

Assessment and analysis of impacts of implementation of response measures

Asia-Pacific region awareness creation workshop to maximize the positive and minimize the negative impacts of implementation of Climate Change response measures

27-29 August 2019



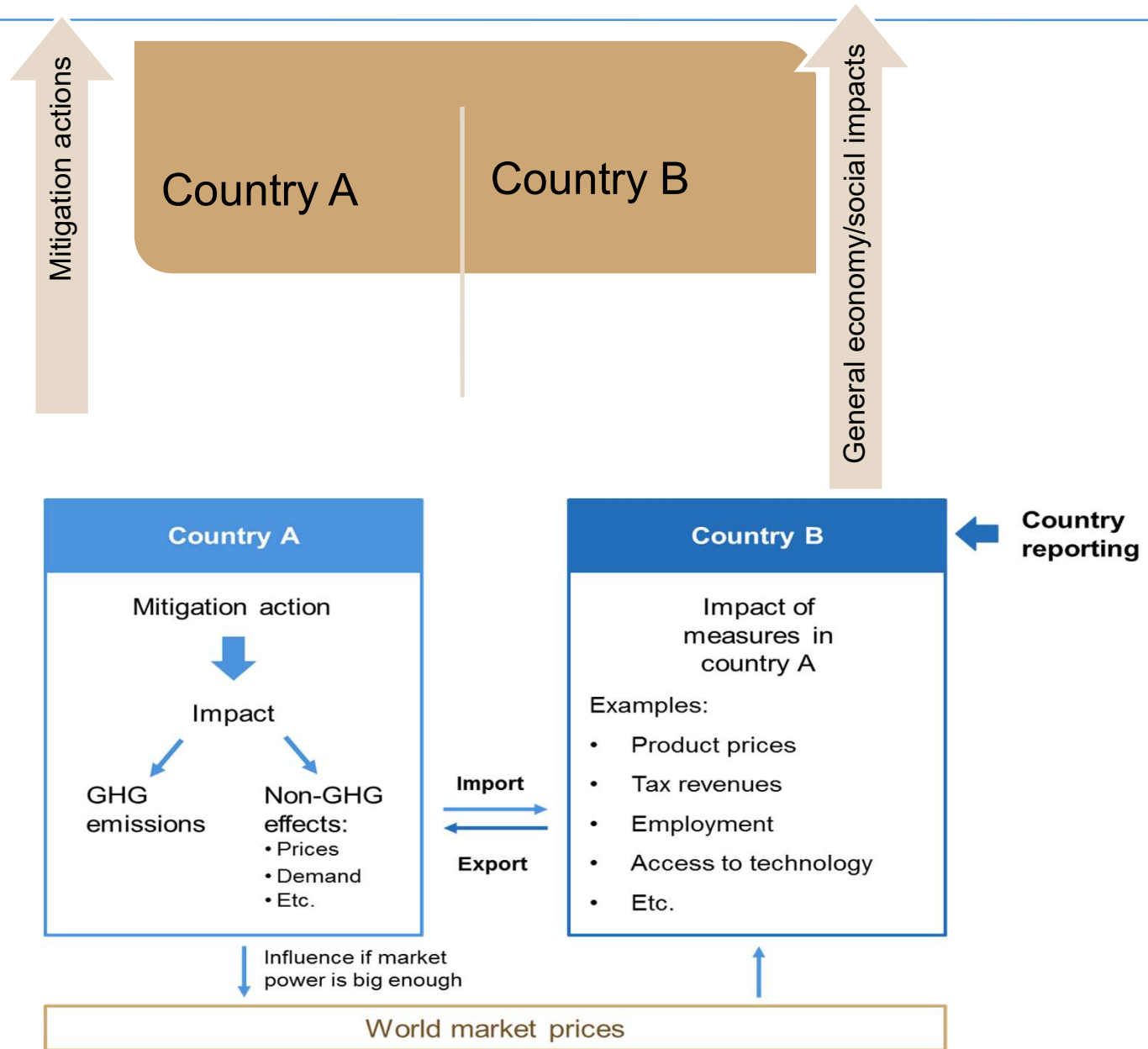
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Impacts of RM: The Need of the time

