential participants in a project access it according to the score obtained</p> <p>The predetermined cut-off point distinguishes between beneficiaries and non-beneficiaries (control group)</p>	<ul style="list-style-type: none"> Sharp and Fuzzy approaches are It can provide unbiased impacts under certain conditions 	<ul style="list-style-type: none"> This approach is not valid without a continuous or scoring selection criterion Analyses can become complex and uncertain if there are problems with the functional form of the regression that determines the impact or if the size of the sample around the cut-off point is limited There may be problems in interpreting the results and in generalising them
INSTRUMENTAL VARIABLES	It uses a tool (a type of variable) to isolate the exogenous variation, for example, in receiving funding. The idea is to simulate a natural experiment	<ul style="list-style-type: none"> It can provide high-quality estimates of causal connections It solves the problem of an omitted variable (or selection bias) It can be applied retrospectively 	<ul style="list-style-type: none"> It can be difficult to find a valid instrument It can be difficult to explain to laypeople Interpreting the results is not easy Limited verifiability of the assumptions made

Macro Methods

METHOD	KEY POINTS	BENEFITS	LIMITATIONS
INPUT-OUTPUT (IO) MODELS	Models for estimating direct, indirect and induced effects	<ul style="list-style-type: none"> • They allow the study of the relationships between the different sectors of the economic system • They allow the territorial breakdown of the impacts • They are produced by ISTAT at a national level 	<ul style="list-style-type: none"> • Rather significant assumptions such as no substitutability between production factors and constant scale yields • They do not allow structural effects to be ascertained
SAM MODELS	<p>They extend the information capabilities of IO models</p> <p>Possible extensions to assess impacts on the environment</p>	<ul style="list-style-type: none"> • SAM multipliers also identify the effects that are transmitted from the income/consumption circuit to production activities • The SAM model records all the stages of the economic process, highlighting its circular structure. 	<ul style="list-style-type: none"> • Same assumptions as IO models • They require a greater amount of information in order to be filled in
COMPUTABLE GENERAL EQUILIBRIUM (CGE) MODELS	<p>GEE models distinguish between demand effects and structural effects</p> <p>They identify the adjustment dynamics of the economic system</p>	<ul style="list-style-type: none"> • They identify all the impacts as IO and SAM models • The behaviour of economic agents is modelled through equations/functions • They allow the most accurate allocation of funding 	<ul style="list-style-type: none"> • They require a lot of data and assumptions on the parameters that are not directly estimated • The way it works is less intuitive • Suitable for impact evaluation of significant investment volumes

