CBA methodology

Toward an adapted methodology

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Upcoming process

Regulatory process under REG (EC) 347/2013

- ACER opinion: by 15 February 2014
- Commission and Member States opinion: by 15 May 2014
- Methodology adaptation by ENTSOG:by 15 August
- Then Commission approval and publication by ENTSOG
- Frontier-Economics (consultant hired by Commission) supports ENTSOG in that process

TYNDP/CBA consultation process through SJWSs

- Identification of input data
- Testing of the methodology
- Fine-tuning of the methodology

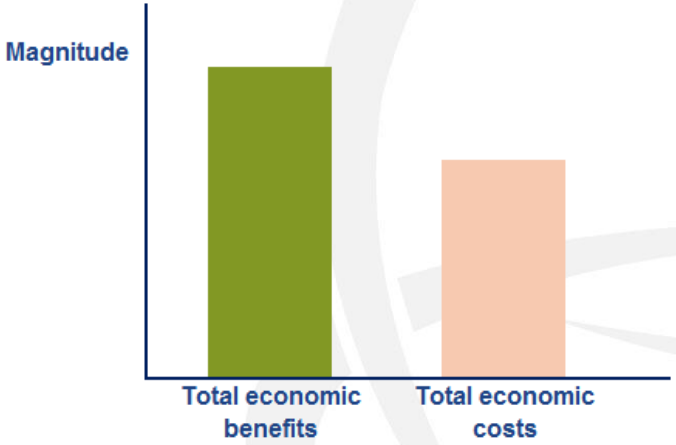
The 2 processes shall converge in order to enable ENTSOG to deliver the adapted CBA methodology on time

The role of the CBA

The role of CBA methodology drafted by ENTSOG

Support to the PCI selection process by Regional Groups

> Testing the fullfilement of general and specific criteria:
  - Economic benefits of the project are higher than its economic costs
  - Economic benefits are located in more than one Member State



Support to the Cross-Border Cost Allocation when required

> Provides the location of project benefits and costs in each impacted country

> Illustrates the sensitivity of benefit magnitude and location to a change of input data

As defined by Regulation, the methodology is of application for mature projects (at least able to provide project specific data)

What can be extracted from the methodology

Balance between benefits and costs per country

> Benefits and costs per category (indicators and monetization)

> Benefits and costs per country (enabling the identification of the Area of Analysis)

> Robustness of results with respect to :

- a change in input data set (sensitivity-analysis)
- the commissionning date of other projects (see below table)

Marginal impact under…		PCI candidate is mostly…
Low Infra.	High Infra.	
-	+	synergy with other Non-FID projects
+	-	competition with other Non-FID projects

Possible further analyses of project interaction

> Based on the above results, Regional Groups may ask some promoters to run a new CBA on a cluster gathering their projects

> The same CBA methodology is to be applied considering the cluster as one project

Why the methodology does not rank projects

The selection of PCIs cannot be a deterministic process

- Regulation mentions the CBA as an input among others for the PCI selection even if methodology goes as far as possible in the harmonization of project assessment
- In an uncertain future, decision-makers may focus on different scenarios or part of the sensitivity-analysis
- As an output of CBA, projects are characterized by a set of different values:
  - Quantititative indicators
  - Monetization of benefits
  - Financial performance indicators
  - Economic performance indicators
  - Number of impacted countries
- The above set captures different aspects of the project impacts but not their weighting
- Technical feasability and political support are significant aspects difficult to quantify

The structure of the CBA

The overall principles

Methodology measures project impact on regulation criteria

> This is a way to ensure fair and common assessment of project whatever their:
  - type (UGS, LNG or Transmission)
  - size (small projects may have big impact)
  - location (country where the project is built)

The combined approach

> According to regulation, project impact shall be measured through both indicators and monetization

> Monetization covers the impact of project operation on the cost of:
  - gas
  - power generation
  - CO2 emission
  - uncovered gas demand

> Indicators should not be considered as an additional quantification of project impact but rather a support to the interpretation of monetization

The qualitative analysis complements and comments on monetization and indicators

Input data set: the initial step

Common data:

