

- 1) MitiClubs: Technology, trade and carbon pricing clubs
- 2) IES-Brasil – Implicações Econômicas e Sociais

Gabriel Malta Castro
July 7th 2017

MitiClubs: Technology, trade and carbon pricing clubs

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Why clubs?

- Current NDCs are insufficient to achieve 2°C limit;
- Huge diversity of country positions.

Possible solution:

- Plurilateral approaches (“clubs of countries”) could help enforce stronger policies

What is a club?



Club \neq Coalition

Clubs have rules and commitments, which define the terms of membership.

Examples:

- NATO
- GATT \rightarrow WTO (World Trade Organization)

“Club of countries” main benefits (Grubb *et al.*, 2015):

- Domestic price on carbon;
- International cooperation on low carbon technologies;
- International trade agreements on low-carbon products.

Other advantages:

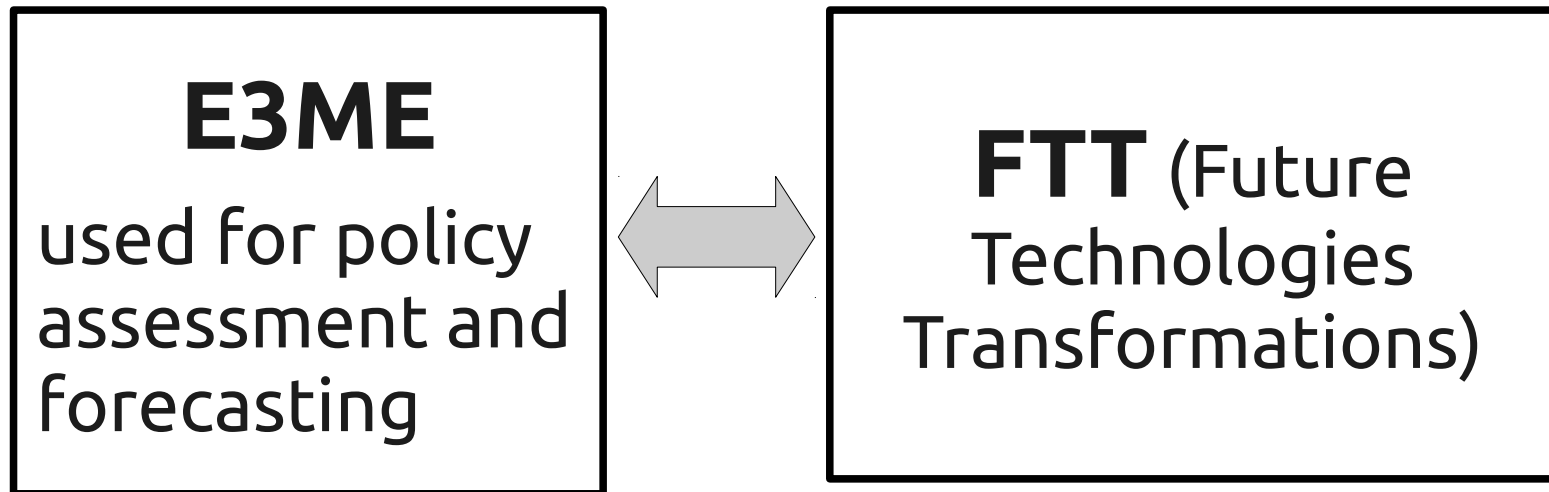
- More flexibility
- Easier to engage firms to develop and test new low-emission technologies

Under what conditions and rules can a combination of technology, trade and carbon pricing policies provide incentives for countries to cooperate with inbuilt incentives to grow further?

Design characteristics of a mitigation club based on technology, trading and carbon pricing that could create incentives to membership and hence support enhanced climate action?

How might countries' interests and interactions change over time during a sustainability transition, and how could club design help to make such a transition self-reinforcing?

- Radboud University
- Indian Institute of Technology Delhi
- Federal University of Rio de Janeiro
- University College London



IES-Brasil – Implicações Econômicas e Sociais

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What is IES-Brasil



Implicações Econômicas e Social

- IES-Brasil analyses the economic and social effects of a variety of GHG mitigation scenarios in Brazil until 2050.
- The objective of the study is to show the effects of such scenarios, and aims to be of use to decision makers when developing GHG mitigation strategies.
- The project is fruit of an innovative, participatory, scenario building process, composed of experts from a wide array of sectors from the Brazilian economy coming together under the Brazilian Forum on Climate Change to make up the Scenarios Building Team (SBT).

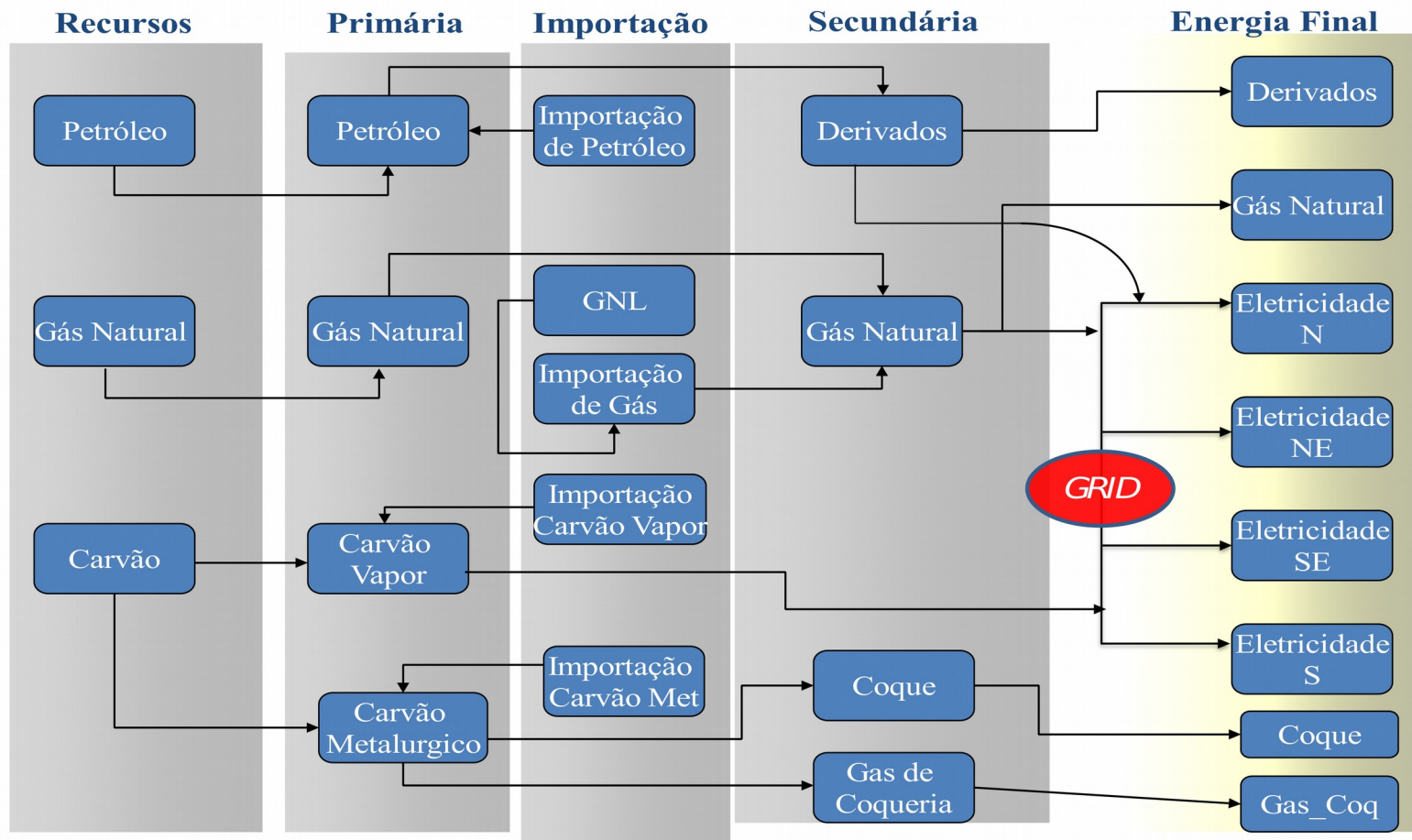
Research and Modelling Team



The Research and Modelling Team, coordinated by CentroClima at the Institute of Post-graduate Studies and Research in Engineering (COPPE) at the Federal University of Rio de Janeiro (UFRJ), is responsible for processing the selected mitigation measures and input data in mathematical models and analysing the implications for the Brazilian economy.

