

Background on Docket 4600

Purpose

- Introduce the elements of 4600 Guidance Document
- Introduce PUC business-case policy
- Explain the RI BCA Framework and RI Test
- Explain qualitative costs and benefits
- Connect the RI BCA Framework/Docket 4600 to this project

Some Terminology

- Docket 4600
- Rhode Island Benefit Cost Framework
- Rhode Island Test
- 4600 Guidance Document
- Business case
- Regulator's point-of-view
- Qualified value
- Benefit-cost category

Docket 4600

Scope

Determine what
to value when
setting rates

Increase
consistency in
regulation and
valuation across
programs

Docket 4600

Report

Scope

Determine what to value when setting rates

Increase consistency in regulation and valuation across programs

Goals for the future electric system

Benefit Cost Framework

Rate Design

Next Steps

Docket 4600

Report

Order

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Determine what to value when setting rates

Increase consistency in regulation and valuation across programs

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Next Steps

Accept Report

Adopt Goals, Principles, and Framework and issue Guidance

Low-income rate requirements

Improve Framework

Docket 4600

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Improve Framework

Guidance Document

Adopt Goals, Principles, and Framework and issue Guidance

Pilots

Delayed applicability

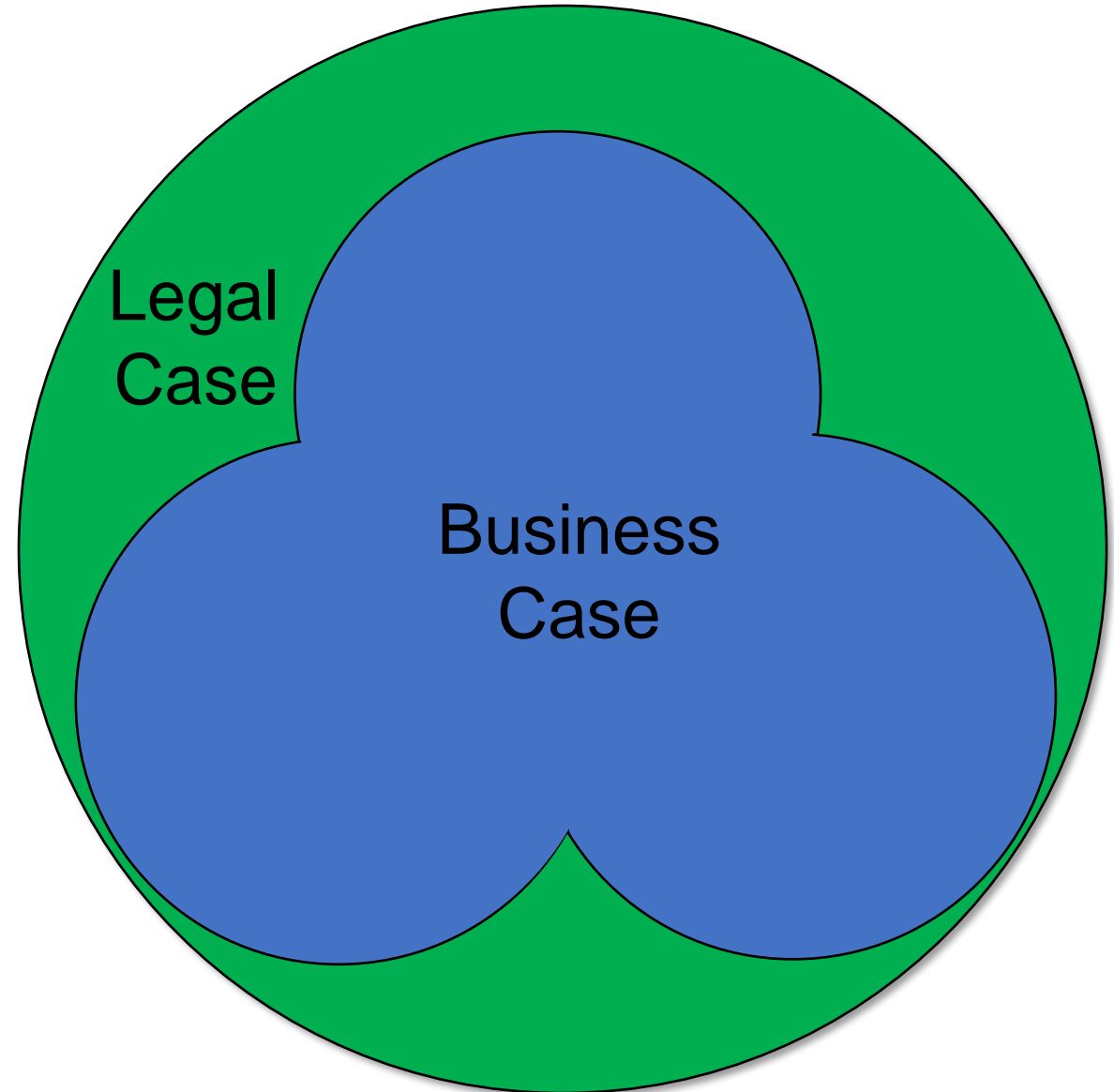
Business Case

- Order 22851 in Docket No. 4600:

“...the Framework should serve as a starting point in making a business case for a proposal.”