- Capacity
- Demand
- Supply
- Prices

Setting the framework of CBA for the next 2 years

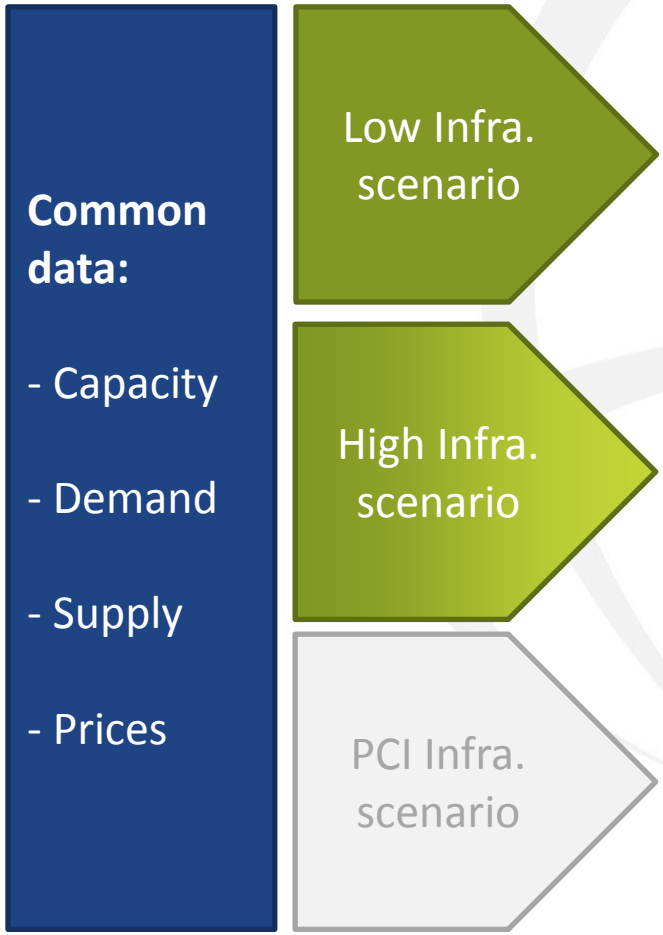
> Common data necessary to the assessment of all projects: capacity, demand, supply availability, fuel and CO2 price

> Sources: TSOs, project promoters, Member States, literature…

> Data to be organized in scenarios representing the possible evolution of a given data (e.g. CO2 price)

> The selection of scenarios defines the range of situations under which projects will be assessed

Reference assessments



2 assessments common to the CBA of all PCI Candidates

> 2 Reference Infrastructure scenarios:
  - Low: existing infrastructures and FID projects
  - High: same than Low plus non-FID projects

> For each infrastructure scenario and country the assessments provide:
  - The value of each indicator
  - The monetization of gas supply, CO2 emissions, coal/gas power generation and disruption