- AFOLU
- Industry
- Transport
- Waste
- Biofuels
- Economic scenarios
- Energy supply

MATRIZ model



Methodology



Macroeconomic
scenario

Methodology



Macroeconomic
scenario



Identify new
technologies

Methodology



Macroeconomic
scenario

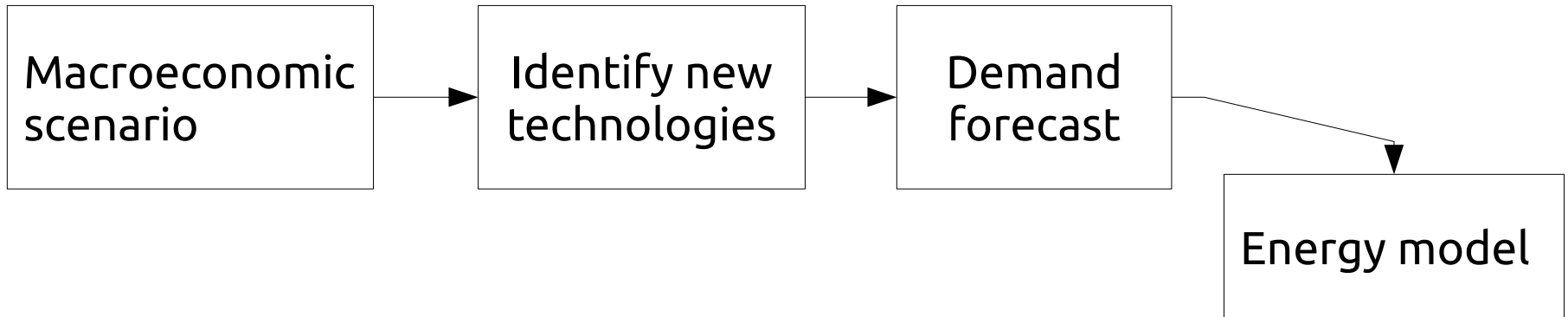


Identify new
technologies

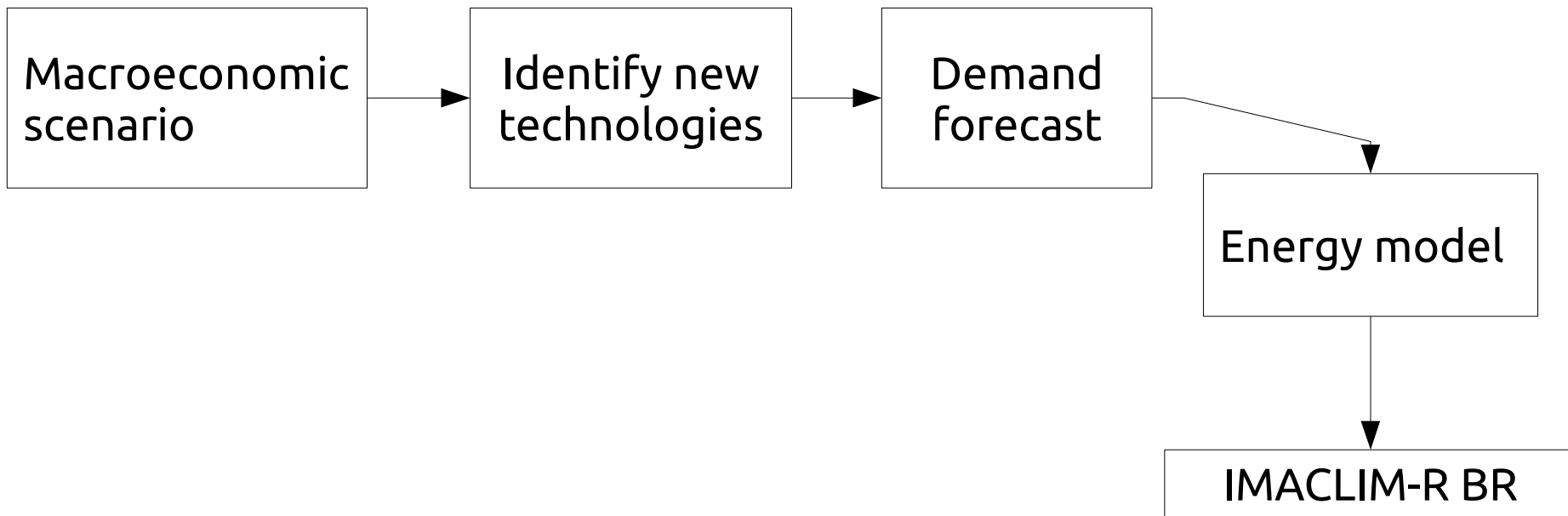


Demand
forecast

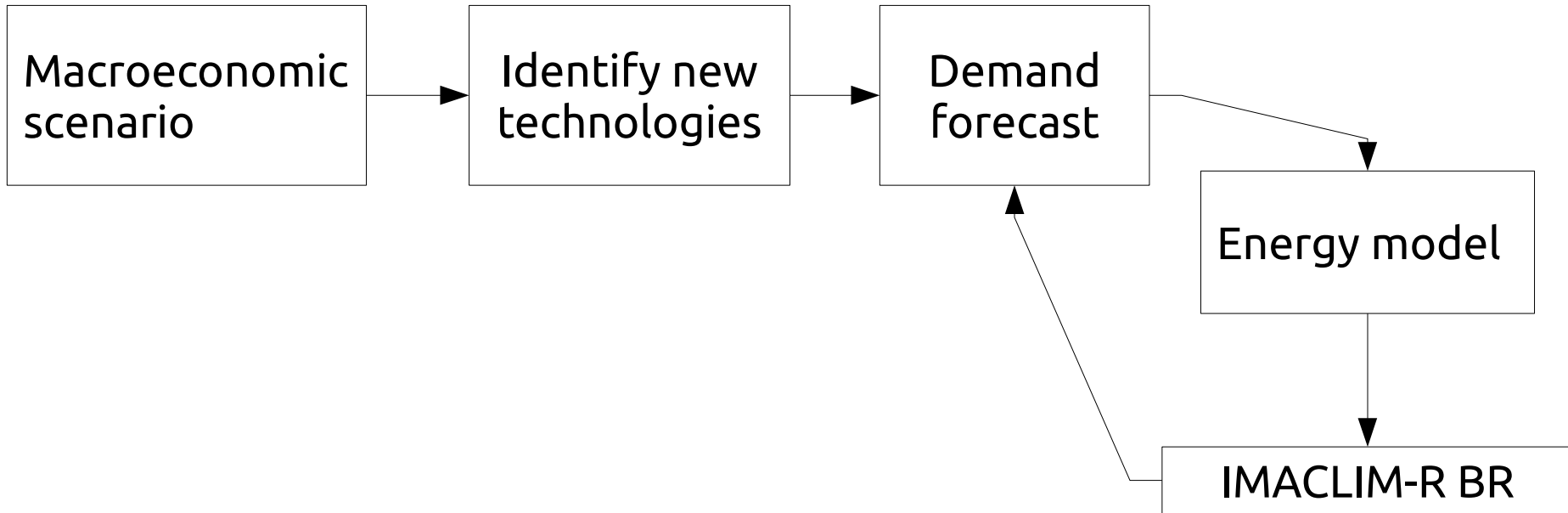
Methodology



Methodology



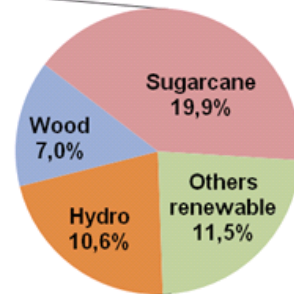
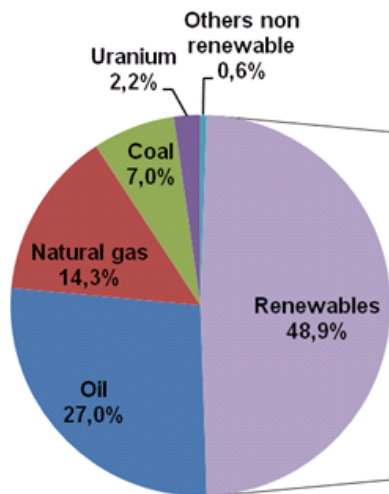
Methodology



Primary final demand

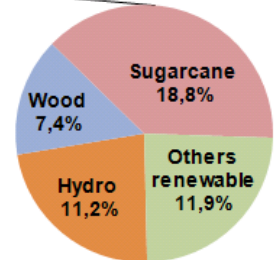
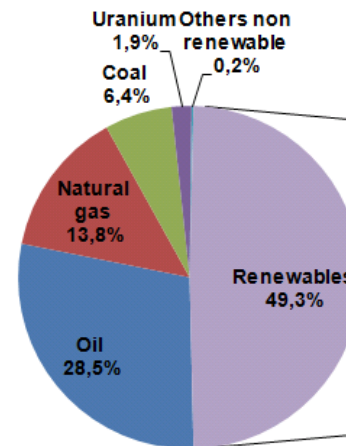
2050

