



# Methodological insights on CBA and Economic Appraisal for project preparation

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# RECAP - CBA goals in the context of EU financing

## ✓ Demonstrate project needs co-financing and is sustainable

- ✧ *Projects may also be financially profitable without EU assistance...*
- ✧ *How much funding is needed to make the project financially feasible?*
- ✧ *Is the project going to be financially sustainable after EU financing?*

☞ **Financial analysis and Financial sustainability**

## ✓ Project is desirable in socio-economic terms

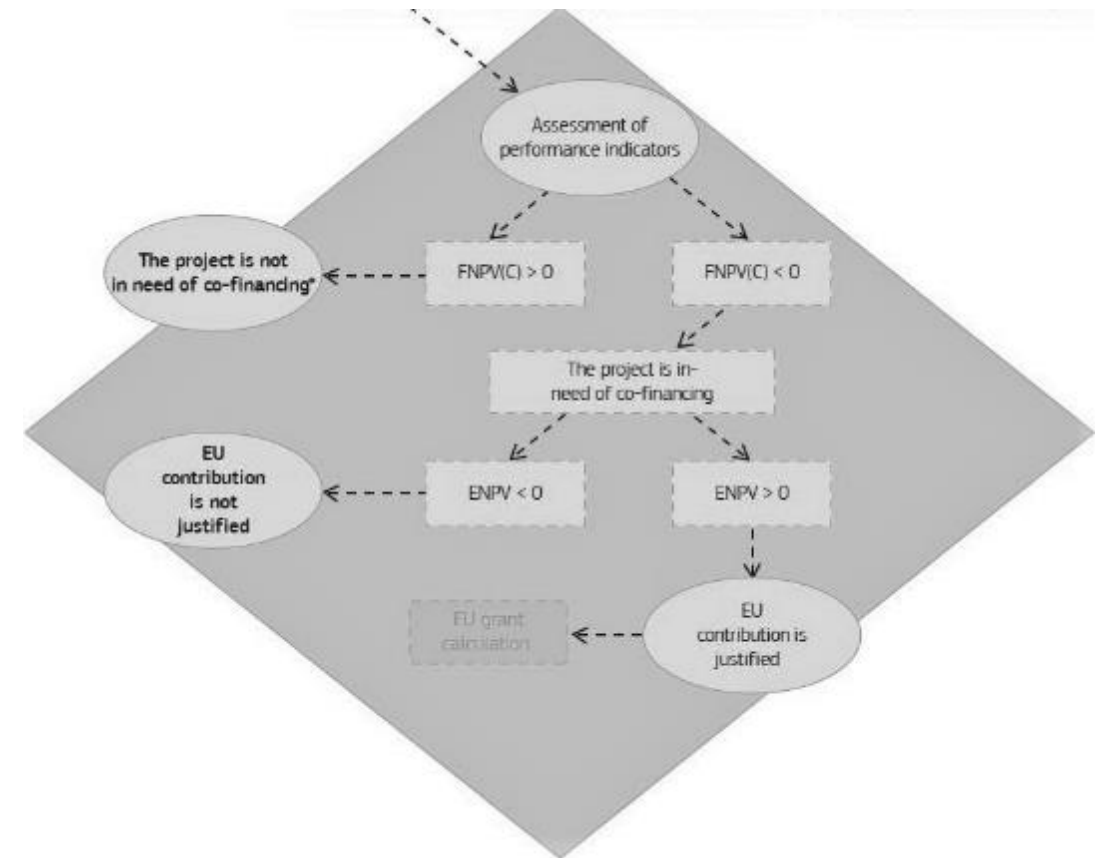
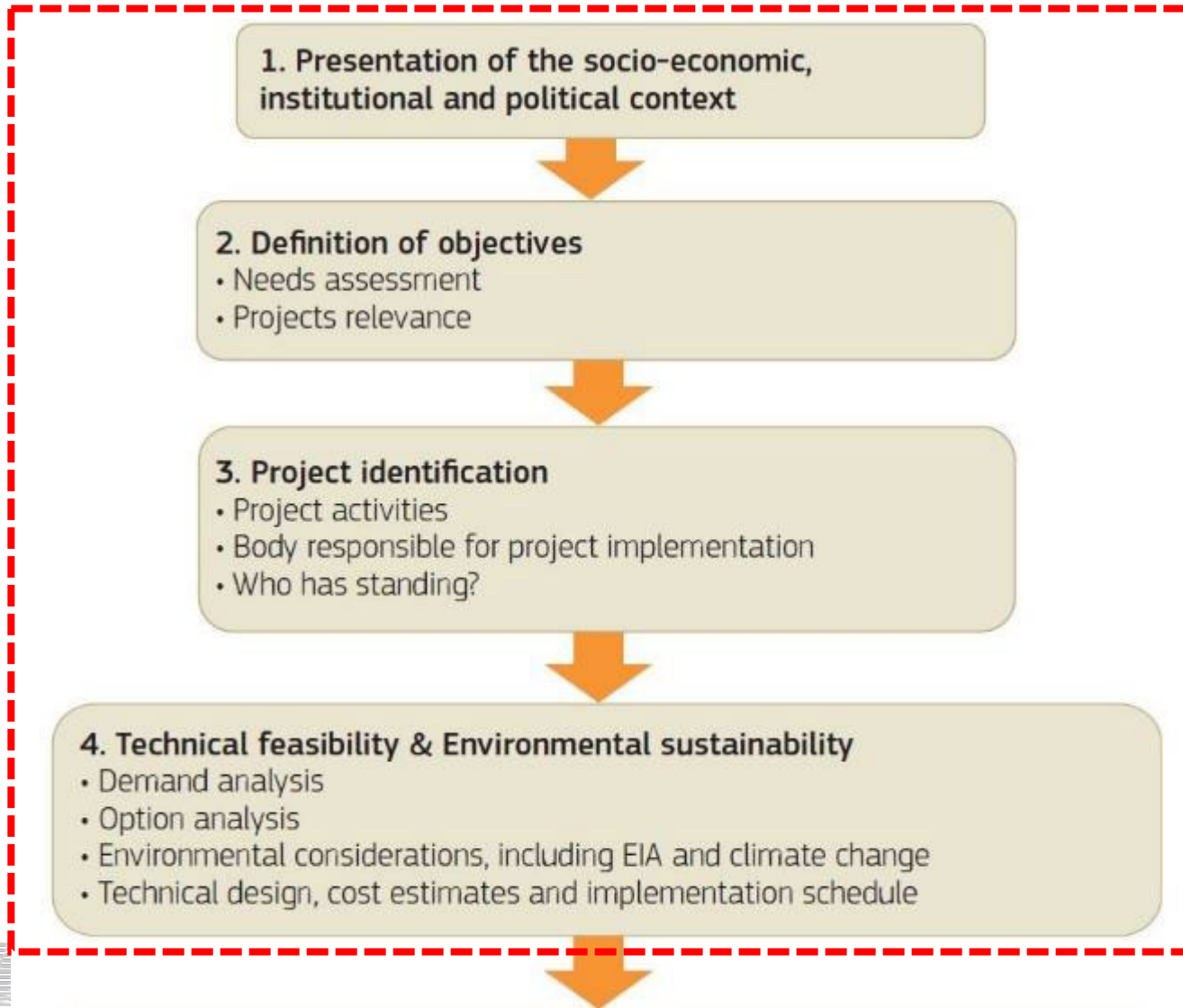
- ✧ *Does it contribute to the goals of EU (regional) policy?*
- ✧ *Does it foster growth and boost employment?*
- ✧ *Is Society better off with the project (benefits exceed its costs)?*