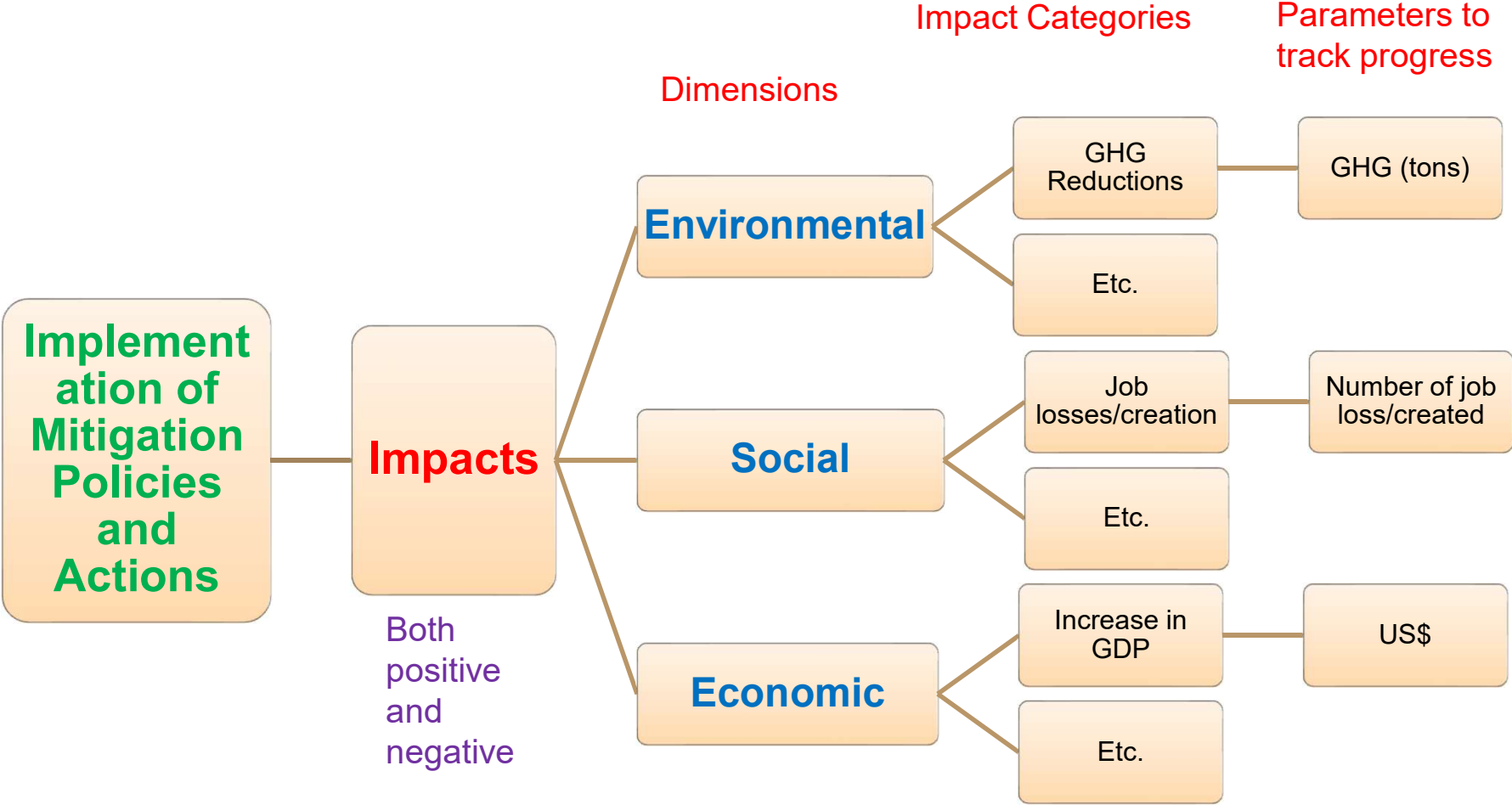
- In order to achieve the 2°C goal of the Paris Agreement there is the need for increased implementation of GHG mitigation abatement policies
- Hence an increased need to assess the cross-border impacts, and then to report and address these impacts.