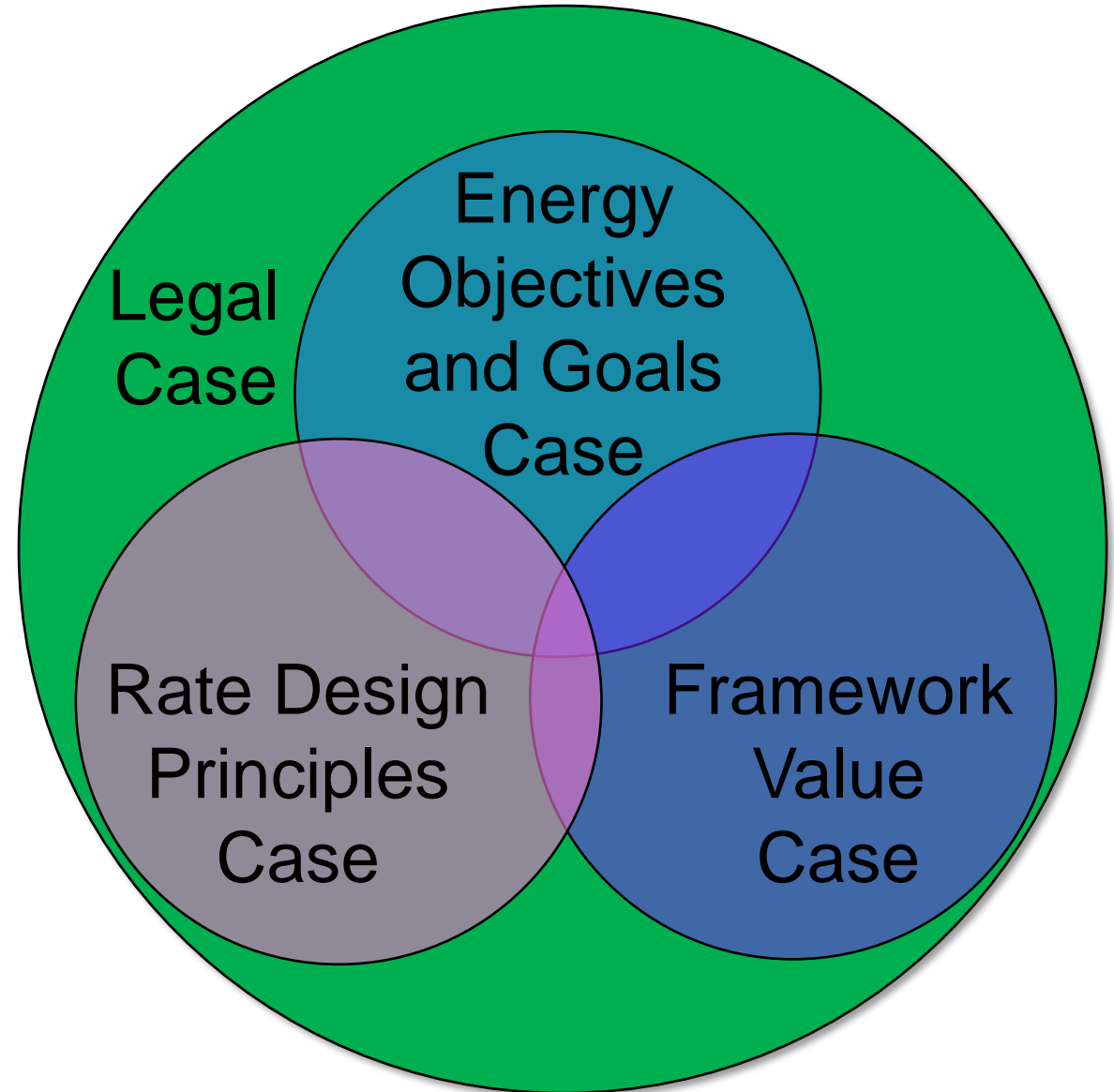
Business Case

- The Guidance Document describes when a business case is required as part of a legal case.
- New (or incremental) proposals, programs, rate design, or capital spending
- A business case is the justification of a proposal and its costs based on its expected benefits.



Business Case

- Start with Framework values to create evidence.