☞ **Economic analysis**

## ✓ How to deal with uncertainties and making sure the project achieves its intended objectives

☞ **Risk Assessment**

# KEY CONCEPT 1: FIRST THINGS FIRST



# STEP 1 - ANALYSIS OF THE CONTEXT

- The **socio-economic conditions** of the country/region that are relevant for the project
- The **political and institutional aspects**, including existing economic policies and development plans
- The **current infrastructure endowment** and service provision bottlenecks!!
- The **expectations of the population**, e.g. any existing environmental instances
- The analysis of the context is instrumental to:
  - ✓ **forecast future trends**, especially for demand analysis;
  - ✓ verify that the **project is “appropriate” to the context** where it takes place.

# STEP 2 – DEFINITION OF OBJECTIVES

- The definition of the objectives should result from the **assessment of the regional and/or sectorial needs**
- Project objectives should be defined in explicit relation to the needs
- As far as possible, **the objectives should be quantified through indicators and targeted**





# STEP 3 – PROJECT IDENTIFICATION

- A project is clearly identified when the physical realisations that will be implemented consist of a **self-sufficient unit of analysis**.
- Partitions of project for financing, administrative or engineering reasons are not appropriate objects of appraisal «**half a bridge is not a bridge**»
- Inter-related but relatively self-standing components, whose costs and benefits are largely independent, should be appraised independently.



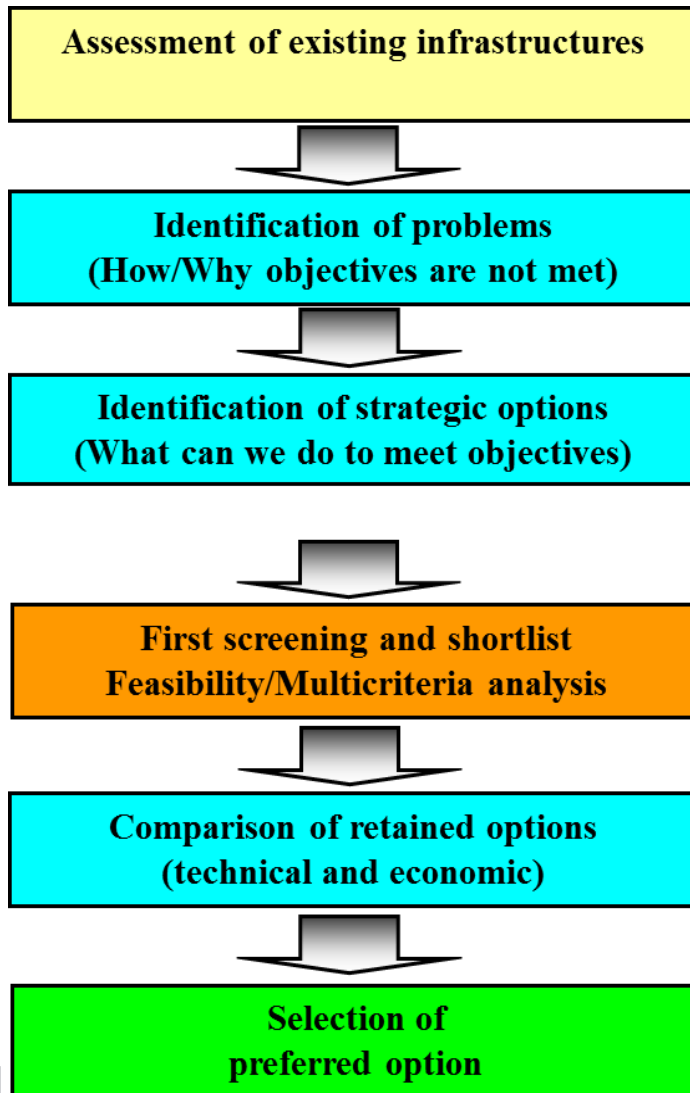
# STEP 4 – TECHNICAL FEASIBILITY

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- Although demand analysis, technical design and environmental appraisal are not formally part of the CBA, their results are used as **main data source within the CBA**
- Information on demand, designed capacity, investment cost estimates implementation schedule and environmental mitigation measures are used as **inputs** for Financial and Economic Analyses
- If not in technical studies, **Option Analysis** done in CBA study
- “With-project” and counterfactual scenarios



# OPTION ANALYSIS AND SELECTION



The aim is to identify the alternative that achieves the intended objectives at the minimum overall cost to society and that will be further assessed in the framework of the CBA

## Recommended approach:

- 1) establish a **long list of alternative strategies/actions** to achieve the intended objectives;
- 2) **screen the long list** against some qualitative criteria (overall policy orientations and/or technical considerations **and establish a short list of suitable alternatives** (by eliminating unsuitable options);
- 3) **establish option rankings** and select preferred options based on their net present values in financial and economic terms (achieving the intended objectives at the lower, long-term cost)