Before
IMACLIM

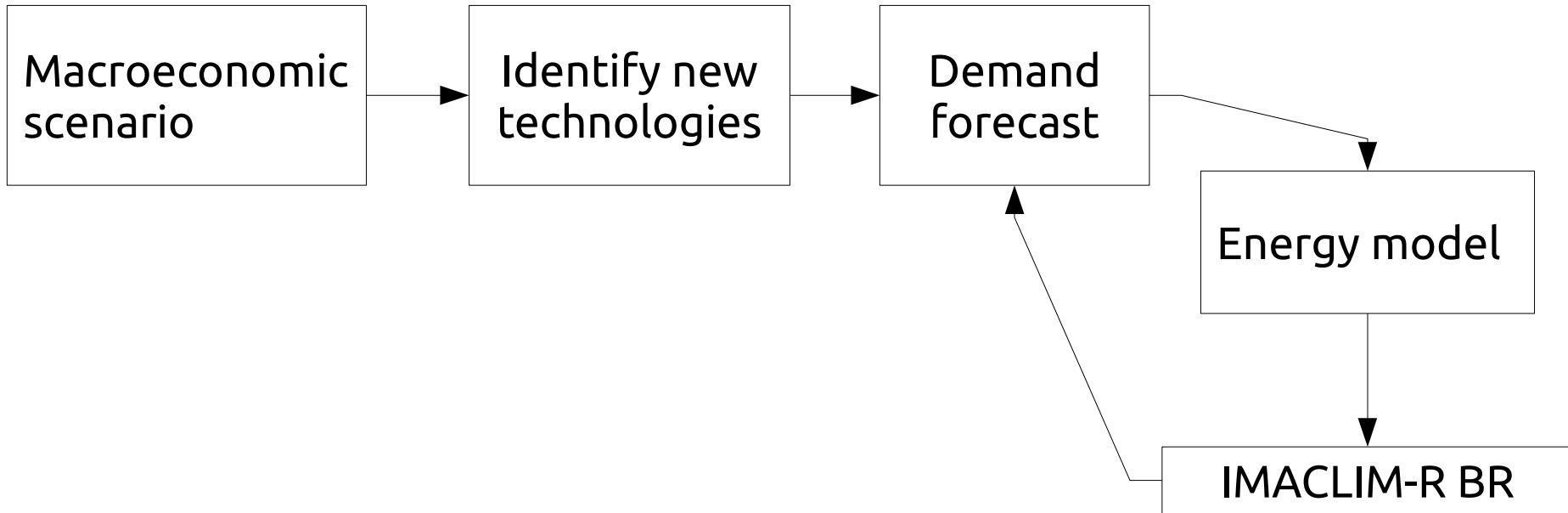


2050

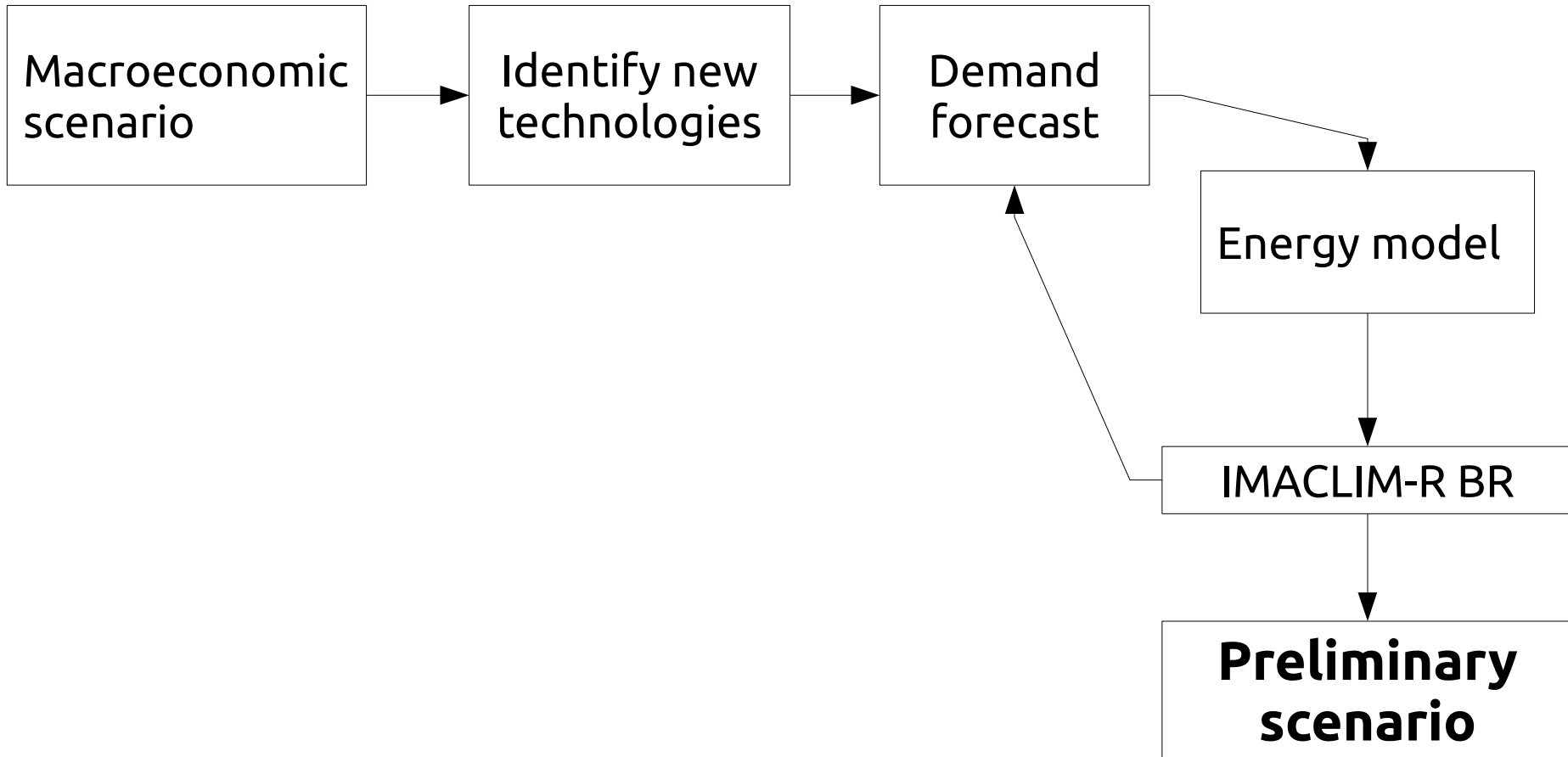
After
IMACLIM



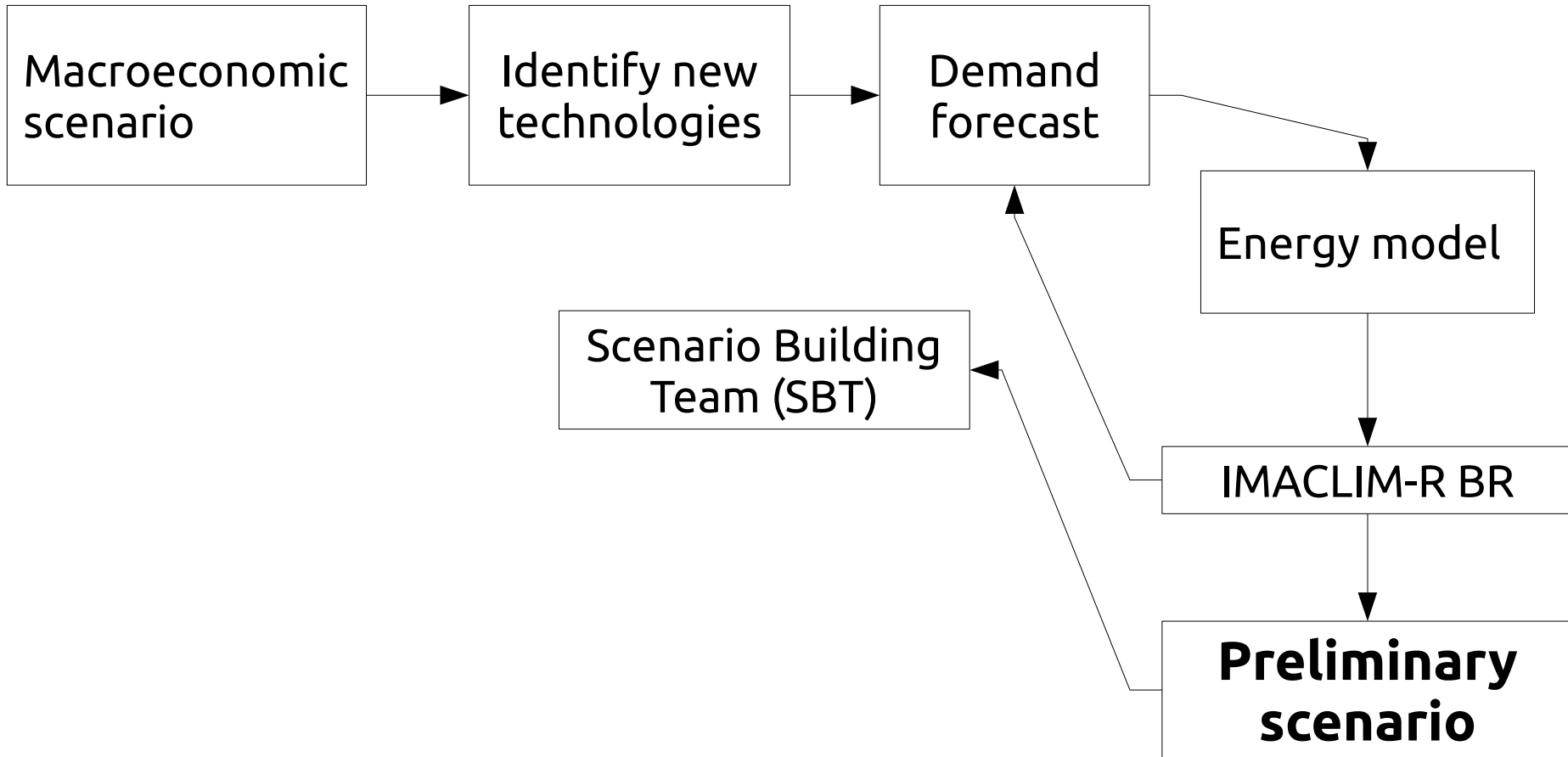
Methodology



Methodology

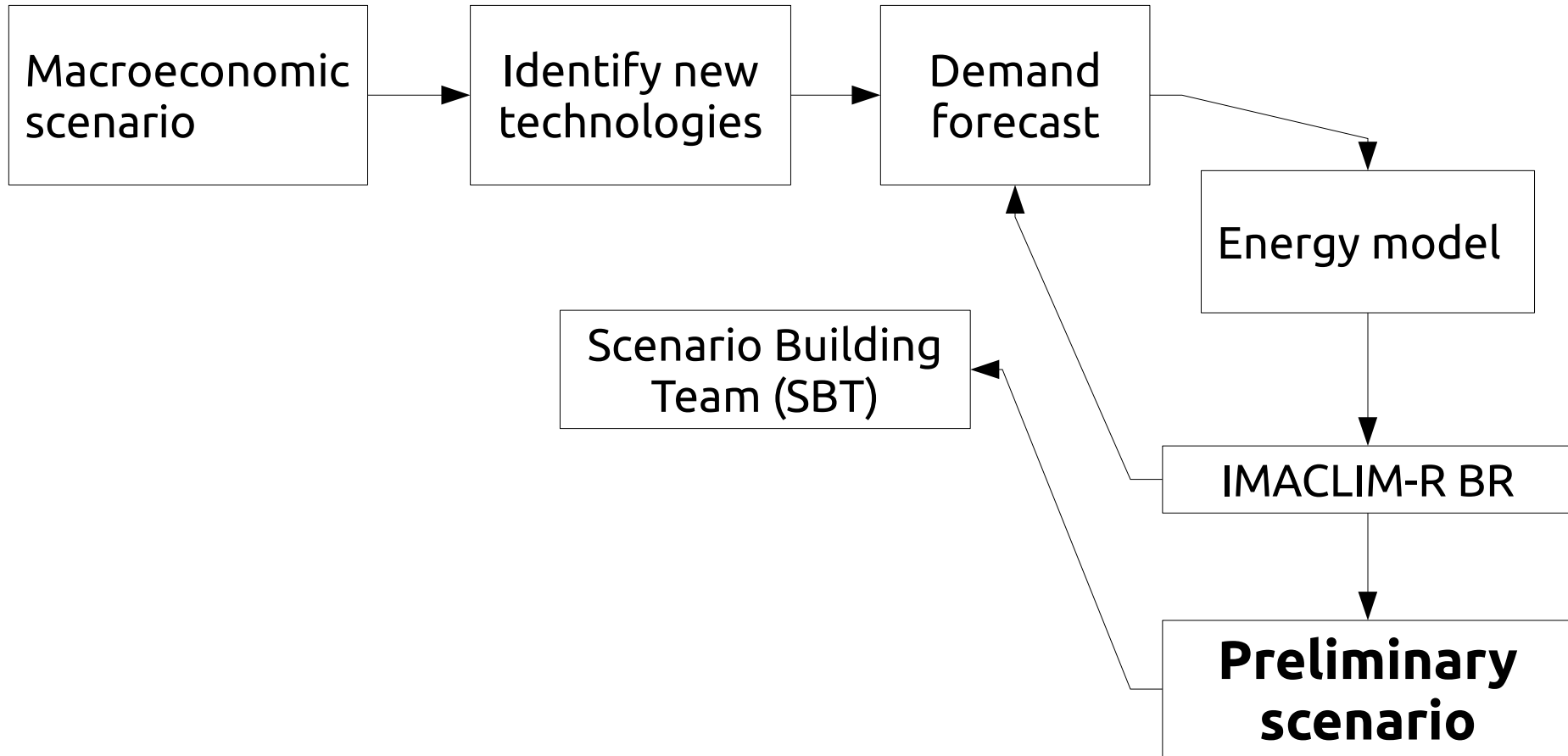


Methodology

