# General criteria and specific requirements on the Cost Benefit Analysis


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# General criteria for cross-border projects in the field of renewable energy

- **General criteria of p. 2 of Part IV of Annex to the CEF Regulation**:

  1. ***Cooperation agreement*** *or any other kind of arrangement*

  2. *Cost savings or benefits […] in comparison to a similar project or renewable energy project implemented by one of the participating Member States alone*

  3. *Potential overall benefits of cooperation outweigh its costs, […] as assessed on the basis of the cost-benefit analysis*

  → ***Socio-economic net benefits***

- Selection according to the **procedure of p. 4 of Part IV of Annex**

# Cooperation mechanism

## Art. 4 of the delegated regulation supplementing the CEF Regulation

### Renewable Energy Directive

#### Art. 8
#### Statistical transfer

Statistical transfer of specified amount RES energy between MS

Agreed transfer price

#### Art. 9
#### Joint projects MS & MS

Jointly implement projects

Shared costs and benefits

#### Art. 11
#### Joint projects MS & 3rd country

Jointly implement projects

Shared costs and benefits

Physical link needed

#### Art. 13
#### Joint support schemes

Joint or partly coordinated national support schemes

Shared costs and benefits

**Level of proof:**

- **Written declaration** of the participating Member States and, where relevant, third countries, expressing their **willingness to conclude a cooperation agreement** in order to set up the renewable energy cross-border project. The declaration does **not require a specific format**, but it shall be **signed by the Ministries** of the participating Member States in charge of implementing the cooperation agreement.

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# Socio-economic net benefits

## Art. 5 of the delegated regulation supplementing the CEF Regulation

**Estimation of the socio-economic net benefits**

- Cost-benefit analysis (CBA) , covering all elements of p. 3 of Annex Part IV of the CEF Regulation
- Based on CBA methodology set out in the COMMISSION STAFF WORKING DOCUMENT SWD(2021) 429 final
- Comparison to a similar project or renewable energy project