# FREQUENT ERRORS

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- Socio-economic statistics are not based on readily available official forecasts
- **Project objectives are confused with the activities** that make it possible to attain them (objectives vs outputs)
- **Project bundling**: investments which are functionally independent from each other are packaged together without a preliminary verification of the economic viability of each investment and of possible combinations of them
- **Link between demand analysis and design capacity** of the project (supply) is missing or unclear
- **Identification of alternatives is done “artificially”**, e.g. alternatives are constructed to show they are worse than the preferred (pre-decided) alternative
- **Option selection is done without considering externalities** (e.g. environmental impact) or decommissioning costs linked to different alternatives

# KEY CONCEPT 2: FA (v) EA

## Financial analysis

- Point of view of Owner/Promoter
- Cash flows (no depreciation, reserves, reimbursable VAT)
- Financial profitability  $FNPV > 0$ , in principle no EU grant needed
- Financial sustainability
- Provides input for the EA (CBA)
- Market prices
- Financial Discount Rate (FDR)

# VS

## Economic Analysis

- Point of view of Society
- Uses economic values, from the viewpoint of the society
- No revenues but economic benefits to society
- $ENPV < 0$ , no value to society, no EU grant justified
- Shadow prices
- Project's economic benefits  $>$  project's economic costs (NPV)
- Social Discount Rate (SDR)

# KEY CONCEPT 3: BASIC RULES FOR FA & EA



Make sure that FA and EA describe the **same investment** and based on **same inputs** (the analysis can be done at different stages during project preparation)



**Assumptions for FA and EA should be the same** (reference period, investment cost, residual value, operation and maintenance cost, counterfactual scenario), duly **justified and consistent with relevant technical studies**



**Clear justification** needed for the choice of **FDR and SDR** (to be applied consistently in a specific country and across projects)

# KEY CONCEPT 4: INCREMENTAL ANALYSIS

- Incremental analysis: compares a scenario **with-the-project** with a counterfactual baseline scenario **without-the-project**
- Counterfactual scenario**: what would happen in absence of the project?
  - ✓ World Bank: With the project, Without the project
  - ✓ EU CBA Guide: Do Something, Do Minimum; “Business as usual”

Options		NPVs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Proposed project	Net benefits	€1,056.55	45	47	50	53	56	59	62	65	68	70	74.5	79	83.5	88	92.5	97	102	106	111	115	119	
	Capex	-£433.94	-450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Do-minimum	Net benefits	€649.12	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
	Capex	-£28.93	-30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Business as usual	Net benefits	€439.03	45	43	41	39	37	35	33	31	29	28	27	26	25	24	23	22	21	20	18	17	16	
	Capex	€0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Results		NPVs																					
Proposed project (v)	Net flows	€2.41	-420	2	5	8	11	14	17	20	23	25	29.5	34	38.5	43	47.5	52	56.5	61	65.5	70	74
	ERR	3.7%																					
Proposed project (v)	Net flows	€183.58	-450	4	9	14	19	24	29	34	39	42	47.5	53	58.5	64	69.5	75	80.5	86	92.5	98	103
	ERR	6.6%																					

Proposed project	ERR	15%	-405	47	50	53	56	59	62	65	68	70	74.5	79	83.5	88	92.5	97	102	106	111	115	119
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# FUNDING GAP CALCULATION

- ✓ CPR REGULATION (EU) No 1303/2013; **Article 61**: Operations generating net revenue after completion
- ✓ COMMISSION IMPLEMENTING REGULATION (EU) 2015/207
- **Funding Gap** = Eligible Cost x co-funding rate x  **$[(DIC-DNR)/DIC]$**

An example:

		FDR	4%															
EU GRANT Calculation		NPVs	1	2	3	4	5	6	7	8	9	10	25	26	27	28	29	30
1	Capex (excluding contingencies)	€249.74	103.6	101.8	63	0	0	0	0	0	0	0	0	0	0	0	0	0
DIC - Capex cash flows		€249.74	103.6	101.8	63	0	0	0	0	0	0	0	0	0	0	0	0	0
1	Revenue	€38.98	0	0	0	2.2	2.3	2.3	2.4	2.4	2.5	2.5	3.1	3.2	3.2	3.3	3.3	3.4
1	O&M costs	€17.18	0	0	0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1	1	1	1	1	1
1	Residual value	€4.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13.2
1	DNR / Net revenue cash flows	€25.87	0	0	0	1.3	1.4	1.4	1.5	1.5	1.6	1.6	2.1	2.2	2.2	2.3	2.3	15.6

Eligible cost (EC)	293.2
Funding gap = (DIC-DNR)/DIC	90%
Co-funding rate EC	85%
EU Grant (ECxPro-rataxCF)	<b>223.4</b>



# FINANCIAL AND ECONOMIC ANALYSIS

## Financial Analysis

		FDR		4%																
FRR (capital) - before EU Grant		NPVs	1	2	3	4	5	6	7	8	9	10	25	26	27	28	29	30		
Revenue	€38.98	0	0	0	2.2	2.3	2.3	2.4	2.4	2.5	2.5	3.1	3.2	3.2	3.3	3.3	3.4			
O&M costs	€17.18	0	0	0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1	1	1	1	1	1			
Capex (excluding contingencies)	€249.74	103.6	101.8	63	0	0	0	0	0	0	0	0	0	0	0	0	0			
Residual value	€4.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13.2			
Net cash flow	-€223.87	-103.6	-101.8	-63	1.3	1.4	1.4	1.5	1.5	1.6	1.6	2.1	2.2	2.2	2.3	2.3	15.6			
	FRR	-7%																		