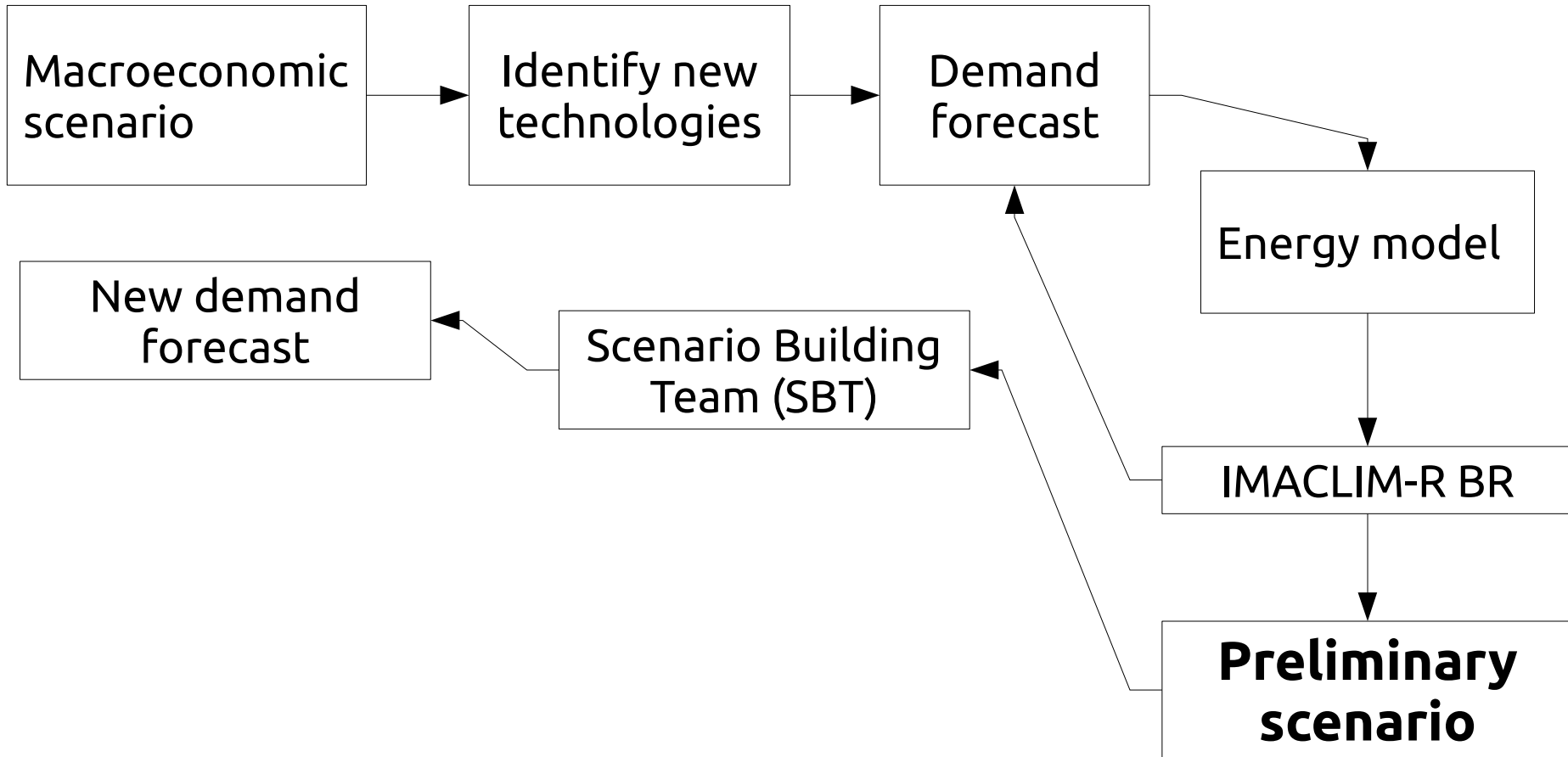


- The Scenario Building Team (SBT) is a group of experts pertaining to the government, private sector, academia and civil society. The SBT is responsible for identifying the mitigation measures that would be adopted in the scenario simulations; estimating their viability and costs; and selecting the hypotheses for their adoption during the period.
- At this stage, the team receives feedback from the experts.
 - Example: better analysis for electricity storage.