6. Dissemination of monitoring and impact evaluation results

**6.1
The value of
communicating
results**

**6.2
The contents of
communication
activities**

**6.3
Reports and products
to communicate CDP's
monitoring and impact
evaluation activities**

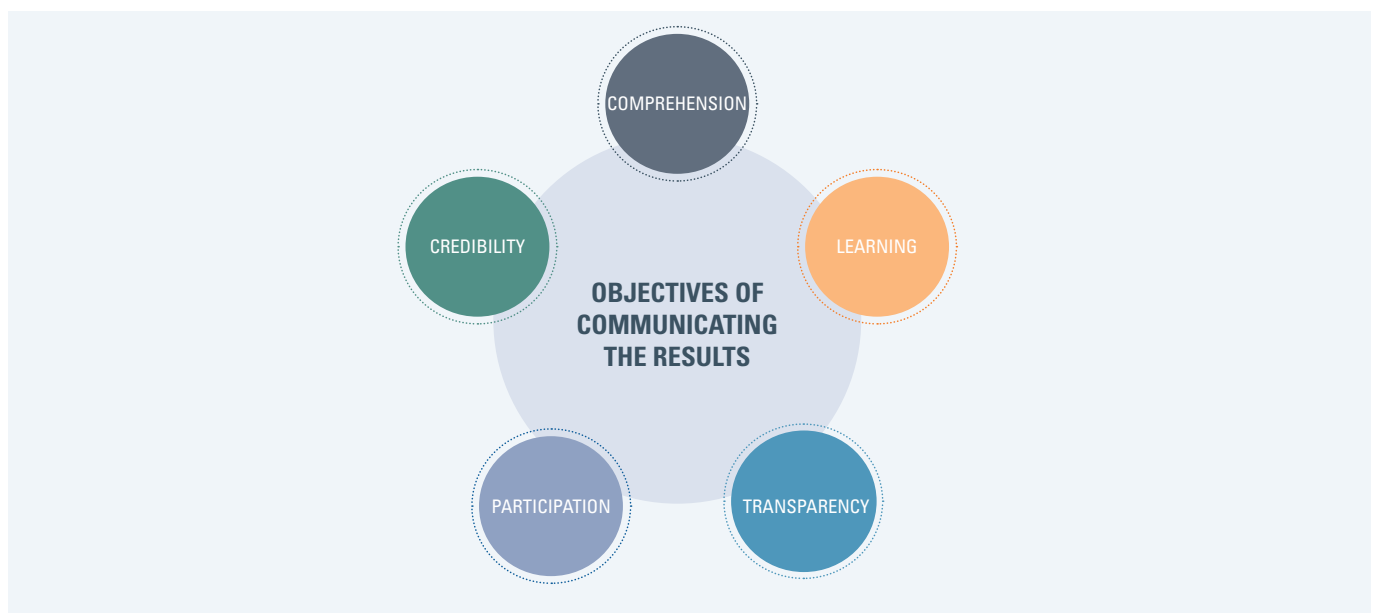
6. DISSEMINATION OF MONITORING AND IMPACT EVALUATION RESULTS

6.1. THE VALUE OF COMMUNICATING RESULTS

The process of measuring the impacts generated by the CDP activities ends with the phase of communicating the results, through the drafting of a set of documents and reports that differ on the basis of the scope of analysis and the topic discussed.

Timely and effective communication of the results meets a range of objectives:

- **Comprehension.** It ensures that the entire process of monitoring and evaluation are comprehensible to a wide range of players, such as:
 - ▶ internal participants, i.e., the entire company;
 - ▶ external stakeholders such as, for instance, beneficiaries of the funded interventions (for example enterprises, local authorities);
 - ▶ co-lenders/co-investors (e.g., the European Investment Bank);
 - ▶ institutional players.
- **Learning.** Making the monitoring and evaluation results known generates learning, both within CDP, and for counterparties and stakeholders, in terms of redefining strategies (CDP), slight adjustments in the execution of projects (counterparties) and policy design (institutions).
- **Transparency.** Ensuring the regular availability and accessibility of the monitoring and evaluation results is fundamental in building a results-culture and for ensuring greater accountability in the use of company resources. In fact, a commitment to reporting results encourages closer adherence of business practices to the declared values and strategies; it facilitates a more efficient use of resources and the possibility of making comparisons with other projects and initiatives developed by CDP itself or by other organisations;
- **Participation.** Communicating the monitoring and impact evaluation results can help to create a greater awareness among the company and external stakeholders about the strengths or critical issues of the projects and therefore a more suitable environment for fruitful discussions on future intervention strategies;
- **Credibility.** The potential and desirable alignment between the monitoring and evaluation results and the business strategies outlined ex ante in the Strategic Plan and in the SSGLs gives the latter greater credibility.



In short, effective communication i.e., that ensures comprehension, fosters learning and guarantees transparency, participation and credibility, is crucial to facilitate and to accelerate CDP's transition from a risk-return approach to a risk-return-impact approach.

6.2. THE CONTENTS OF COMMUNICATION ACTIVITIES

The communication of monitoring and impact evaluation is based on reports that summarises the results, taking account of the evidence arising from monitoring and evaluation.

Reports on monitoring allow CDP’s progress in terms of activities accomplished and resources spent over a given period to be disseminated and tracked. The reports focus on the continuous and systematic tracking of the progress of the interventions in which CDP is involved (according to the physical KPIs defined in the SSGLs) and of any deviations between the recorded and planned results (i.e., what has been achieved by the project compared to what was initially planned). Results are aggregated at different levels, to summarise the progress made by clusters of projects that focus on the KPIs or that are linked to the same strategic objectives. To this end, the collection of data and information, as defined above, becomes essential to have clear schedules of the interventions supported by CDP (in terms of time, resources and expected output) and to monitor their development.

Reports on impact evaluation aim to verify whether, and to what extent, CDP’s action is contributing to the objectives outlined in the SSGLs and to the development of the national economy as a whole or that of the specific local areas. These reports contain the results of timely analyses carried out according to the procedures described in chapters 4 and 5. They are based on the data collected during monitoring and are processed according to a predefined schedule following the life cycle of the funded interventions.

The reports comply with certain principles:

- **Clear and rigorous communication style**, so that stakeholders are able to correctly interpret the key messages in the analysis and can, if required, make informed and conscious decisions.
- **Use of predefined, quantitative and objective indicators** based on the KPIs identified in the SSGLs and on indicators drawn from official sources, in order to provide a summary of results and facilitate comparisons with other projects and initiatives developed by CDP or by other institutions.
- **Qualitative analysis**, by describing how economic and social value was generated, or the transmission mechanisms that led to the results. The qualitative approach to communicating results is extremely useful as it allows the results to be read by a broad audience and enables the various aspects of the analyses to be made readily available. Given the wide variety of interventions endorsed by CDP, it is often difficult to summarise the entire outcome of the monitoring and evaluation processes with a single figure.
- **A standard structure**, which allows recipients to appreciate the methodological rigour of the analyses and the summarised nature of the results obtained.