## Adjusted costs

		SDR		5%																
ERR		NPVs	1	2	3	4	5	6	7	8	9	10	25	26	27	28	29	30		
Capex	€223.16	94.9	92.1	57	0	0	0	0	0	0	0	0	0	0	0	0	0			
O&M costs	€13.13	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9			
Residual value	€6.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27			
Total economic costs	-€230.04	-94.9	-92.1	-57.0	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.9	-0.9	-0.9	-0.9	-0.9	26.1		
Time savings	€252.30	0	0	0	10.7	11.5	12.3	13.2	14.1	15	16	30.5	31	33	35	36	37.7			
VOC savings	€25.40	0	0	0	1.3	1.4	1.5	1.5	1.6	1.7	1.8	2.7	2.7	2.8	2.8	2.9	3			
Accident savings	€8.88	0	0	0	0.4	0.4	0.5	0.5	0.5	0.5	0.6	1	1	1.1	1.1	1.2	1.2			
CO2 savings	€2.93	0	0	0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.4	0.5	0.5	0.5	0.5			
Total economic benefits	€289.51	0.0	0.0	0.0	12.5	13.4	14.4	15.3	16.3	17.4	18.6	34.6	35.1	37.4	39.4	40.6	42.4			
ENPV / Net benefits	€59.46	-94.9	-92.1	-57.0	11.7	12.6	13.6	14.5	15.5	16.6	17.8	33.7	34.2	36.5	38.5	39.7	68.5			
	ERR	6.7%																		

## Economic benefits

## Economic Analysis

## EU Grant calculation

		FDR		4%																
EU GRANT Calculation		NPVs	1	2	3	4	5	6	7	8	9	10	25	26	27	28	29	30		
Capex (excluding contingencies)	€249.74	103.6	101.8	63																
DIC - Capex cash flows	€249.74	103.6	101.8	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Revenue	€38.98	0	0	0	2.2	2.3	2.3	2.4	2.4	2.5	2.5	3.1	3.2	3.2	3.3	3.3	3.4			
O&M costs	€17.18	0	0	0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1	1	1	1	1	1			
Residual value	€4.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13.2			
DNR / Net revenue cash flows	€25.87	0	0	0	1.3	1.4	1.4	1.5	1.5	1.6	1.6	2.1	2.2	2.2	2.3	2.3	15.6			

Eligible cost (EC)	293.2
Funding gap = (DIC-DNR)/DIC	90%
Co-funding rate EC	85%
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# KEY CONCEPT 5: FINANCIAL SUSTAINABILITY

The Financial Analysis include an assessment of the project **financial sustainability**, to answer:

- Is the project financially sustainable?
- If not, how temporary liquidity problems will be tackled?

*Financial sustainability. EUR thousands*

	Years							
	1	2	3	4	5-9	10	11-29	30
Sources of financing	8 465	75 176	42 890					
Total revenues				11 598	...	12 011	...	12 222
<b>Total inflows</b>	<b>8 465</b>	<b>75 176</b>	<b>42,890</b>	<b>11 598</b>	...	<b>12 011</b>	...	<b>12 222</b>
Initial investment	8 465	75 176	42,890					
Replacement costs						11 890	9 760	
Loan repayment (including interest)					1 789	1 789	1 789	
Total operating costs				5,561	...	5 662	...	5 713
Taxes				604	...	-733	...	651
<b>Total outflows</b>	<b>8 465</b>	<b>75 176</b>	<b>42 890</b>	<b>5,561</b>	...	<b>19 341</b>	...	<b>5 713</b>
<b>Net cash flow</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,037</b>	...	<b>-7 329</b>	...	<b>6 509</b>
<b>Cumulated net cash flow</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,037</b>	...	<b>20 726</b>	...	<b>133 835</b>

The cumulated cash flow should be zero (or positive) during the construction phase

Financial sustainability is verified if the cumulated net cash flow row is greater than zero for all the years considered.

A project is **financially sustainable when it does not run the risk of running out of cash in the future.**

Financial sustainability implies having a cumulative positive cash flow for each year of projections (in simple words, enough cash to run all its operations, present and proposed smoothly in each given year).

**When** for specific reasons financial **sustainability cannot be confirmed** (for example in the case of non revenue generating activities, like non toll roads), a clear **indication of the potential sources to cover the needed subsidies** shall be included as part of the analysis.

It requires a formal confirmation of the identified sources!!

# KEY CONCEPT 6: RISK ASSESSMENT

A “risk assessment” shall be included in the CBA.

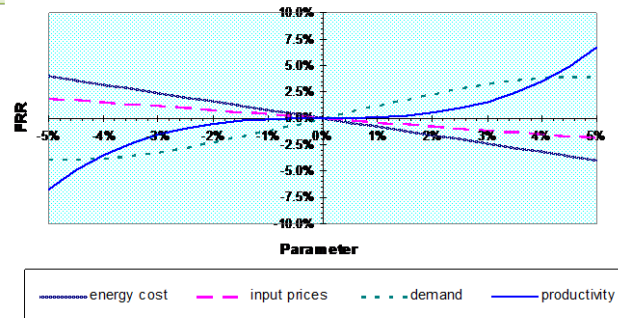
The goal is to **deal with the uncertainty** related to the implementation of investment projects and to **test the robustness of the result** obtained in the financial and economic analysis.



**Sensitivity analysis:** aims at identifying the **critical variables and their potential impact** in terms of changes in the profitability indicators.

Sensitivity analysis. Example

Variable	Variation of the FNPV due to a $\pm 1\%$ variation	Criticality judgement	Variation of the ENPV due to a $\pm 1\%$ variation	Criticality judgement
Yearly population growth	0.5 %	Not critical	2.2 %	Critical
Per capita consumption	3.8 %	Critical	4.9 %	Critical
Unit tariff	2.6 %	Critical	N/A	N/A
Total investment cost	8.0 %	Critical	8.2 %	Critical
Yearly maintenance cost	0.7 %	Not critical	0.6 %	Not critical
Per capita willingness to pay	Not applicable	-	12.3 %	Critical
Annual noise emissions	Not applicable	-	0.8 %	Not critical



**Risk analysis:** aims at estimating the **probability of these changes** actually taking place, with the results expressed either in qualitative or quantitative terms (e.g. Montecarlo Analysis)

Adverse event	Causes	Probability	Severity	Risk Level	Prevention and/or Mitigation measures	Residual risk
Construction delays	Low contractor capacity	C	III	Moderate	Set up of a Project Implementation Unit to be assisted by technical assistance for project management during implementation.	Low
Project cost overrun	Inadequate design cost estimates	D	V	Very high	The design of the project must be revised.	Moderate
Landslides	Inadequate site investigation	A	III	Low	Close monitoring	Low
Delayed obtainment of permits	Low political commitment	A	II	Low	Close monitoring	Low
Public opposition	Inadequate market strategy	C	V	High	Early definition of an appropriate social plan; Awareness-raising activities and campaigns to raise the level of social acceptance	Moderate