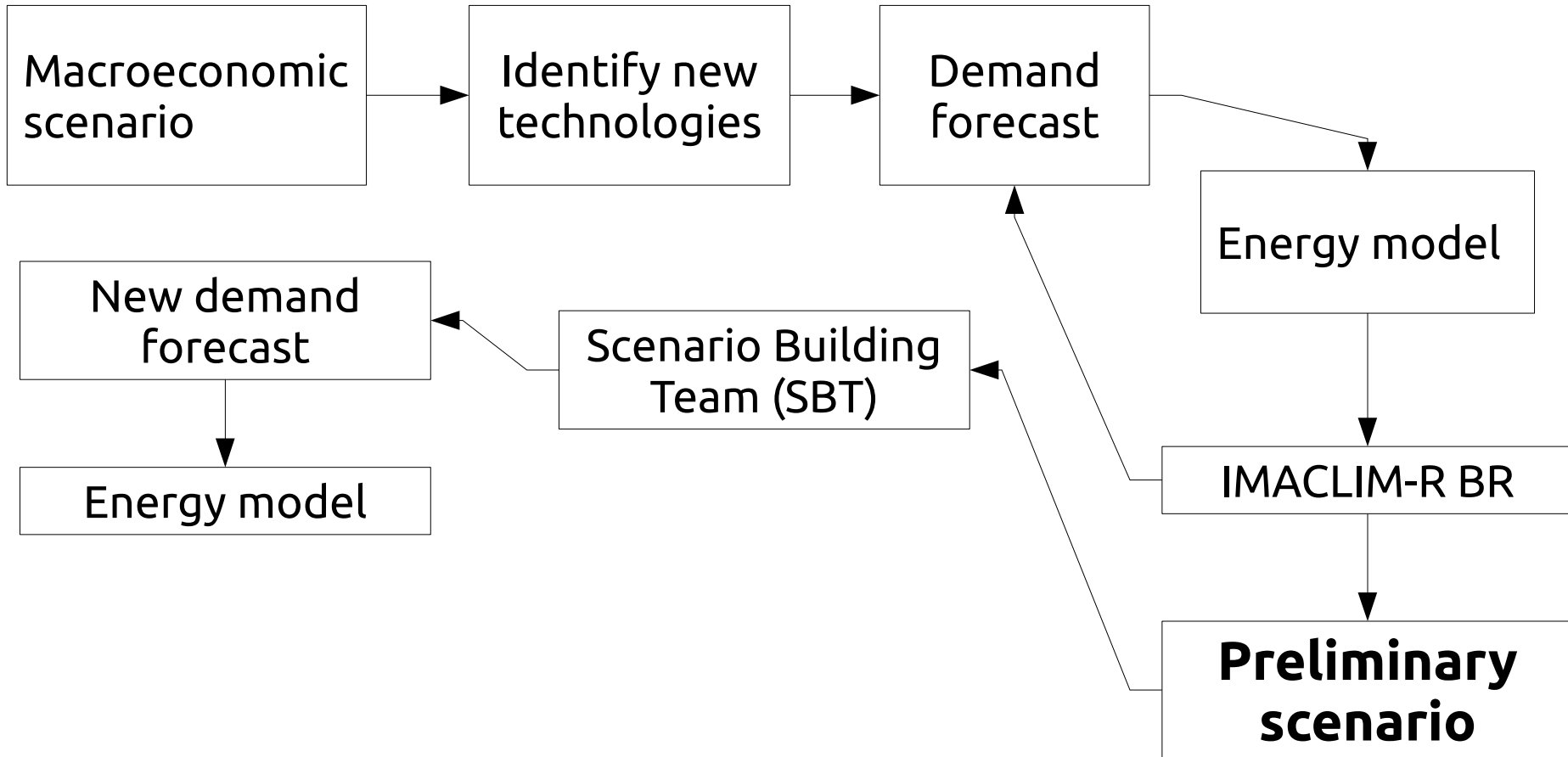
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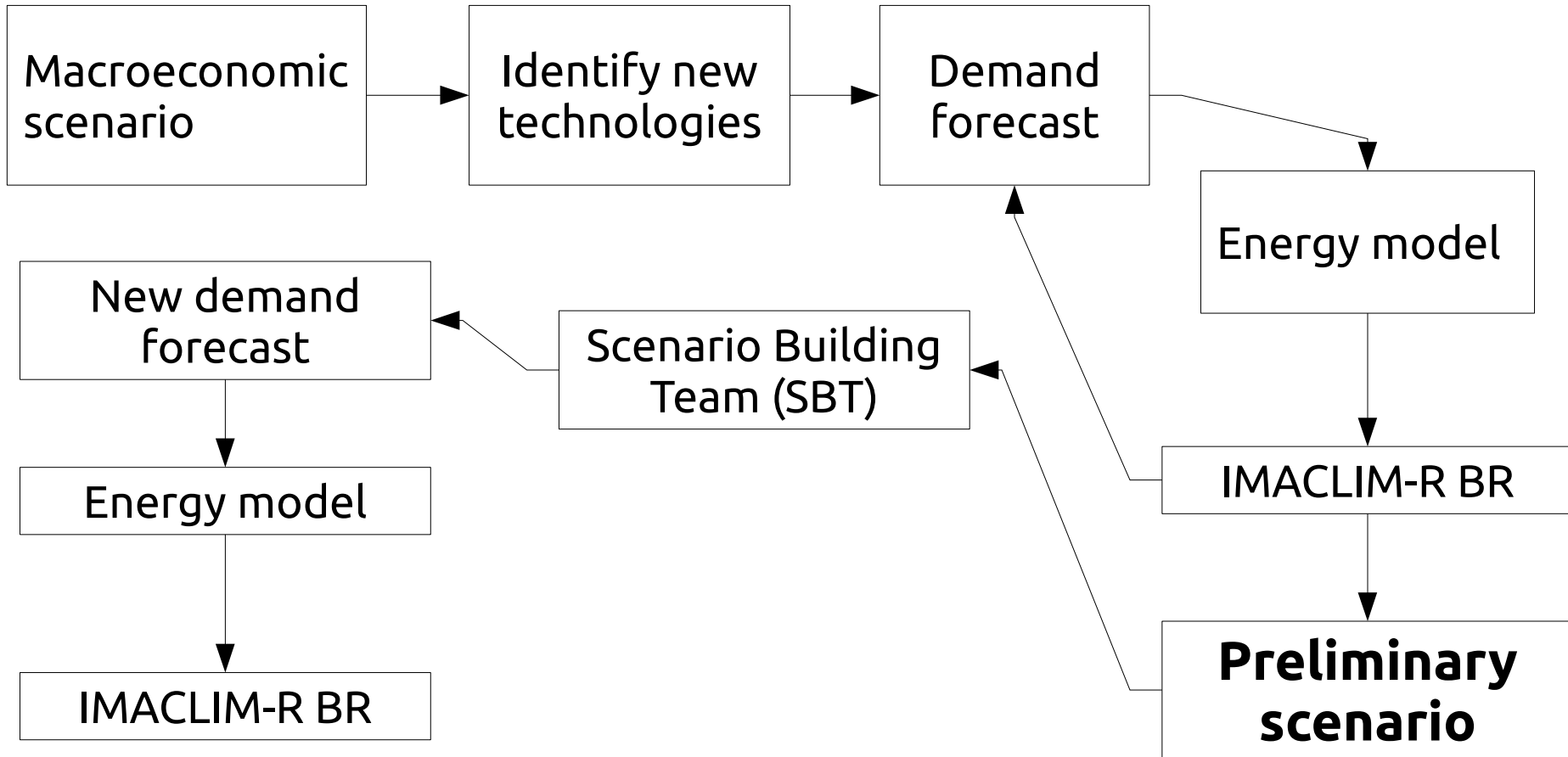
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