	STANDARD STRUCTURE OF THE REPORTS
ITEM	Description
KEY MESSAGES	Main evidence from the analysis
SCOPE OF ANALYSIS	<ul style="list-style-type: none"> • type of report • subject of analysis • time window
STAKEHOLDERS CONCERNED	<ul style="list-style-type: none"> • recipients of the report • parties involved in the project
METHODOLOGY	<ul style="list-style-type: none"> • data collection and data management method • how the results are processed
RESULTS	<ul style="list-style-type: none"> • results of the analysis • benchmarks to compare results against
RECOMMENDATIONS	How results can influence the learning process

6.3. REPORTS AND PRODUCTS TO COMMUNICATE CDP’S MONITORING AND IMPACT EVALUATION ACTIVITIES

CDP’s monitoring and impact evaluation are communicated to stakeholders through various publications suited to different purposes.

Half-yearly strategic monitoring report

Half-yearly report on CDP’s activity in the previous half-year that presents in a concise and clear manner:

- the number and value of interventions supported by CDP, classified on the basis of the 10 areas of action outlined in the 2022-2024 Strategic Plan (for example, all new lending to support energy transition);
- the progress achieved by the projects monitored in terms of physical and financial progress, by observing the physical result KPIs outlined in the SSGLs (for example, the installed power of new plants from renewable sources).

Sectoral reports

The preparation of monitoring and/or specific impact evaluation reports is planned for specific project clusters that are of particular importance for CDP, such as according to intervention types with a similar objective (e.g., business investments financed by issuing social bonds), according to local areas or beneficiaries of interventions (for example, local authorities).

Contribution to the non-financial statement

The main findings of the impact evaluation of CDP’s actions as a whole are incorporated in the financial statements, published by CDP annually. In the non-financial statement, the overall assessment of CDP’s activity summarises the value created by CDP in the three key summary indicators of economic, social and environmental wellbeing, namely contribution to national GDP, employment and the limitation of pollutant emissions.

PRODUCT	SUBJECT MATTER	TIMING
HALF-YEARLY STRATEGIC MONITORING REPORT	Monitoring CDP’s activities according to the areas of action identified in the Strategic Guidelines	Half-yearly
SPECIFIC REPORTS	Monitoring of specific project clusters (e.g., by purpose and/or local area of interest)	Random
CONTRIBUTION TO THE NON-FINANCIAL STATEMENT	Macroeconomic assessment of CDP’s impact	Annually

APPENDICES

A1 - FROM FUNDING OPPORTUNITY TO IMPACT EVALUATION: AN END-TO-END EXAMPLE OF CDP'S NEW APPROACH TO THE MARKET

Financing to expand a road network (I)

CDP'S FINANCING PROCESS | EXAMPLE

ORIGINATION

The counterparty (XY) is interested in expanding the road network to relieve traffic congestion:

- **Target (expected final KPI): 80Km of road network**
- **Requested financing: 56 million euro**
- **Duration: 4 years**



XY provides CDP with the set of documents and the self-declaration needed for the analysis by CDP.

PRELIMINARY PHASE

CDP evaluates the sustainability of the transaction in financial, social, environmental terms and in terms of strategic consistency. In particular:

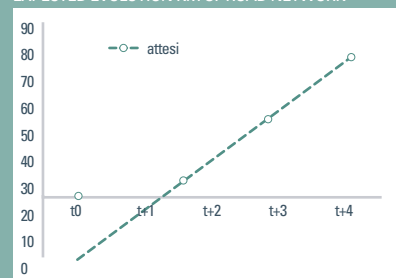
- Identifies the SSGLs to which the project is to be related: SSGLs TRANSPORT AND LOGISTICS NODES
- Selects the strategic priority: strengthening and rationalization of the road and motorway network
- Identifies the final objective: improvement of travel times and safety
- Determines the monitoring KPI: km of network affected by the interventions.

CDP compares with XY for any feedback on the initial project.