# CBA & EA - experience from 2007-13 and 2014-20

- Through major projects in the 2007-13 and 2014–2020 periods, **Member States gained a lot of experience in using CBA** as a tool to support decision-making on EU-funded investments.
- In many Member States the use of CBA in project appraisal extended **beyond EU major projects**, with a view to ensure an optimal allocation of available funding.
- Several **National EA/CBA guidelines were developed**, also with JASPERS support.
- However, the use of CBA methods in certain sectors and for some type/size of projects was found overly complex and time-consuming, **calling for simpler methods that could offer similar explanatory value for decision-makers**.
- Based on the experience developed over the last 2 programming periods, DG REGIO and JASPERS have prepared a compilation of good practices - **Economic Appraisal Vademecum** (EAV) for a wide use across Europe, in particular (but not only) to support the early screening of investments.



# Economic Appraisal Vademecum

The EAV does not replace but **complements** the EC's Guide to Cost Benefit Analysis of Investment Projects 2014-2020 – both documents will be **voluntary in Cohesion Policy 2021-27**.

**It's a toolkit based on internationally recognised practices, not a set of instructions** – it should be applied in a proportionate manner using common sense (e.g. thresholds and sector/project types specificities).

## ***How des EAV complement the CBA Guide?***

- ✓ Introduces the concept of **proportionality**: CBA remains the recommended appraisal tool, but a simpler form of CBA or other EA tools are suggested in specific circumstances, based on **project's type and scale**.
- ✓ **New sectors** are discussed: healthcare, e-services, RES and urban development
- ✓ **Good practices** are presented for the sectors already covered by 2014 CBA Guide.
- ✓ The EAV is not prescriptive and it is not intended as providing instructions - Member States can use it to set up a **framework for both project appraisal and selection** that is in line with international good practices.

The EAV is not linked exclusively to Cohesion Policy (e.g InvestEU, CEF).



# EAV structure

The EAV is structured in two parts:

- **Part I – General Principles.** It discusses the general analytical framework for using Economic Appraisal (EA) during the MFF 2021-27.
- **Part II – Sector Applications.** The main focus is on topics where the state-of-the-art (in terms of data sets or guidance) has developed since the 2014 CBA Guide, or where lessons have been learned from the 2014-2020 period.
- The sector chapters develop around: an introduction presenting the policy context, **a discussion of what EA tool and what simplifications should be applied during the project cycle**, and guidance on the key aspects featuring EA for the specific sector.

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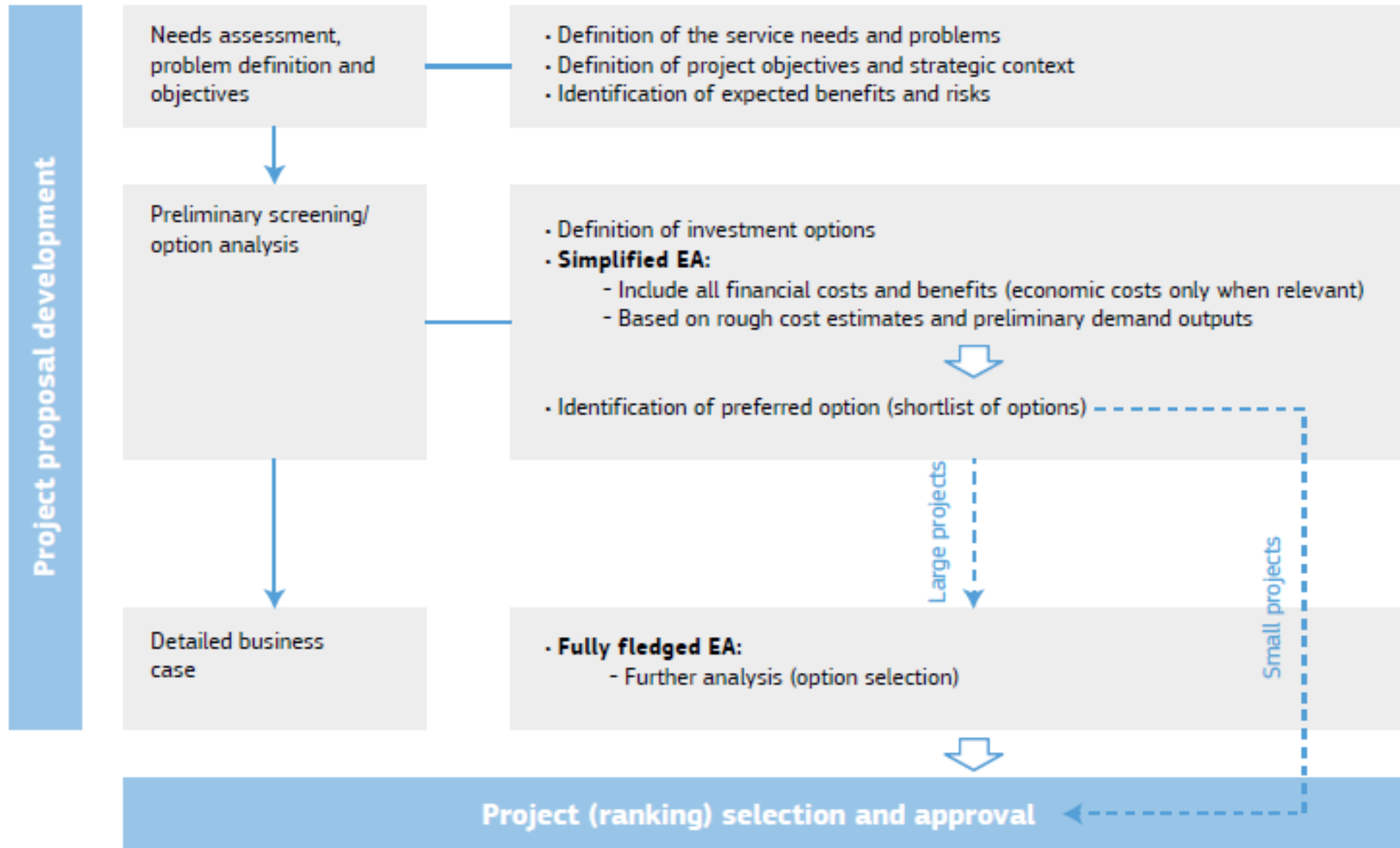
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# Role of EA in project development