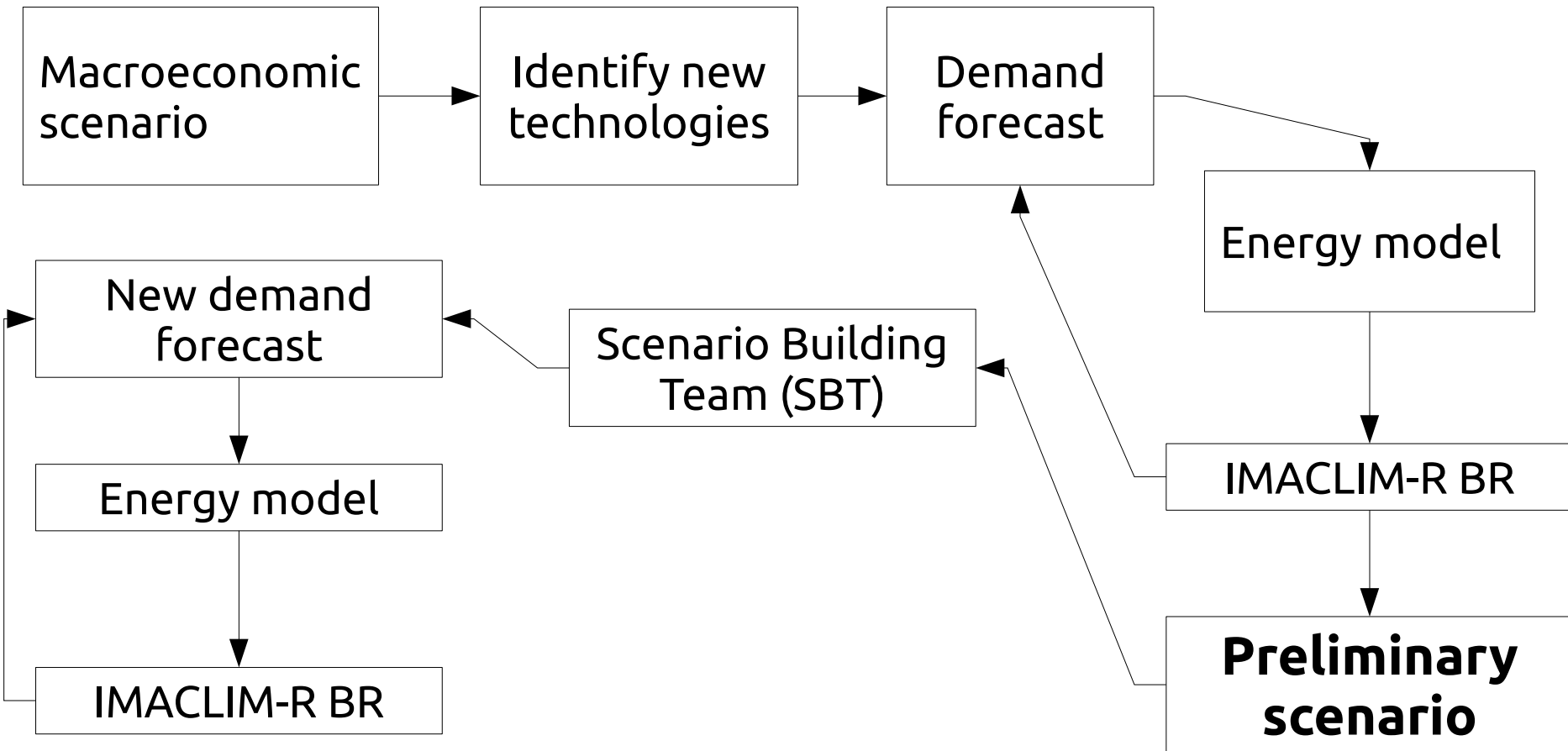
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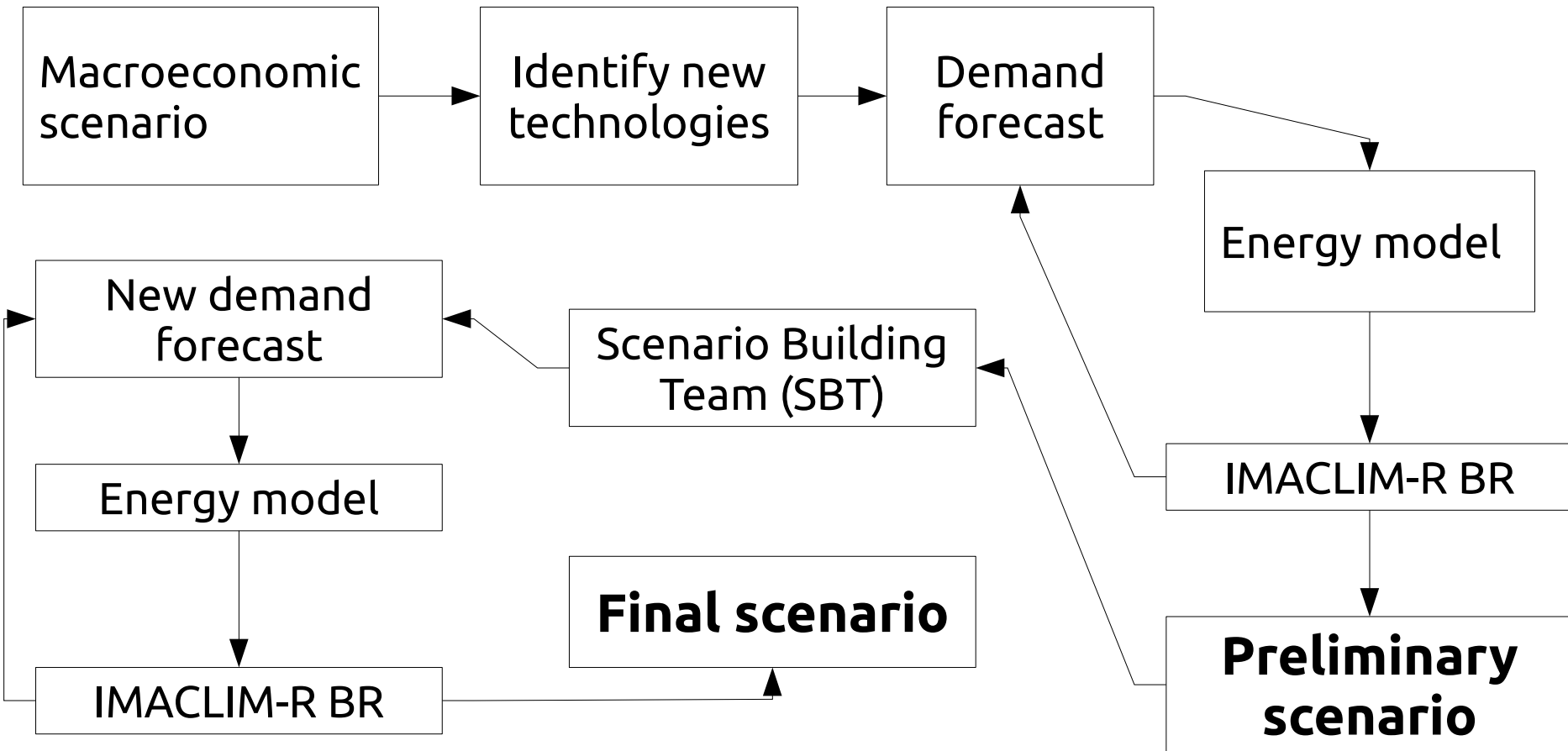
Methodology