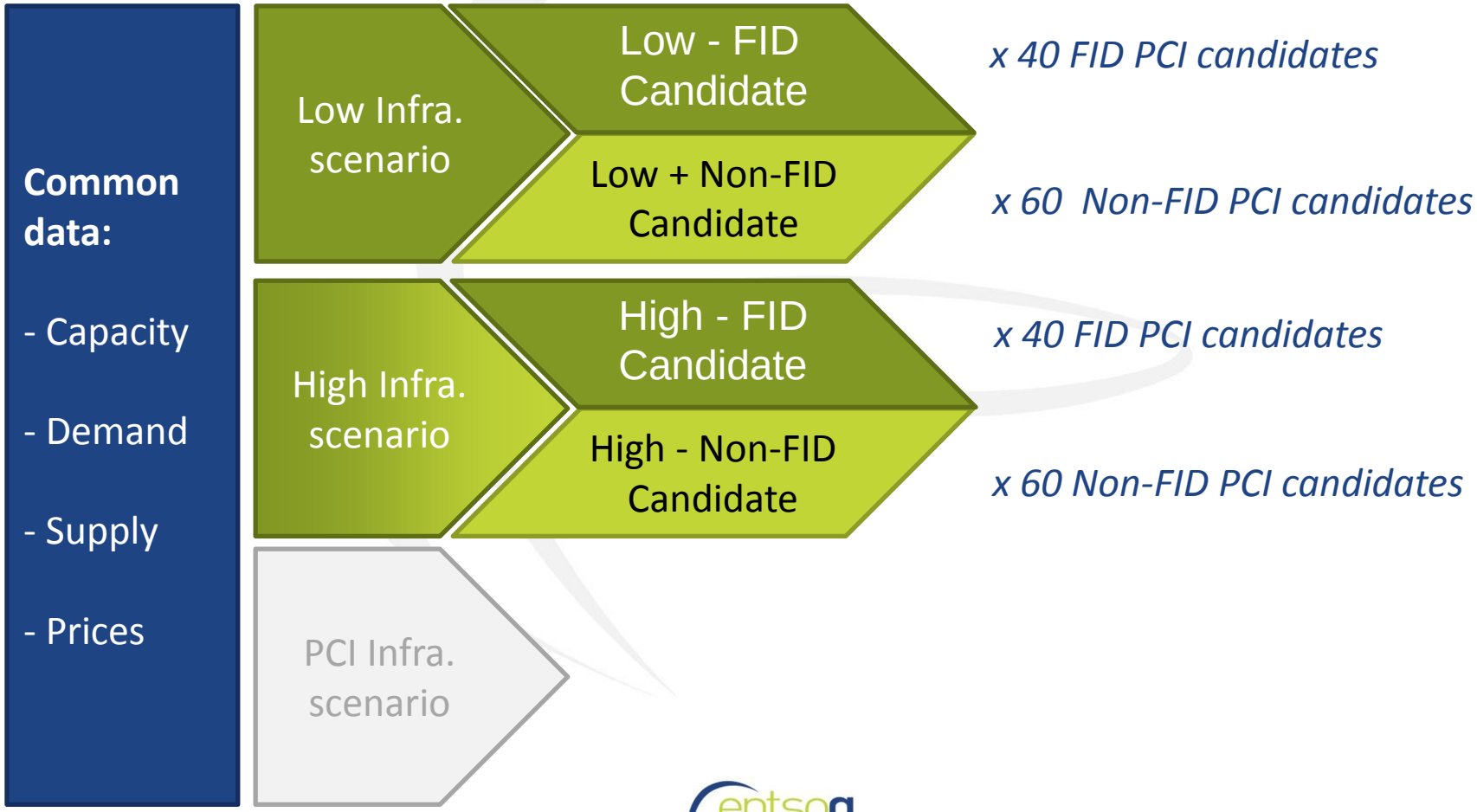
Feedback loop to Regional Group

> Same assessment run on the PCI Infrastructure scenario (Low Infra. plus PCI/Non-FID as resulting from previous selection)