- Use the Goals of the System to prioritize values within the business case.
- Use the Principles for Rate design to appropriately allocate costs and benefits and to enhance achievement.



Business Case

- Order 22851 in Docket No. 4600:

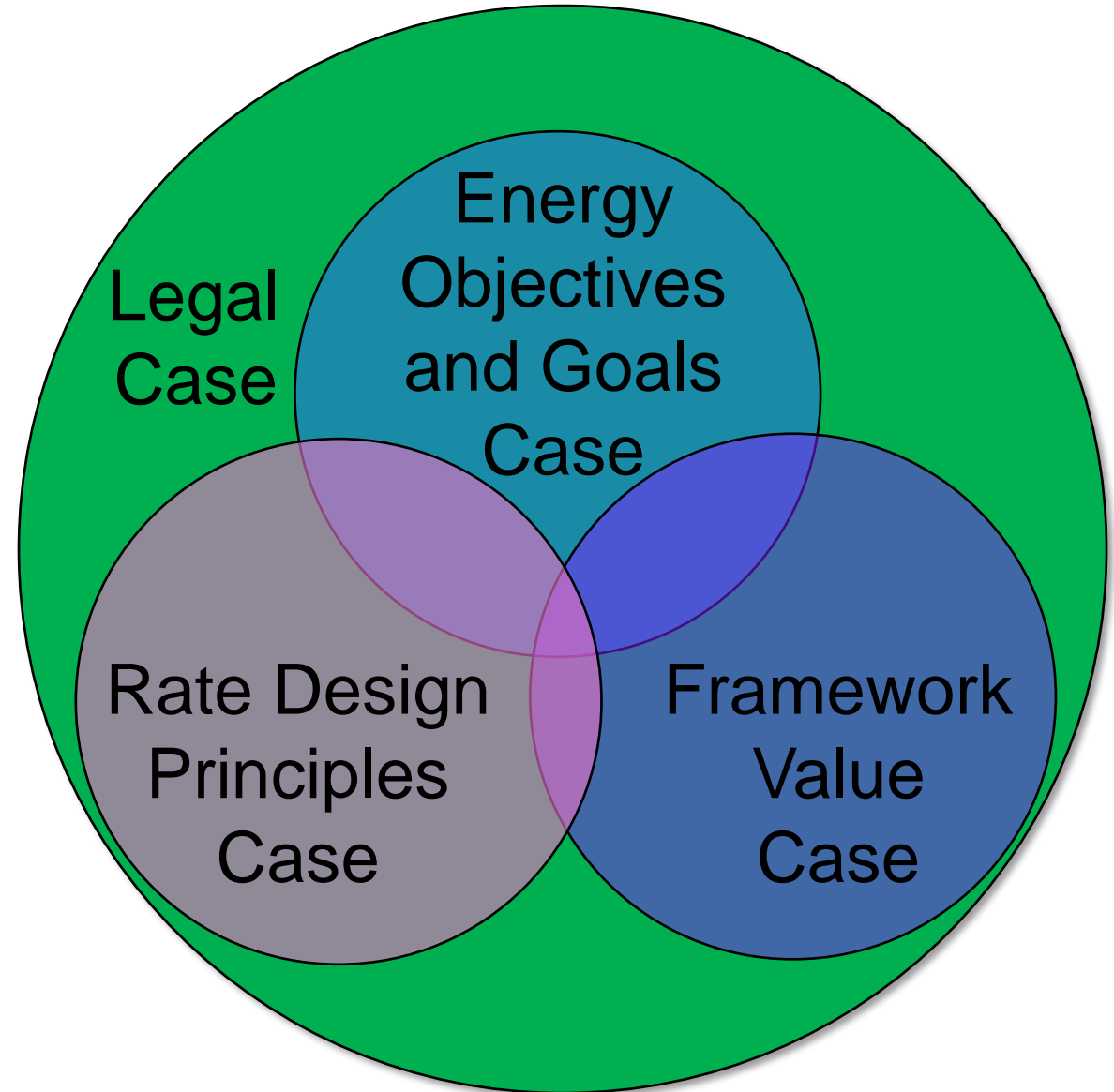
“...the Framework should serve as a starting point in making a business case for a proposal.”

