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# **Adapting Impact Evaluation Frameworks for Energy Codes and Standards in Emerging Countries**

## **Energy Evaluation Europe**

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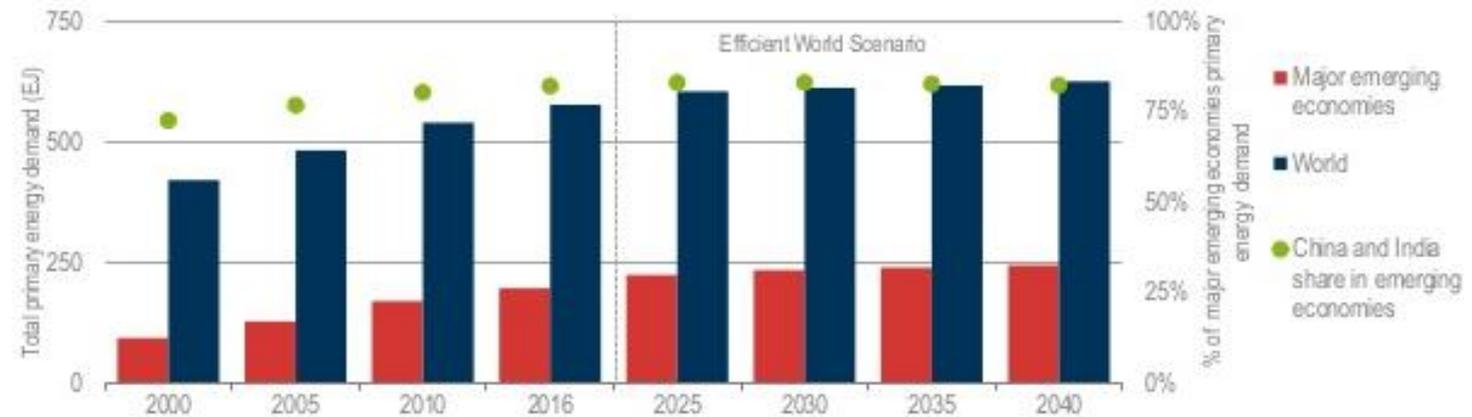
# WHY ARE POLICY EVALUATIONS NEEDED IN EMERGING COUNTRIES?

Emerging countries represent 1/3 of global primary energy demand.

Policy evaluation has two key roles:

- › Highlight benefits to increase uptake
- › Monitor performance to guide future policy

Primary Energy Demand, globally and for the six major emerging economies



The six major emerging economies are Brazil, the People's Republic of China, India, Indonesia, Mexico and South Africa

Source: IEA

# WHAT IS AN ENERGY EFFICIENCY POLICY EVALUATION FRAMEWORK?

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A set of methodological steps and data inputs to assess policy costs and impacts.

## Application

- › Track the progress of an existing policy or policies
- › Prioritize new policies