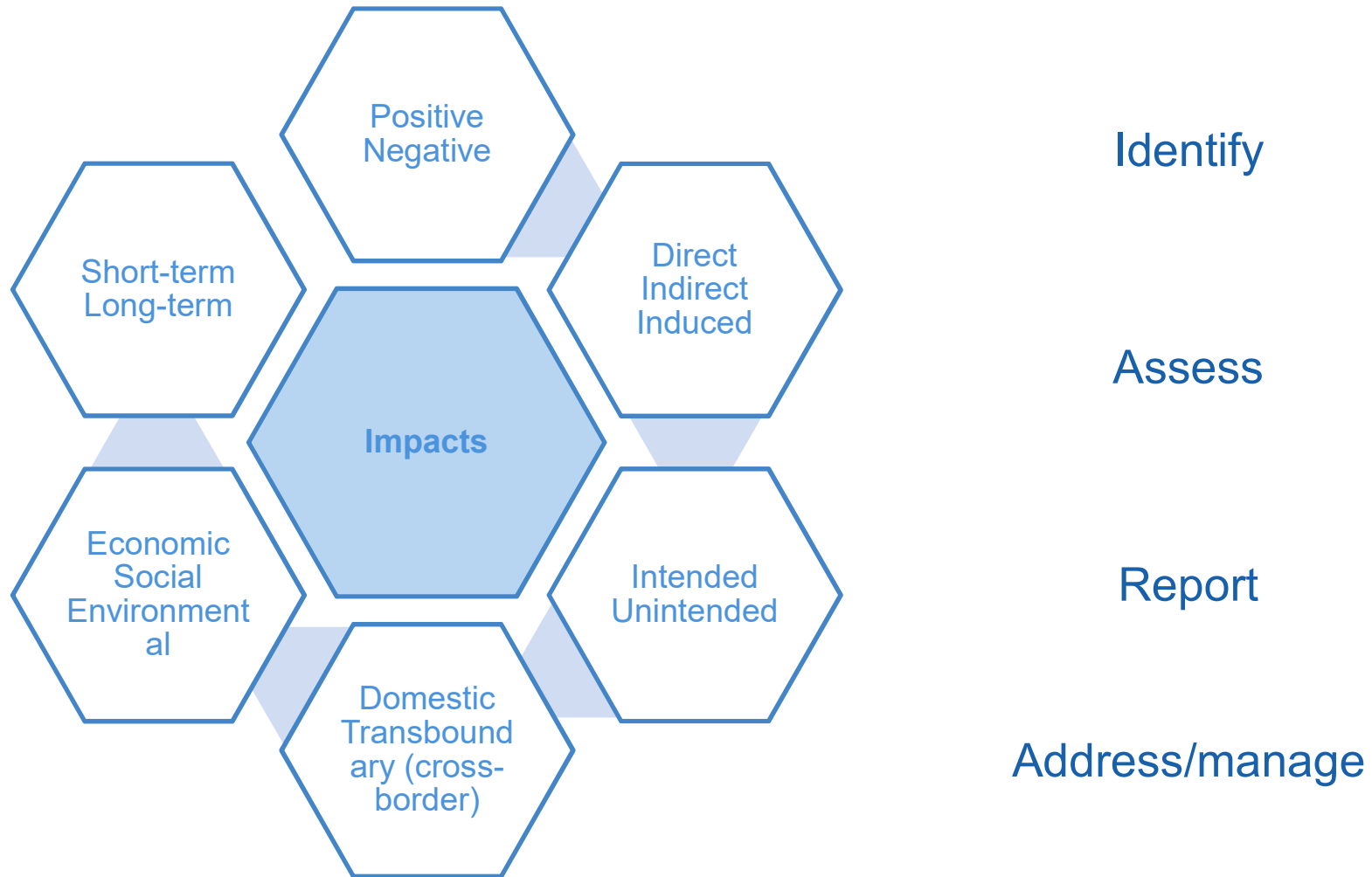
Impacts of RM: The Need of the time



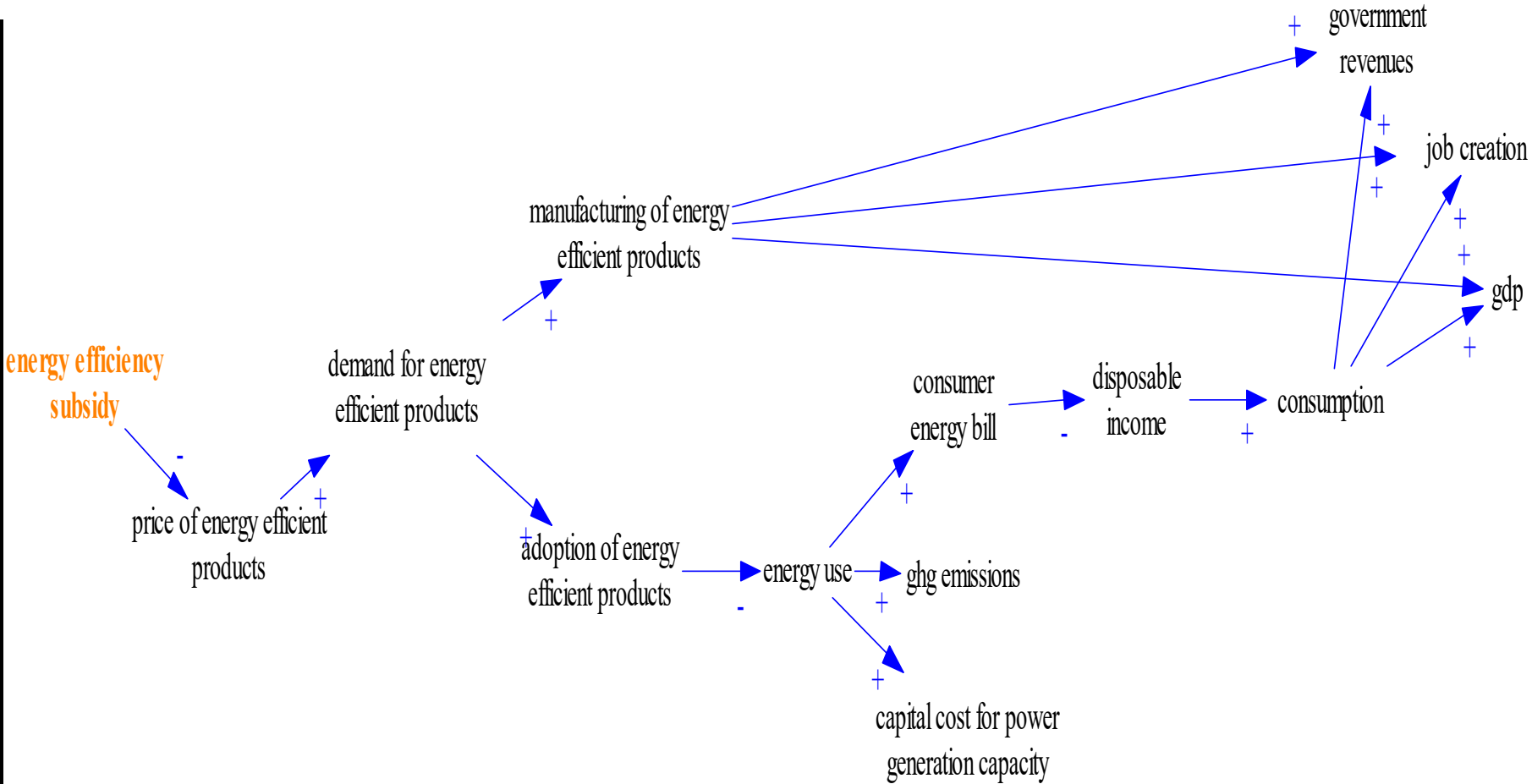
Manifestation of impacts of mitigation policies and actions



Types of impacts of response measures



Casual chain for impacts of increasing energy efficiency subsidy



Countries most impacted?

- Commodity dependent countries : dependent on export of natural resources
 - There are about 88 commodity dependent countries
 - 81 out of 88 commodity dependent countries have submitted their NDCs.
- Commodity dependent country has strong dependence on policy implementing country e.g. in 2017
 - 47% of total exports revenue of Angola is from oil export to China
 - 56% of Algeria's export revenue is from Oil and natural gas to EU
 - 32% of Bolivian republic of Venezuela renew is from oil and gas export to US



Sectors impacted

- Conventional oil, gas and coal fuels;
- Energy-intensive trade-exposed goods (aluminium, iron and steel, cement, chemicals, and pulp and paper);
- Tourism;
- Agriculture.