PRE-SIGNING PHASE

XY is committed to return data related to the KPI:
 - km of network affected by expansion works
 - CDP identifies and communicates to XY the periodicity of the KPI collection (e.g., every six months)
 - XY indicates the expected evolution of the KPI along the project life cycle

EXPECTED EVOLUTION KM OF ROAD NETWORK

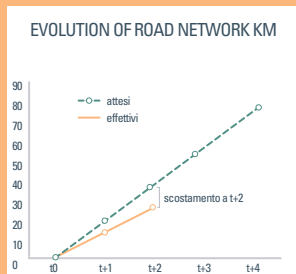


Financing to expand a road network (II)

IMPLEMENTATION – MONITORING

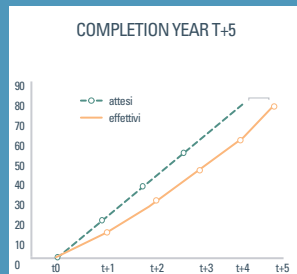
KPI DETECTION AND DEVIATIONS CHECKS

XY periodically informs CDP of the progress of the selected KPI. CDP monitors the deviations between the expected evolution of the KPI and the actual one. If delays are detected (e.g., -20% of km compared to expectations), CDP starts a comparison with XY to understand the reasons (supply problems, etc.)



PROJECT COMPLETION

Upon completion, CDP verifies the existence of final deviations (e.g., 80 km expansion of the road network is completed in 5 instead of 4 years)

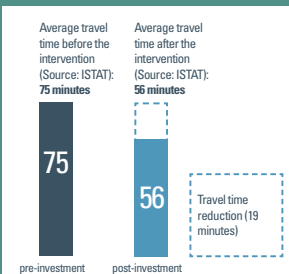


IMPACT EVALUATION

DATASET PREPARATION FOR IMPACT ANALYSIS

CDP collects the information needed to impact assessment of the financed intervention with respect to:

- **Strategic objective: improvement of travel times and safety**
- **Cross-cutting objectives: GDP, employment, reduction of emissions**

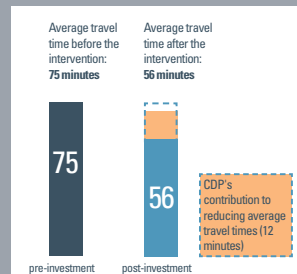


ESTIMATE OF THE CDP CONTRIBUTION

The project of XY is evaluated together with 30 similar operations.

Objective: to isolate and quantify the contribution of CDP

- Result:**
- CDP contribution to the strategic objective: -12 minutes
 - CDP contribution to cross-cutting objectives:
 - GDP : 22 mln of euro
 - Employment : 400 full time equivalent
 - Emissions : -15%



A2 - GLOSSARY

COUNTERFACTUAL APPROACH

It is a methodology for evaluating the effects of an action/project based on the comparison between two reference populations: one affected by the action/project and the other not. Theoretically, the effect is defined as the difference between what happened after the implementation of a project (factual situation) and what would have happened if that same intervention had not been implemented (counterfactual situation).

THEORY-BASED APPROACH

It is the causal attribution of the effects of an action/project/program by analyzing and interpreting the sequence of logical links that describe its functioning, i.e., why a certain outcome has been reached and what the transmission mechanisms are.

VALUE CHAIN

It explains the impact generation process through the chain of inputs (resources and activities), outputs (results of the activity), outcomes (medium-long term effects) and impacts (effects attributable to the intervention).

IMPACT

The long-term effects, positive and negative, expected or unexpected, produced directly or indirectly by an intervention. In other words, it is the variation in a characteristic/variable that can be linked to an intervention.

KPIs (KEY PERFORMANCE INDICATORS)

They express the quantitative or qualitative variable capable of providing clear and measurable evidence of the immediate result of an intervention. They highlight the direct results of an action. They measure the quantity (sometimes even the quality) of goods and services generated.

OUTCOME INDICATORS

They measure the results generated by the outputs of a project; that is, they verify the effects/changes generated on the direct beneficiaries of the project. These are the strategic objectives and the cross-cutting objectives, i.e., characteristics/variables on which the quality and quantity of the medium-long term effects generated by the project in the reference context are measured.

MONITORING

It is a continuous process that uses the systematic collection of data relating to KPIs to provide CDP and the main stakeholders of an intervention with indications on the progress and use of the allocated funds during the project implementation phase.

ASSESSMENT

The objective of the evaluation is to verify the effectiveness of the project on the outcome indicators, i.e., the strategic and cross-cutting objectives that CDP has defined in the Strategic and Sectoral Guidelines. It is defined as the analysis/interpretation/quantification of the medium-long term results of a project. The evaluation also aims to provide useful information/feedback to the beneficiaries and to CDP to integrate what has been learned into its decision-making processes.

EX ANTE EVALUATION

Evaluation of a development intervention performed before its implementation.

EX POST EVALUATION

Evaluation of an intervention performed after its completion. It can be performed immediately after the conclusion of the intervention or after a certain period of time, with the intention of identifying factors of success or failure, evaluating the robustness of the results and drawing conclusions that may influence other interventions.

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