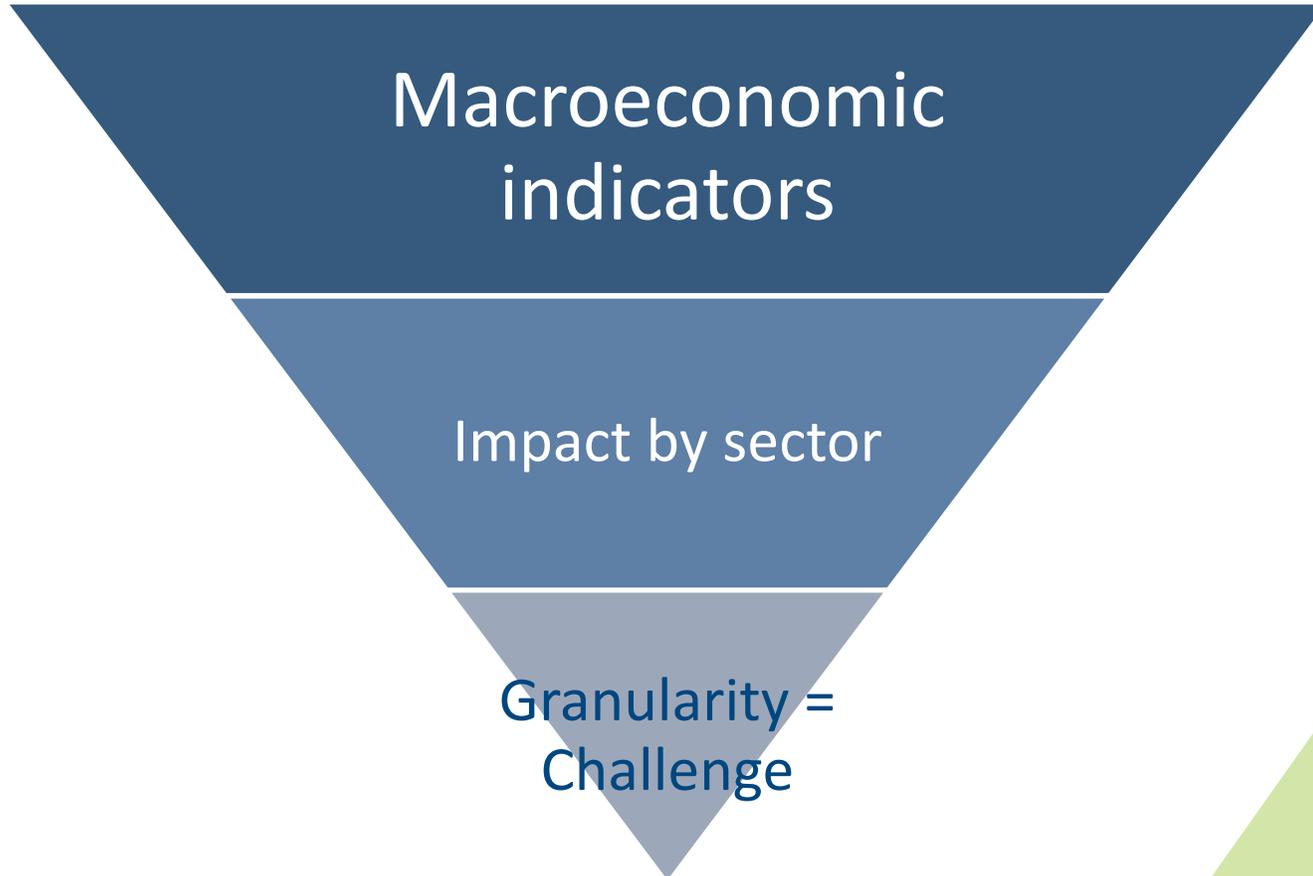
## Attributes

- › Completeness: Quantify all the effects of a given policy or code
- › Consistency: Avoid subjectivity and bias
- › Transparency: Build trust in evaluation results
- › Replicability: Applied repeatedly over time as codes evolve