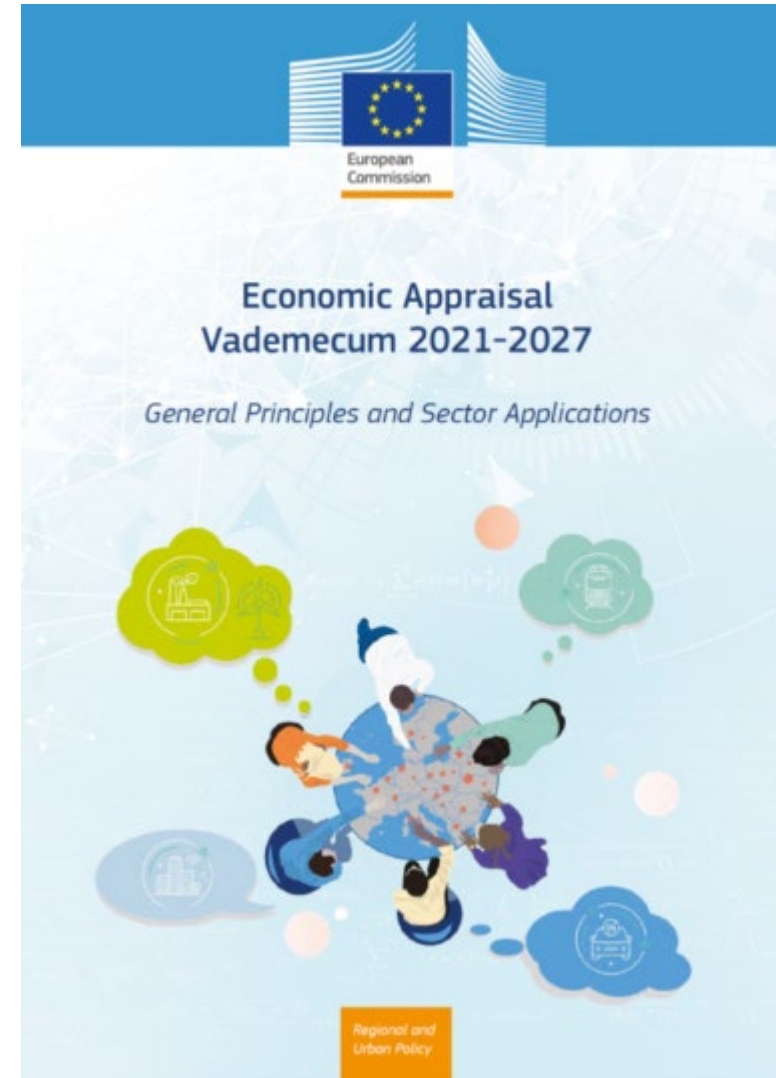
- Economic appraisal is one key component in **project development** to support the economic case for EU funding and project approval.
- Economic appraisal should be intended as an **iterative process** throughout the whole life of a project.
- It has greater added value if implemented at the **early stage of the project cycle to compare options**.
- Different EA tools - including **cost-benefit, cost-effectiveness, least cost, and multi-criteria analysis**- are used in the practice to check the economic viability of a project.
- The results of economic appraisal **should not be the only factor** taken into account when making an investment decision or when prioritising projects in contexts of budgetary constraints.

# Role of EA in project development



# Alternative EA methods

- Simplified cost-benefit analysis (CBA)
- Cost Effectiveness Analysis (CEA)
- Least Cost Analysis (LCA)
- Multi-Criteria Analysis (MCA)



# Simplified Cost Benefit Analysis

## A **simplified** CBA:

- Is based on **rough, indicative, estimates** of costs and benefits.
- Uses financial costs (based on market prices) instead of the economic costs (based on shadow prices) for the project's inputs. As the calculation of economic costs can be resource-intensive, **conversion of market prices is usually not necessary** in a simplified CBA.
- **Can avoid the monetary evaluation of the externalities**, when these are expected to be similar across options (in a justified manner).
- The simplified CBA should be applied to **small projects** (where full-fledged CBA is not needed/disproportionate) - or at the early stage of the development cycle of a large project to screen options.
- Still, the simplified CBA assesses the economic viability of the project in terms of ENPV and ERR.



# Cost Effectiveness and Least cost Analysis

- CEA is used to assess the project's economic viability in relation to its **effectiveness and (life-cycle) costs in accomplishing a policy-specific objective**.
- It differs from CBA because it **does not** evaluate the benefits in monetary terms. This is based on the assumption that the project **is de facto economically viable** so it is just a matter of checking that it does it efficiently.
- The results are **expressed as a ratio**: e.g. cost per patient, cost per student, cost per km, etc. This ratio should be always assessed against **sector benchmarks** to verify the economic viability of the project.
- In case more options are compared, cost-effectiveness ratios allow appraisers **to rank the options and select the optimal one**.
- Typical (but not exclusive) sectors of application are **water, waste, education, healthcare**.
- If the project options achieve the same output with the same intensity/volume, they differ **only in costs**. In this case, the CEA can be simplified to a least-cost analysis (LCA) where options are just **compared based on the present value of their life-cycle costs**.

# Multi Criteria Analysis

- MCA is an EA tool informing decision makers on the extent to which the project, or its options **are relevant against the overarching policy framework** and contribute to the policy objectives.
- It entails defining objectives criteria, assigning weights to them and appraising the project qualitatively against these criteria with scores (**e.g. to what extent from 1 to 5 the project achieves the several institutional, social, environmental, economic, etc. objectives**).
- The result is a percentage, e.g. the project (or the option) is relevant up X% of the policy objectives.
- At project level, it is usually adopted **to complement the CBA, CEA and LCA** during the option analysis by providing additional qualitative information on the project's relevance.
- At programme level, it can be directly used to assess multi-sectoral territorial programmes (such as regional transition and urban development programmes) and chose the optimal investment scenario.