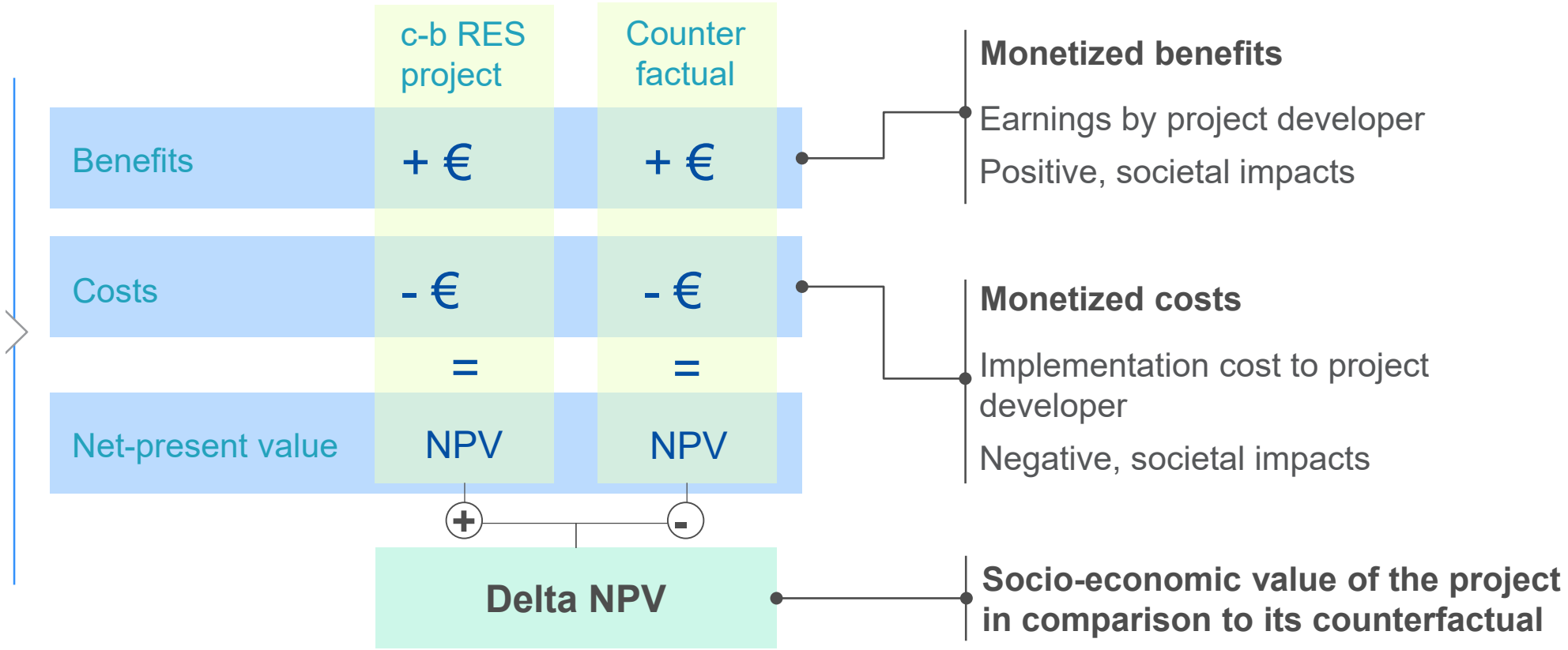
# Main points of the CBA methodology

- **Objective**: determine whether projects applying for the list of CB RES projects create value from a holistic, societal perspective
- Based on the **7 indicators** in Annex Part IV of the CEF Regulation
- Some of the indicators – **monetized**, some of them – **not**
- **End result** of the CBA – a value of the net benefits (+ or - number in EUR)

# Cost-benefit analysis

## Goal of the CBA

Do project benefits outweigh its cost from a **wholistic, societal perspective**?



# Counterfactual

"provide cost savings […] and/or benefits […] **in comparison to a similar project or renewable energy project implemented by one of the participating Member States alone**"

**Cross-border renewables project**

- Specific technology, size, location
- Cooperation between contributing MS and host country

**Standardized counterfactual**

- Same project setup
- Implemented in contributing MS instead of host country

**Case-specific counterfactual**

- Different project setup
- Implemented in contributing MS instead of host country

**Net Benefit**

**Net Benefit**

- **Scenario for the assessment:**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# Cost-benefit analysis – element by element (1)

1. **Cost of energy generation**: How much it costs to produce the renewable energy?
   - Levelised cost of energy (LCOE), calculated by a formula, consistent with the Innovation Fund
2. **System integration**: How much it costs to the overall energy system to integrate the generated renewable energy?
   - Profile costs - the cost of providing backup capacity and flexibility to meet demand at all times/at peak.
   - Balancing costs – covering the short term fluctuations and uncertainty in RES generation
   - Grid-related costs – covering the general system operator network charges

# Cost-benefit analysis – element by element (2)

**3. Cost of support**: How much is the transfer of public resources to the project promoter?

- Indicator shall not be incorporated in the overall NPV.

**4. GHG emissions**: How much are the benefits of the project as a result of the reduced GHG emissions?

- Using established GHG effects in CO2 equivalent terms
- Establishing the avoided GHG emissions in CO2
- Monetizing the avoided emissions by the cost of carbon estimates

# Cost-benefit analysis – element by element (3)

**5. Security of supply**: Narrowed down to reduction of import dependency?

- How much is the value of changes in energy imports in the primary energy consumption of the respective sector (electricity/transport/H&C)

**6. Air and other local pollution**: How much is impact of the project in terms of reduction of the air and other local pollution?

- Using only air pollution, based on emissions of three major regional pollutants: NOx, PMx, and SO2
- Using established emission factor (in kg/kWh) of these pollutants
- Multiplying the decreased emissions by the economic unit cost of each pollutant (in EUR/t_NOx, EUR/t_PMx, EUR/t_SO2

# Cost-benefit analysis – element by element (4)

**7. Innovation**:

- How much are the benefits of
  - (i) technological innovation
  - (ii) policy innovation
- Non-monetized element, qualitative description only

# Thank you

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