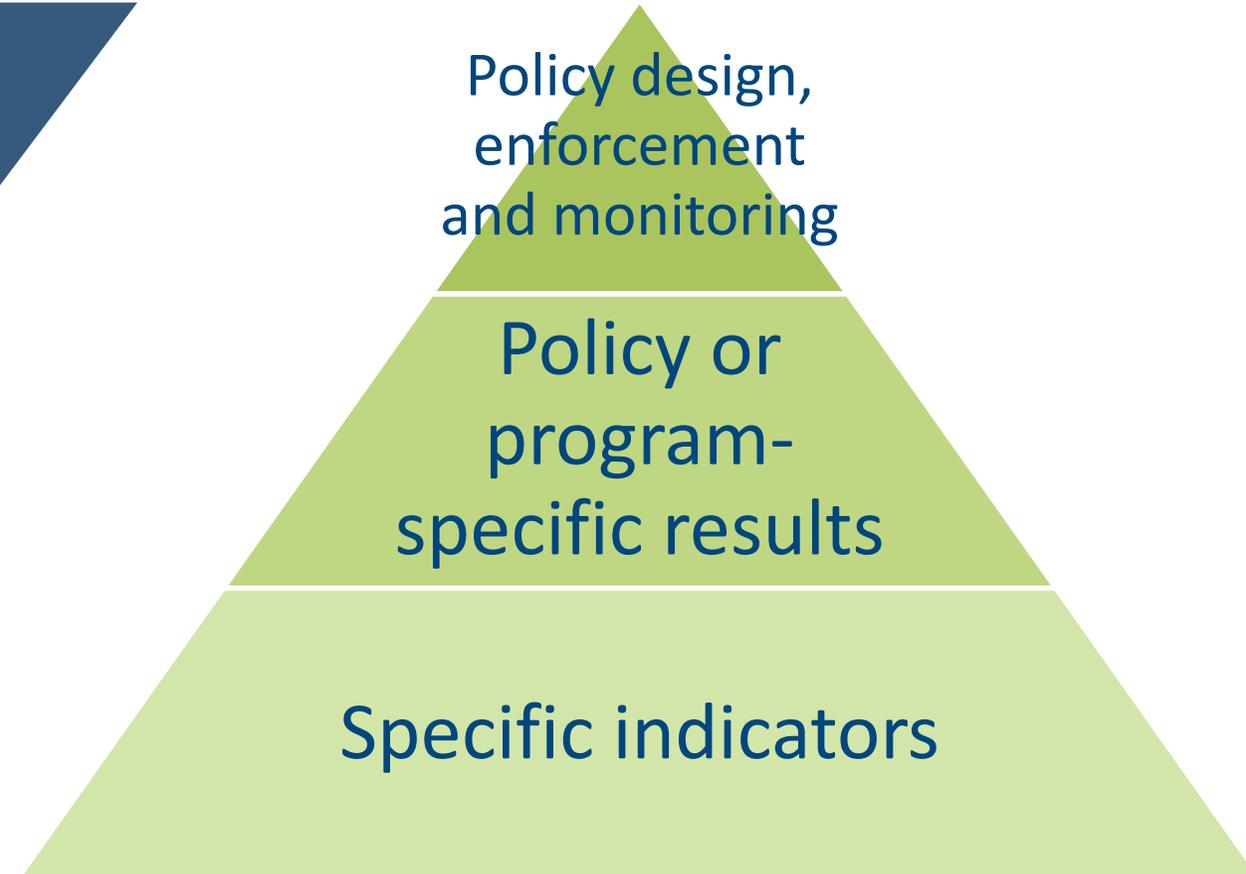
# EVALUATION APPROACHES

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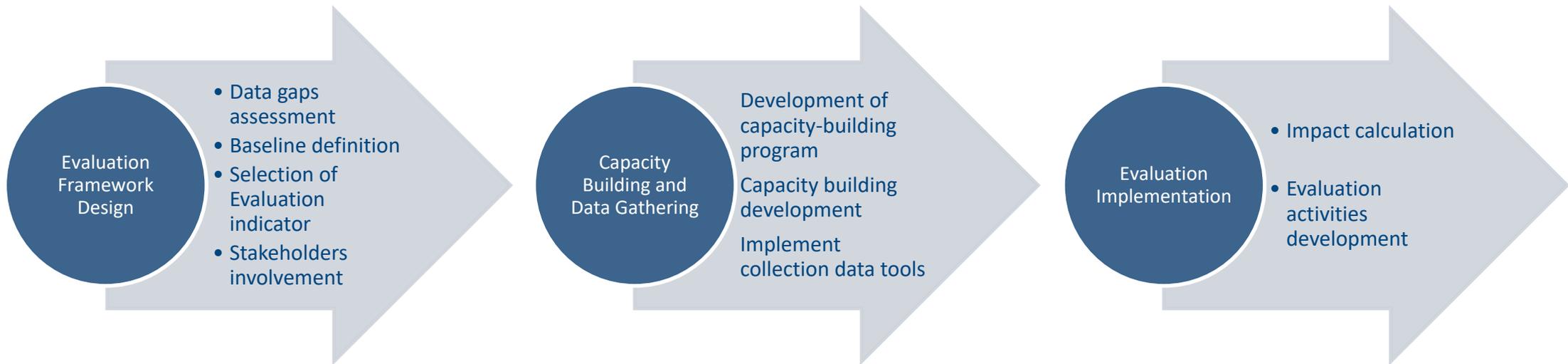
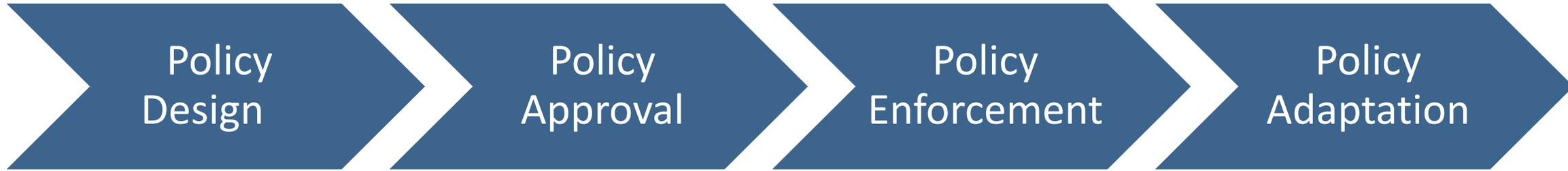
## Top-down (Europe)