Mitigation policies and impacts

Selected response measures and their impacts

<i>Policy</i>	<i>Key Impacts</i>
Domestic carbon taxes and cap and trade schemes	Loss of market share for foreign exports
Subsidies for renewable energy technology producers	Loss of market share for foreign competitors (renewable energy technology and fossil fuels)
Standards and labelling requirements	Loss of market share for producing firms
International carbon taxes and levies	On aviation: loss of tourism revenue for airline destinations and loss of market share for air-freighted goods On maritime transport: reduced trade flows



Assessment of impacts of response measures

✓ Approaches

- **Qualitative:** produces a description of the potential effects of policies and measures. It provides an estimate of the direction of change (positive, negative) and its relative size (small, medium, large);
- **Quantitative:** Models provide quantitative assessment results with a higher degree of accuracy; usually require a large data set and expertise and are associated with high cost;
 - CGE-based, E3ME;
- Other quantitative tools: input-output analysis, econometric analysis, cost-benefit analysis

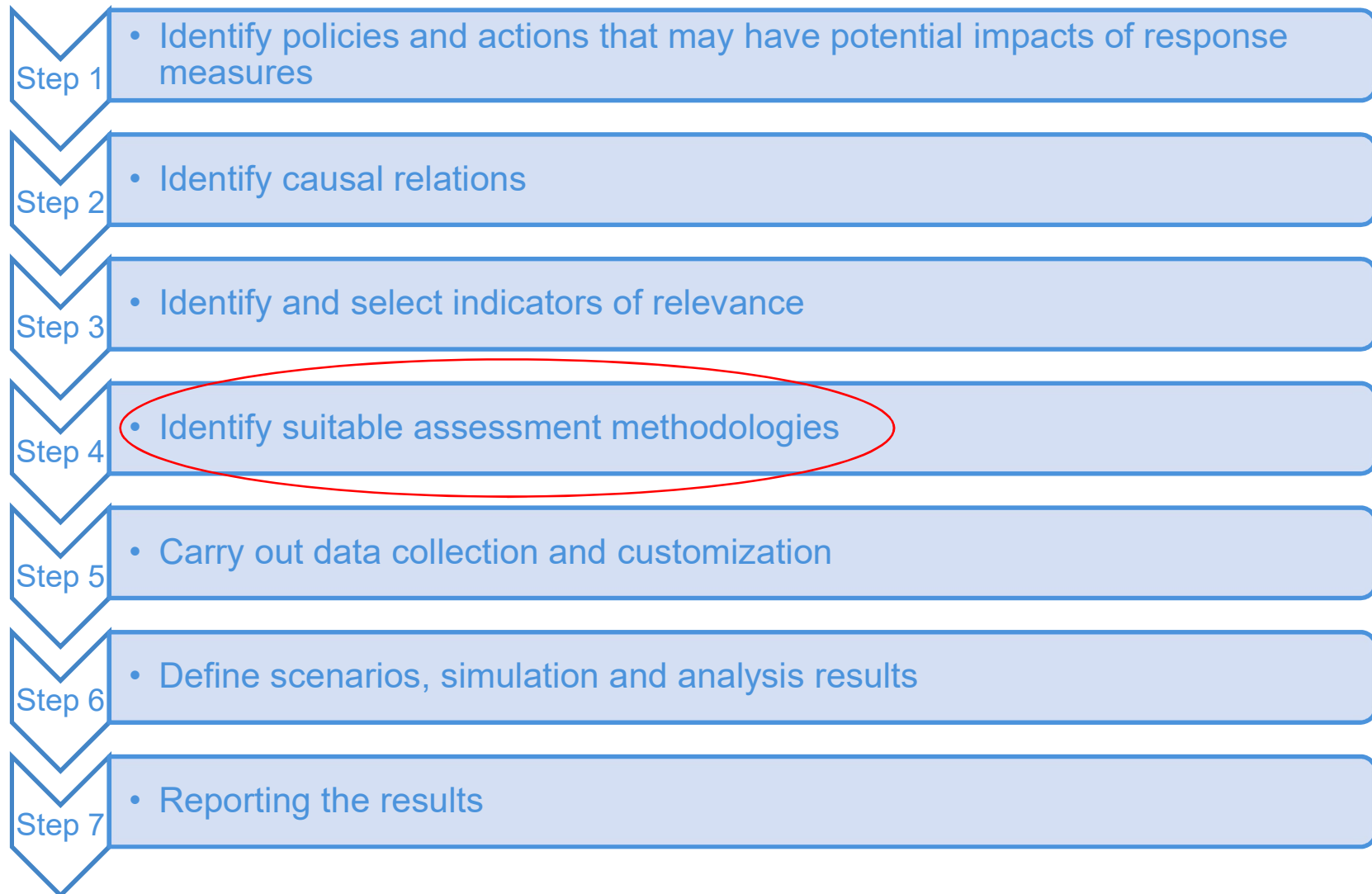
✓ Timing of assessment

- **Ex-ante:** assessment undertaken before formulation and adoption of PaMs, for evidence-based decision making, and involvement of stakeholders
- **Ex-post :** undertaken after the implementation of PaMs, to check and evaluate its real impacts.