# The choice of the tool

		Number of output variables	
		High	Low
Extent to which project outputs can be monetised	High	CBA	CBA
	Low	MCA	LCA/CEA

These alternative tools are not necessarily substitutes for each other and **may be used as a complement** to CBA, particularly when economic viability is one of the factors against other policy considerations.

# The choice of the tool

Area	Investment area	Project type	
		Small projects	Large/strategic projects
<b>Water and wastewater</b>	Water and wastewater infrastructure (efficiency driven) <sup>(23)</sup>	LCA/CEA	CBA
	Water and wastewater infrastructure (exclusively compliance driven)	LCA/CEA	LCA/CEA
	Flood prevention	Simplified CBA	CBA
<b>Transport</b>	Transport infrastructure (all modes)	(Simplified) CBA	CBA
	Transport infrastructure: compliance-driven project (all modes)	CEA/MCA	CEA/MCA
	New technology in transport	CEA/MCA	CBA/CEA/MCA
<b>Healthcare</b>	Disease prevention / treatment programmes / new technology	CEA	CEA
	Healthcare infrastructure	Simplified CBA	CBA
<b>Research, development and innovation</b>	Research infrastructure	Simplified CBA	CBA
	Innovative manufacturing	Simplified CBA/CEA	CBA
	Tertiary education	Simplified CBA	CBA
<b>Renewable energy</b>	Electricity generation	CEA with integration of externalities	CBA
	Heat generation	CEA with integration of externalities	CBA
<b>Energy efficiency</b>	Energy efficiency in buildings and plants	CEA with integration of externalities	CBA
	District heating	CEA with integration of externalities	CBA
<b>Digital economy</b>	Broadband infrastructure	Simplified CBA	CBA
	ICT services (data centres, e-services, etc.)	CEA	Depending on the area of application
<b>Municipal waste management</b>	Collection, transport, recovery, recycling, treatment and disposal of solid waste	CEA	CBA
<b>Sustainable urban development</b>	Integrated territorial investment schemes or community-led local development schemes, programmes in cluster development and urban regeneration programmes	MCA (including simplified CBA/CEA for individual large projects in given sectors)	MCA (including detailed CBA/CEA for individual large projects in given sectors)

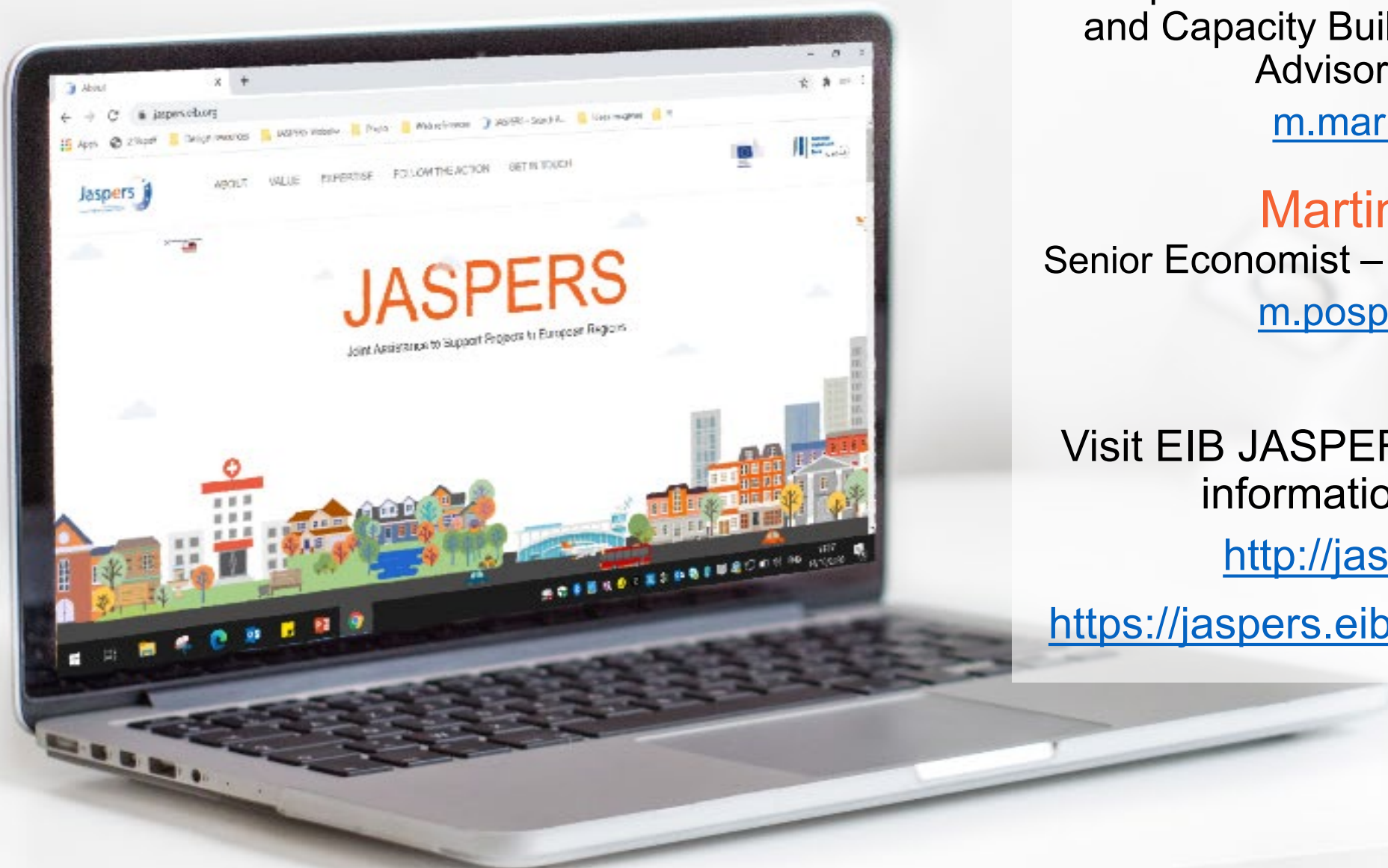
More details in the sector annexes...