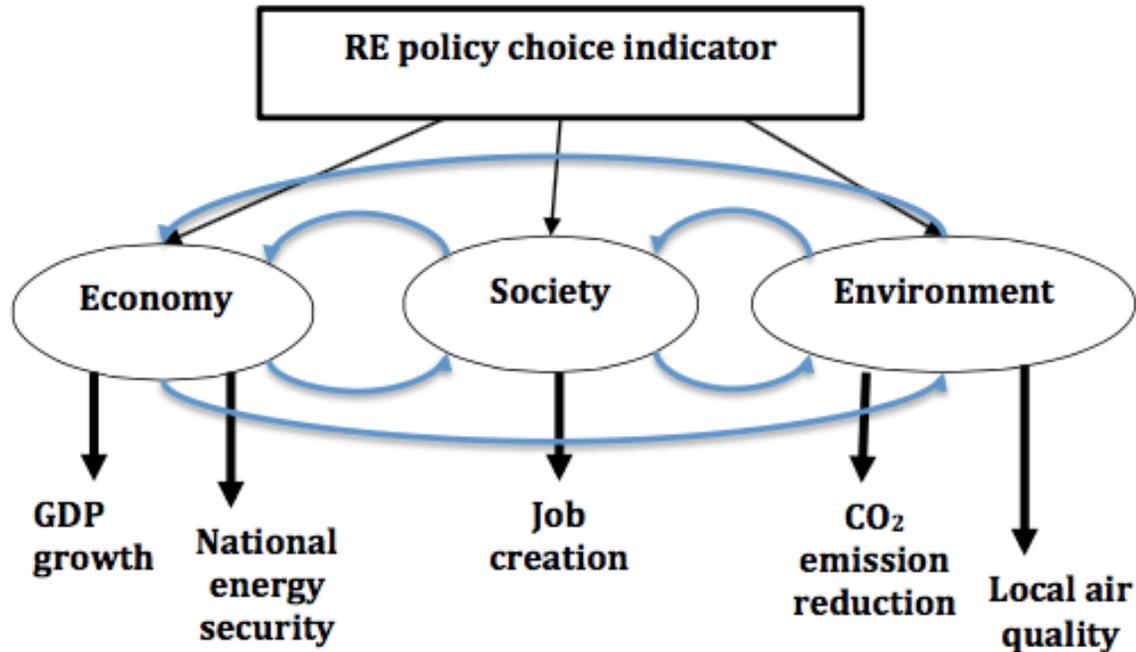
## Bottom-up (North America)



