

**Technical support to the Energy Community and its Secretariat to assess the candidate Projects of Energy Community Interest in electricity, smart gas grids, hydrogen, electrolysers, and carbon dioxide transport and storage, in line with the EU Regulation 2022/869**

**- Final sensitivities to be observed in the analyses -**

TEN-E (PECI) Groups meeting – 3<sup>rd</sup> meeting of the “Electricity” Group

16 May 2024

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# — Sensitivity analysis – TEN-E Regulation

- *EU Regulation 2022/869 (revised TEN-E)*, Annex V

(2) **Each cost-benefit analysis shall include sensitivity analyses** concerning the input data set, including the cost of generation and greenhouse gases as well as the expected development of demand and supply, including with regard to renewable energy sources, and including the flexibility of both, and the availability of storage, the commissioning date of various projects in the same area of analysis, climate impacts and other relevant parameters;

# Sensitivity analysis – ENTSO-E CBA Guideline

- *4<sup>th</sup> ENTSO-E Guideline for Cost-Benefit Analysis of Grid Development Projects*
  - *For each CBA study, sensitivity analysis should be conducted to increase the validity of the CBA results*
  - *Sensitivity analysis can be performed to observe how the variation of parameters, either one parameter or a set of interlinked parameters, affects the model results*
  - *The aim of a sensitivity analysis is not to define complete new sets of scenarios but quick insights in the system behaviour with respect to single (few) changes in specific parameters*
  - *In general, **a sensitivity analysis must be performed on a uniform level**, i.e. the sensitivity needs to be applied to all projects under assessment in the respective study*

# Sensitivity analysis – ENTSO-E CBA Guideline

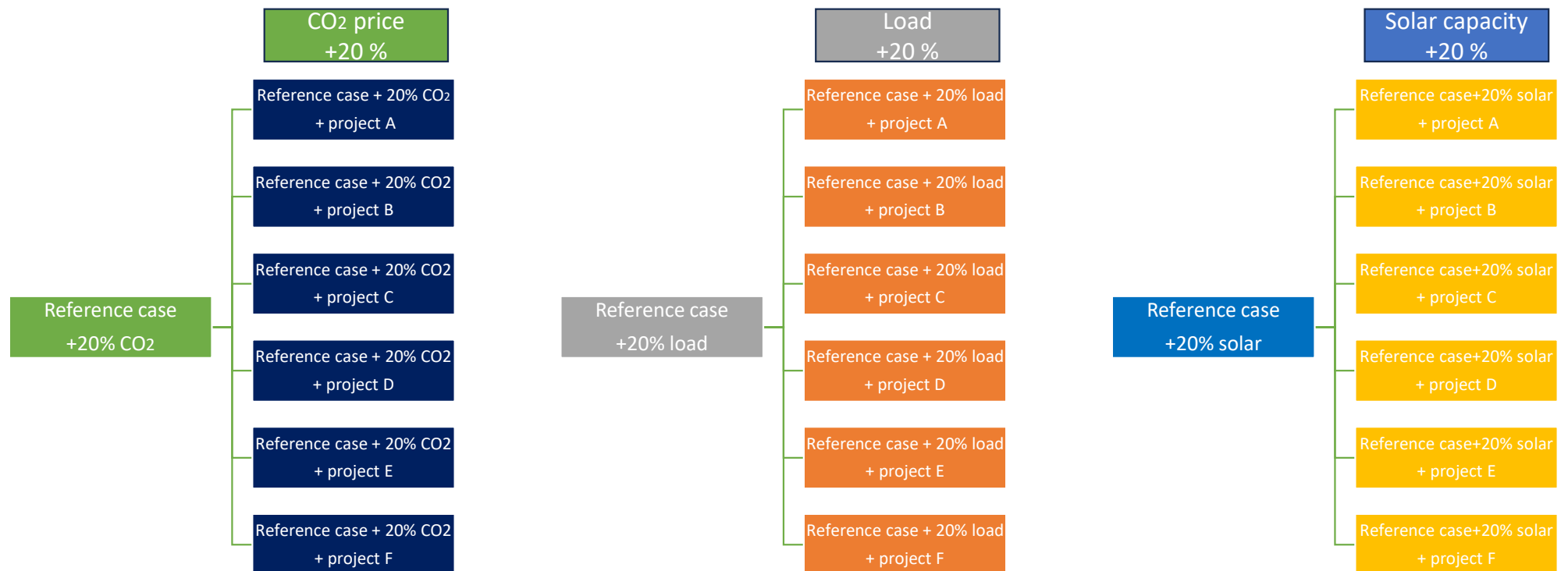
- *4<sup>th</sup> ENTSO-E Guideline for Cost-Benefit Analysis of Grid Development Projects*
  - Examples of sensitivities based on the experiences in the previous TYNDP processes:
    - Fuel and CO<sub>2</sub> price
    - Long-term societal cost of CO<sub>2</sub> emissions
    - Climate year
    - Load
    - Technology phase-out/phase-in
    - Must-run
    - Installed generation capacity (including storage and RES)
    - Flexibility of demand and generation
    - Availability of storage
    - The commissioning date of various projects

# Proposed parameters for sensitivity analyses

- Proposed parameters for sensitivity analyses for CBA under PECl 2024 process:
  - **CO<sub>2</sub> price** – fuel and CO<sub>2</sub> prices affect the marginal costs of conventional power plants, and their dispatch, which directly affects related CBA indicators such as SEW and emission variations
  - **Load** – it is expected that an increasing number of applications will be electrified in the future (e.g. e-mobility, heat pumps, etc.), which would cause an increase in load and the necessary generation and therefore possibly affect several CBA indicators such as SEW
  - **RES** – amendments to the national RES goals, which could occur frequently in the observed horizon, could lead to dominant impacts on the results of the CBA assessment

# Proposed parameters for sensitivity analyses

- Proposed values for sensitivity analyses for CBA under PECl 2024 process:



# Thank you for your attention



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