✓ Step-wise methodologies



Overview of steps of assessment of impacts

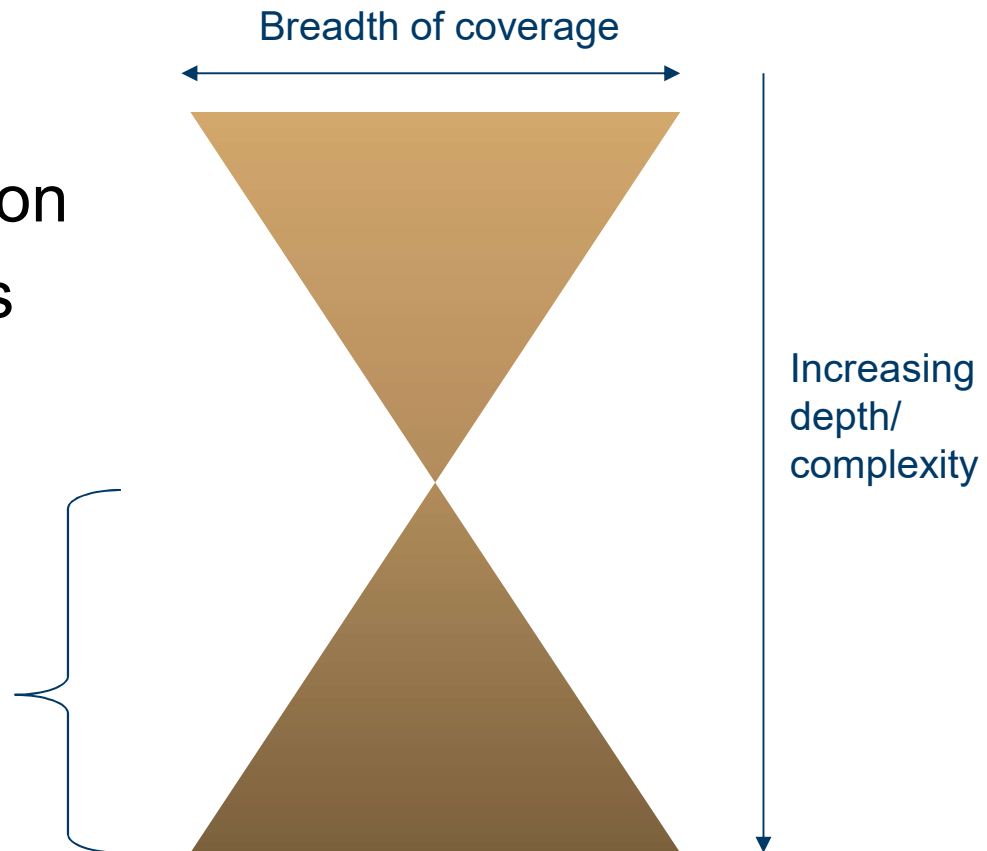


Types of Analytical tool

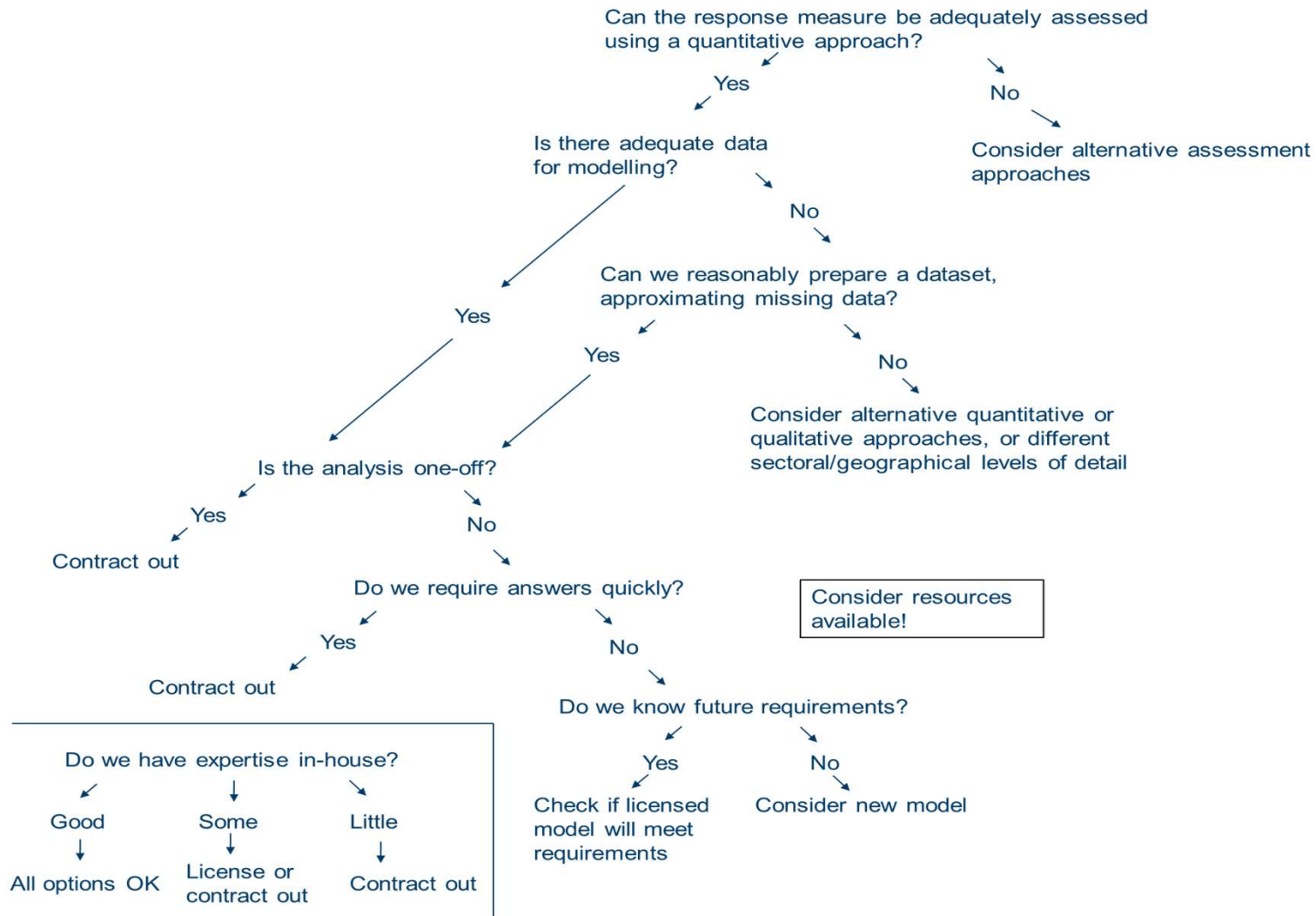
Qualitative Approach: simple analysis

Quantitative Approach: basic to complex

- Simple analysis
- Econometric estimation
- Systems of equations
- Input-output analysis
- Partial modelling
- General modelling



Decision Tree for selection of assessment approach



Challenges and Opportunities

Challenges

- Lack of experience in developing countries
- *Lack of case studies, specifically cross border impacts assessments*
- Lack of suitable methodological and analytical tools

Opportunities

- *Forum established under the Convention shall serve the Paris Agreement (paragraph 33, decision 1/CP21)*
- *Katowice Committee of Experts (established by decision 7/CMA 1)*
- *Work programme areas of the forum*



Thank you !

<https://unfccc.int/topics/mitigation/works-treams/response-measures>