Incremental approach

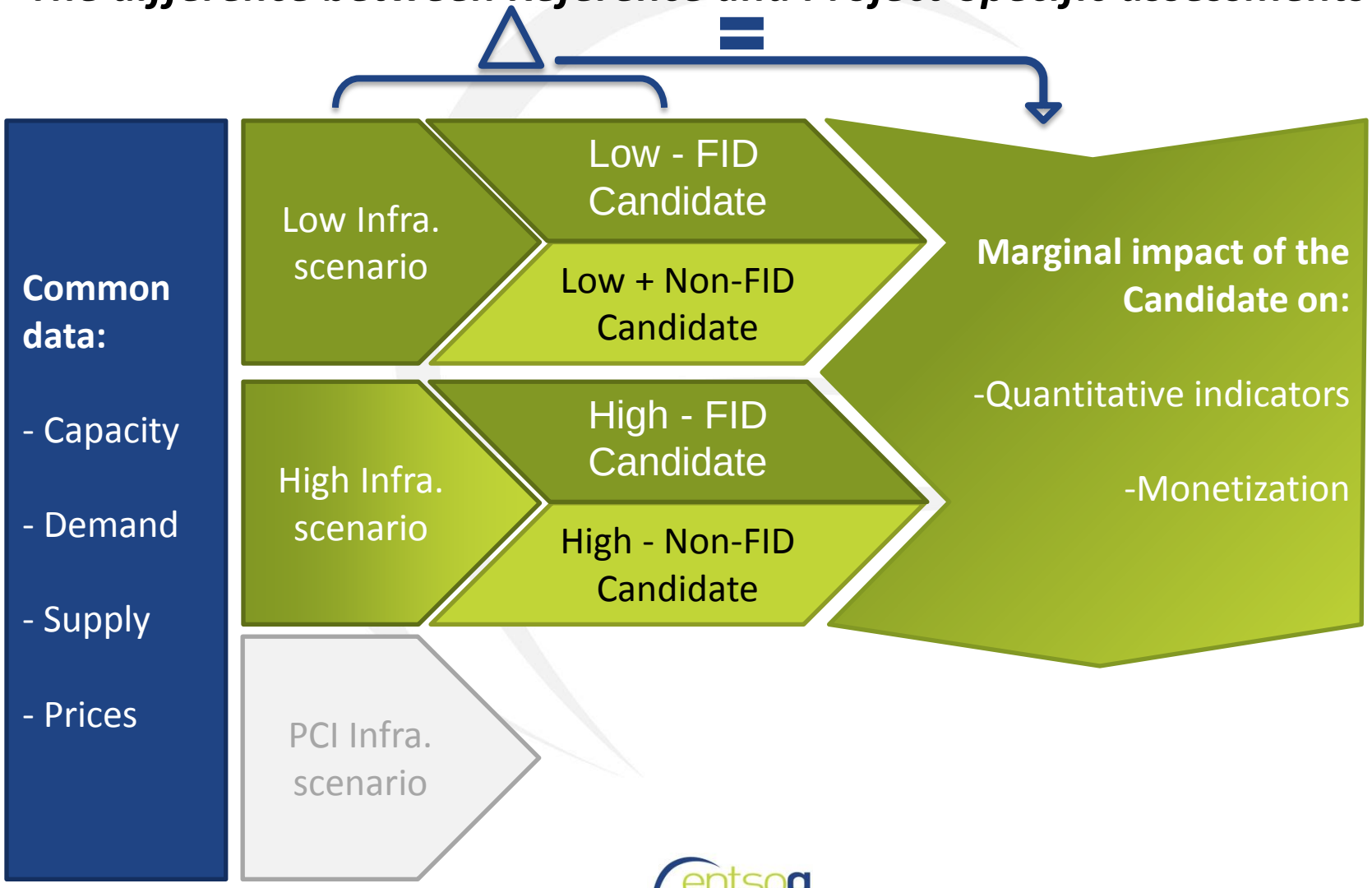
Project specific assessments to be used in the Incremental approach

> Same as previous Reference assessments but with a positive or negative project increment applied to the infrastructure scenarios (each of the 100 PCI candidate assessment differs)