# POLICY EVALUATION TIMELINE



# EVALUATION INDICATORS



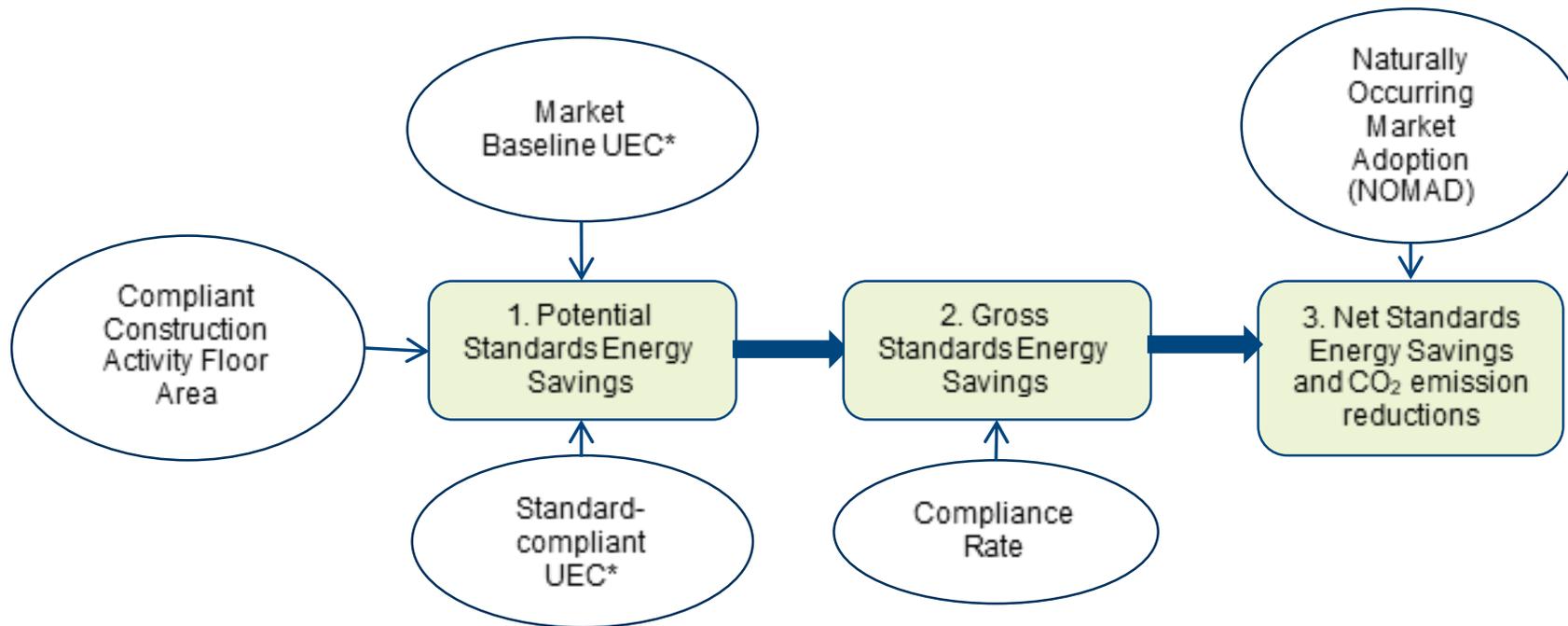
Source: Al-Sarihi et al. 2015

Indicators vary according to the policy to be evaluated, and may include:

- › Energy or demand savings (net/gross)
- › Emissions reductions
- › Economic benefits
  - GDP growth
  - Job creation
- › Costs and return on investment
  - For government
  - For key stakeholders and industry

# POLICY EVALUATION IN PRACTICE

## Non-Residential Building Standard in Mexico – NOM-008-ENER-2001



\* Unit Energy Consumption

Figure adapted from Cadmus Group and DNV GL 2015

**NOMAD:** Adoption that would occur in the absence of the policy.



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# BENEFITS OF EVALUATION FRAMEWORKS

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- › Build capacity among stakeholders to implement evaluation successfully
  - All key stakeholders - First audience: public authorities in charge of EE policies
  - Capacity-building workshops as well as communication and outreach campaigns
  - Workshops help identify several sources of information and secure commitments
- › Bridge data gaps by identifying data needs and sources prior to evaluation
  - Create information sharing platform or committee
  - Characterize the market
  - Engage experts in the evaluation (Delphi approach)
  - Make agreements with private associations and manufacturers

# CONCLUSION

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- › Adaption of best practices from developed countries in program evaluation to EE policy evaluation in emerging countries
- › Clear and transparent methodology using bottom-up approach
- › Evaluation framework design during policy design process

Aplicability in European countries?



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