Methodology



Methodology

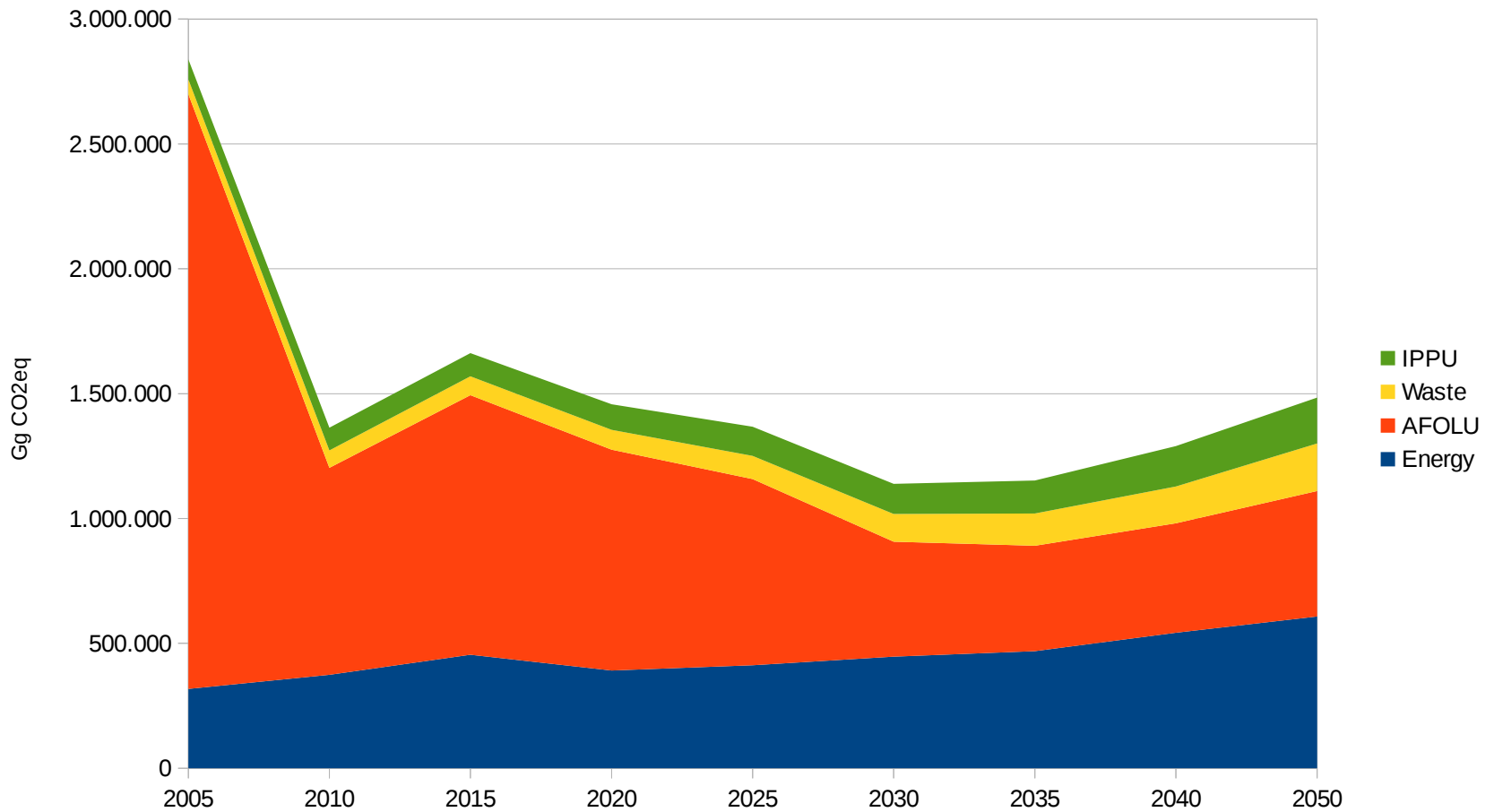


Scenarios



	NDC	1.5°C
High GDP growth	X	In progress
Low GDP growth		

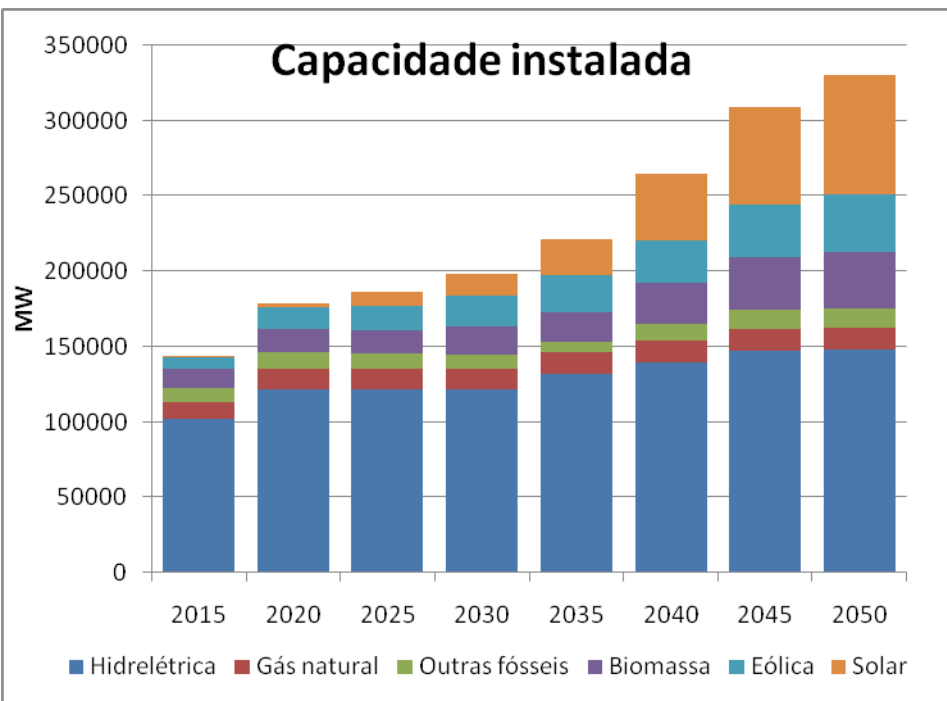
Emission Scenario NDC



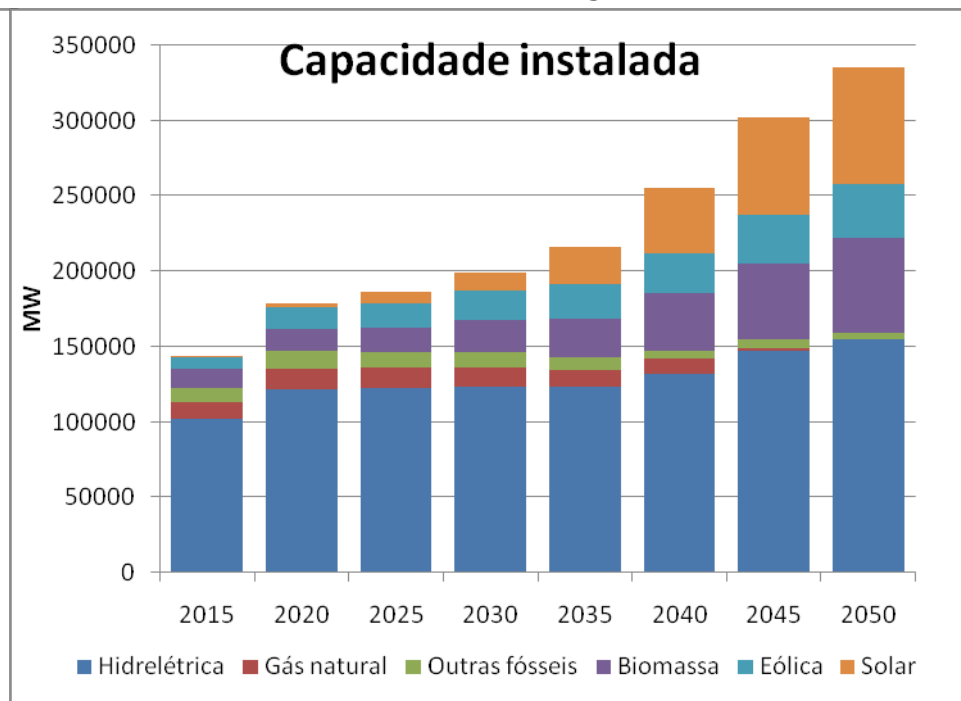
Installed capacity Electricity



NDC



1,5°C preliminary



- Hybrid approach can achieve more consistent scenarios.
- This methodology allows to receive feedback from the stakeholders during the process.
- Brazil is able to achieve the NDC.

Thank you

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Primary final demand