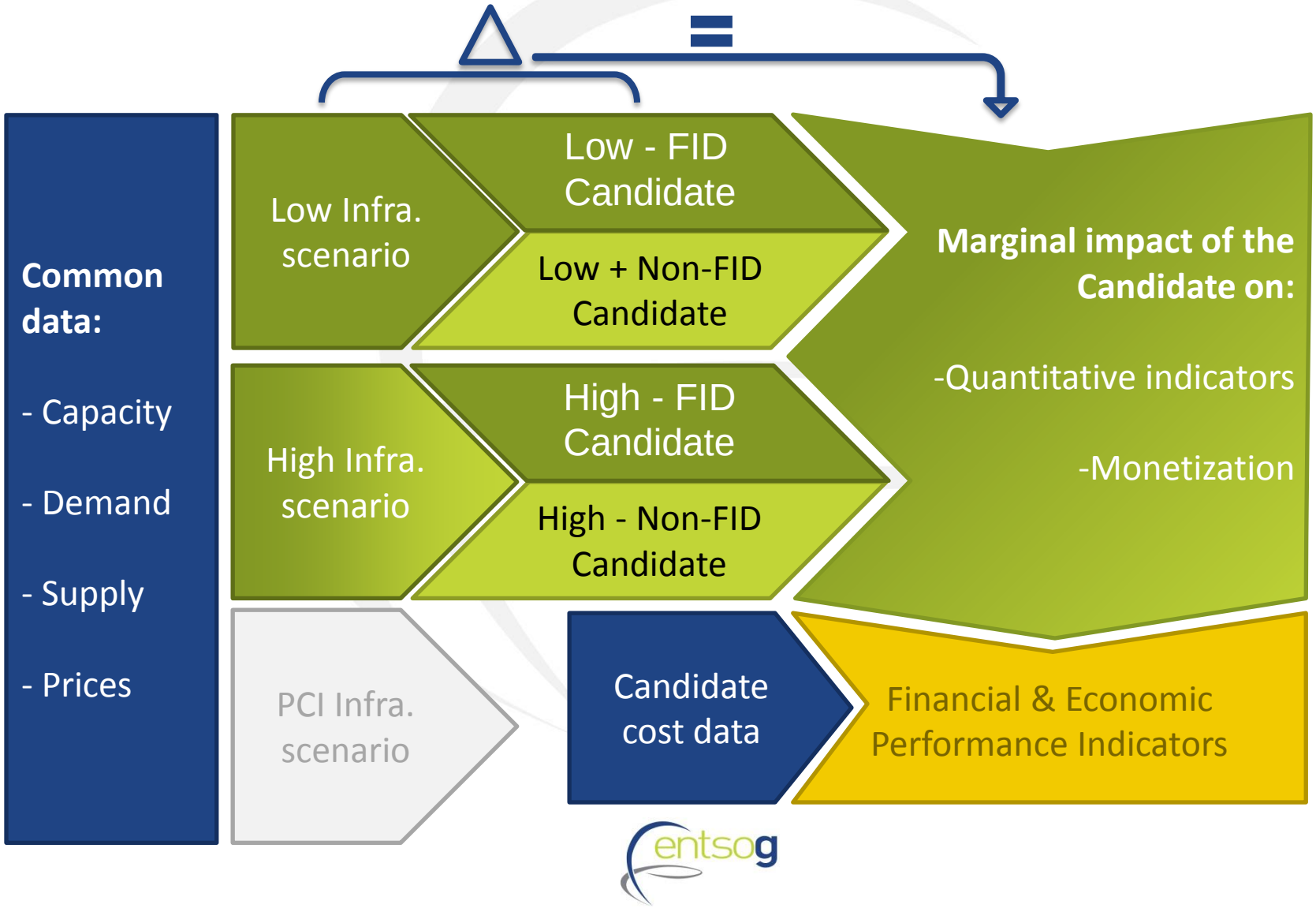


Definition of the PCI Candidate marginal impact