# Questions?







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# Additional slides



# Project selection in Cohesion Policy 2021-27

- **All projects** will be selected by Managing authorities (or on their behalf)
- MAs shall establish methodology and criteria used for the selection of operations – to be approved by Monitoring Committee (EC review 15 days before – see art 40 CPR)
- Selected operations have to satisfy all criteria specified in the CPR (*Article 73 Selection of operations by the managing authority*) including:
  - ✓ (c) ensure that selected operations present *the best relationship between the amount of support, the activities undertaken and the achievement of objectives;*
  - ✓ (d) verify that *the beneficiary has the necessary financial resources and mechanisms to cover operation and maintenance costs* for operations comprising investment in infrastructure or productive investment, so as to ensure *their financial sustainability;*
- **Project selection methodologies and project selection criteria could be modulated depending on type and size of operations**
- **Final decisions taken by the Monitoring Committees and the MAs reflecting their individual judgement**

# Approaches to EA for cohesion policy-funded investments

## – differences between 2014–2020 and 2021–2027

Topic	2014–2020	2021–2027
	<b>Major projects</b>	<b>Projects</b>
<b>Legal basis for EA</b>	According to Article 101(e) of Regulation No 1303/2013, a CBA – including an economic and a financial analysis, and a risk assessment – is mandatory in order to get approval for the co-financing of major projects	The use of EA will be left to the discretion of the managing authority and of the monitoring committee that will set up a framework for project appraisal and selection that is compliant with the requirements of Article 73 of the CPR. EA tools can be used and adapted to the size and complexity of EU-funded projects
<b>EA tool</b>	CBA is mandatory for major projects in any sector	A more flexible and proportional framework will be implemented; other tools such as CEA and MCA – in addition to CBA – are proposed for voluntary use, based on sector and/or project type and scale
<b>Results of EA</b>	As set out in Article 101 of Regulation No 1303/2013, an economic analysis must be included in the CBA to compute the project's economic performance. The calculation of economic net present value and ERR indicators is requested to verify that the project is worth co-financing	It is good practice to use the results of EA as one of the criteria in assessing and selecting project proposals in order to verify that the selected project is good value for money (as requested by Article 73(c) of the CPR)
<b>Option analysis</b>	According to Annex III to Regulation No 2015/207, for major projects, the option analysis should be carried out in two steps. The first step looks at basic strategic options and is based on MCA. Once the strategic option is identified, the second step consists of a comparison of the specific technological solutions based on quantitative methods (simplified CBA or CEA). A fully fledged CBA is then carried out on the selected technical option	A simplified EA (CBA, CEA or MCA) is an established good practice for screening and ranking options. When the project is limited in size, this is normally sufficient to identify a preferred option and justify approval for its co-financing. When the project is large/strategic, or when the results of the simplified EA are inconclusive, a fully fledged EA should be carried out at subsequent stages of development of the proposal
<b>Analysis of financial performance</b>	As set out in Article 101 of Regulation No 1303/2013, a financial analysis must be included in the CBA to compute the project's financial profitability. The calculation of financial rate of return of the investment and financial rate of return of national capital indicators is requested (by Annex III to Regulation 2015/207) to verify that the project is in need of co-financing	No provisions are made in the CPR to assess the project's financial performance. Member States are free to set up their methods and criteria to verify that the project is in need of co-financing. For most cases, State aid rules will apply

# Approaches to EA for cohesion policy-funded investments

## – differences between 2014–2020 and 2021–2027

Topic	2014–2020	2021–2027
	<b>Major projects</b>	<b>Projects</b>
<b>Analysis of financial sustainability</b>	Annex III to Regulation No 2015/207 requires an analysis of financial sustainability based on undiscounted cash flow	Article 73(d) of the CPR gives a requirement to 'verify that the beneficiary has the necessary financial resources and mechanisms to cover operation and maintenance costs for operations comprising investment in infrastructure or productive investment, so as to ensure their financial sustainability'
<b>Financial discount rate</b>	According to Article 19 of Regulation No 480/2014, a 4 % discount rate will be used as the single reference parameter for all sectors in all Member States, except for projects falling under State aid rules	If a financial analysis with a calculation of performance indicators is carried out, Member States are free to assess their own country- and/or sector-specific financial discount rate(s). In the absence of national guidelines, adherence to State aid rules is recommended
<b>Determination of the appropriate EU support</b>	In accordance with Article 61 of Regulation No 1303/2013, Annex V to Regulation No 1303/2013 and Section III of Regulation No 480/2014, the outcomes of the financial analysis in the CBA are used to calculate the funding gap rate and, in turn, the intensity/level of EU support (unless State aid rules prevail)	According to Article 73(c) of the CPR, the managing authority need to 'ensure that selected operations present the best relationship between the amount of support, the activities undertaken and the achievement of objectives'. This implies, amongst other, that self-financing and/or the bankability potential of an operation should be taken into account where relevant
<b>Reference period of the analysis</b>	Annex I to Regulation No 480/2014 provides a list of mandatory reference periods to be used per sector	There will be no mandatory fixed parameters. An indication of typical reference periods per sector is provided as indicative guidance, but project promoters/managing authorities can adjust them in accordance with the project's economically useful life
<b>Social discount rate</b>	According to Annex III to Regulation No 2015/207, a social discount rate of 5 % will be used for major projects in cohesion countries and 3 % for the other Member States	Member States are free to establish and use their own country-specific social discount rate; 3 % can be used in the absence of a national approach
<b>Type of benefits</b>	Annex III to Regulation No 2015/207 provides a list of the minimum main economic benefits per sector to be considered in the economic analysis	There will be no mandatory list of benefits. Recommendations for typical benefits per sector are provided as indicative based on good practices
<b>Compliance-driven projects</b>	In a major project, CBA is mandatory	CEA is deemed to be sufficient to assess the economic viability of the project, regardless of its scale
<b>National methodological frameworks</b>	Member States are encouraged to establish their own national methodological frameworks for EA	Member States are encouraged to follow or establish their own national methodological frameworks for EA. As a complementary instrument to the EAV (whose use is voluntary), a spreadsheet template has been made available to the Member States. The template provides project promoters with practical guidance on the format of the content of CBA (or other EA tools). At the same time, it can be used by evaluators to assess projects