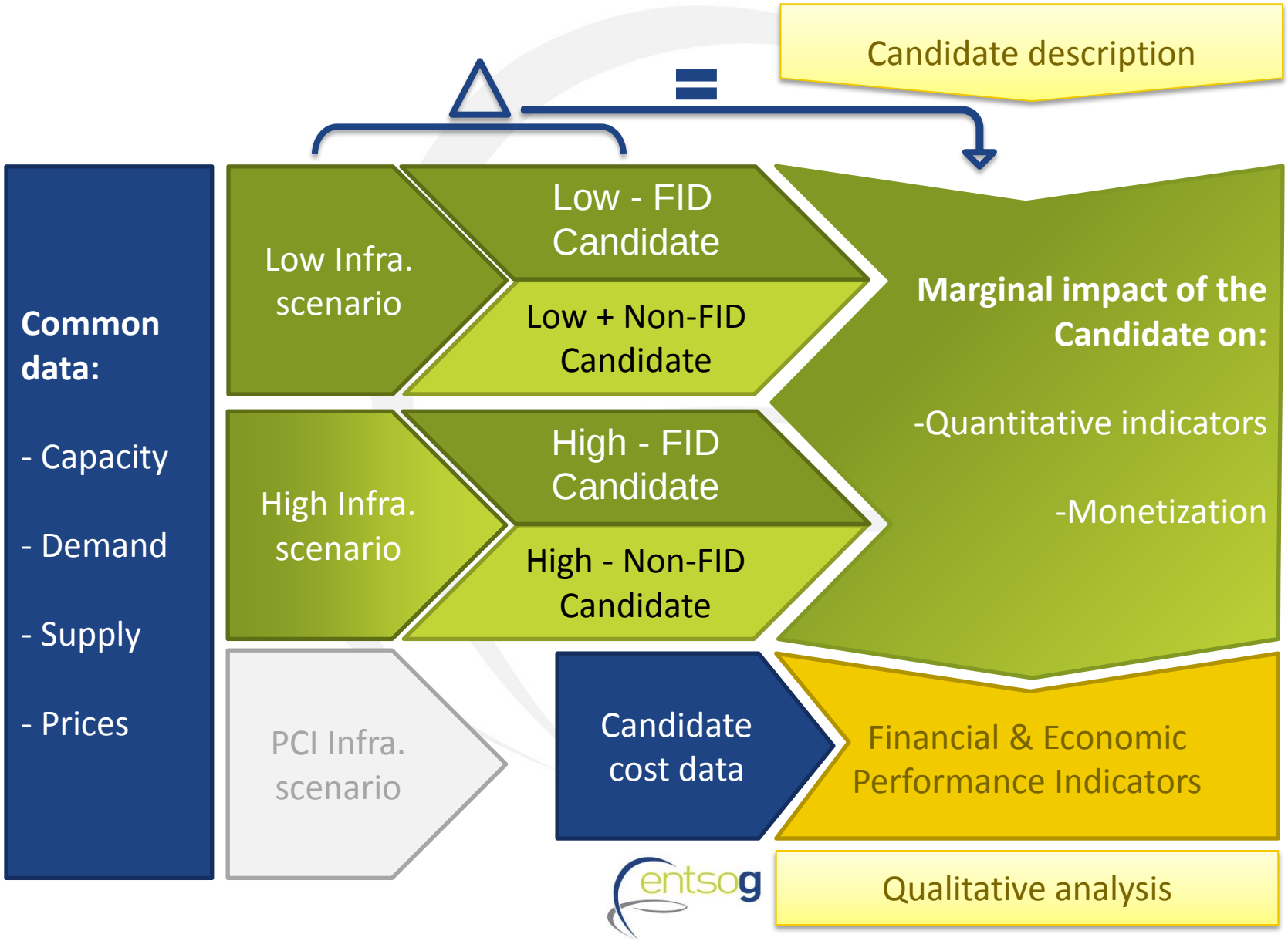
The difference between Reference and Project-Specific assessments



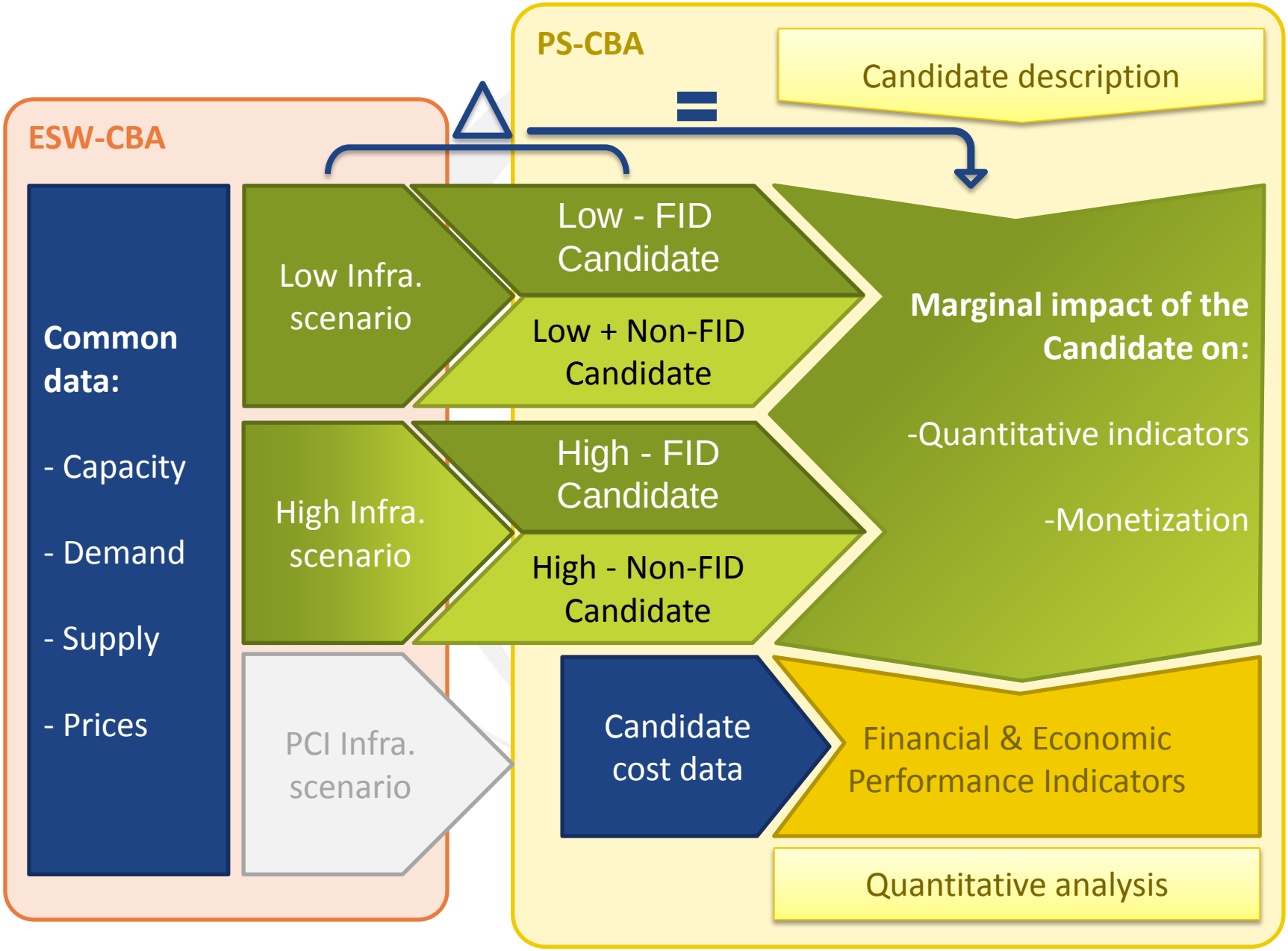
Project marginal impact and cost as inputs for Performance Indicators



The final qualitative layer



ESW/PS-CBA: an efficient division of labour



CBA outputs

Detailed outputs of the CBA per year

Year Y+28	Country A	Country B	Country C	Country D
Δ€-gas supply	-8		-1	-1
Δ€-power production	-2	-1	-2	-1
…				
Σ monetized impact	-10	-2	-1	-3
ΔInd – Remaing Flex.	+6%	+4%	+2%	+4%
ΔInd – Imp. Rte. Div.	-12	-7		-8
…				
CAPEX				
OPEX	75	17	3	

Overall outputs

Aggregation of yearly results

> Concerns cost and monetization information (application of Social Discount Rate)

Building of Economic Performance Indicators (EPIs)

> Based on actualized (SDR) economic cash flows

> EPIs make sense only for the full project life and whole Europe

Guidelines for interpretation results

> For PCI selection, the Economic Performance Indicators provide efficient measurement of project social welfare compared to its cost

> For Cross-Border Cost Allocation, as shown on previous slide, the results of the Economic Analysis are obtained by type of impact and country

> In both cases, indicators, monetization and EPIs are 3 different layers explaining each other but not to be combined as it will lead to double counting and inconsistency as they are not normative

Open points

To be solved for an easy application of the CBA methodology

> PCI candidates should be interconnected to either:
  - Existing infrastructures
  - Another candidate but then they have to be assessed as a single project

> FID criteria
  - need of standards for non-regulated projects?
  - status of mirror projects , being both sides of a flange (see below table)

Project A	Project B	To be considered in which Infrastructure scenario
FID	FID	Low and High
	Non-FID	High
	No project	None
Non-FID	FID	High
	Non-FID	High
	No project	None

Thank You for Your Attention

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