In this working group, we will begin (but not complete) an examination of the business case for storage tariffs and programs.

Business Case

**Our work will focus
mostly on this**

- Start with Framework values to create evidence.
- Use the Goals of the System to prioritize values within the business case.
- Use the Principles for Rate design to appropriately allocate costs and benefits and to enhance achievement.



RI Benefit Cost Framework

Mixed Cost-Benefit, Cost, or Benefit Category	System Attribute Benefit/Cost Driver	Candidate Methodologies	Potential Visibility Requirements
Power System Level			
Customer Level			
Societal Level			

RI Benefit Cost Framework

Mixed Cost-Benefit, Cost, or Benefit Category	System Attribute Benefit/Cost Driver	Candidate Methodologies	Potential Visibility Requirements
<div data-bbox="71 601 637 1168"><p>The set of costs and benefits that should be evaluated by the PUC when reviewing rates, programs, and investment</p></div>			

RI Benefit Cost Framework

Mixed Cost-Benefit, Cost, or Benefit Category	System Attribute Benefit/Cost Driver	Candidate Methodologies	Potential Visibility Requirements
<p>The set of costs and benefits that should be evaluated by the PUC when reviewing rates, programs, and investment</p>	<p>For each category, the set of factors that, when changed, will increase or decrease the benefits or costs in that category</p>		

RI Benefit Cost Framework

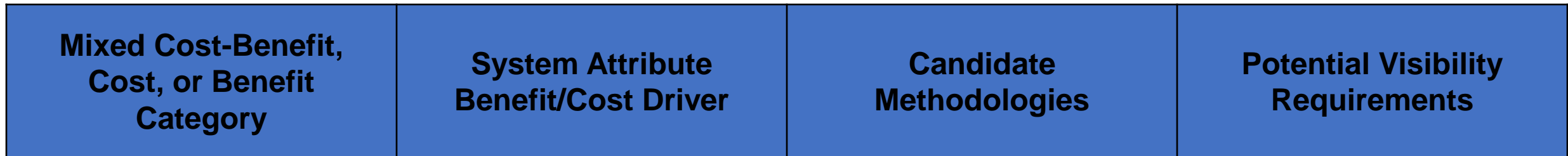
Mixed Cost-Benefit, Cost, or Benefit Category	System Attribute Benefit/Cost Driver	Candidate Methodologies	Potential Visibility Requirements
<p>The set of costs and benefits that should be evaluated by the PUC when reviewing rates, programs, and investment</p>	<p>For each category, the set of factors that, when changed, will increase or decrease the benefits or costs in that category</p>	<p>Options for ways to quantify or qualify the value of benefits and costs</p>	

RI Benefit Cost Framework

Mixed Cost-Benefit, Cost, or Benefit Category	System Attribute Benefit/Cost Driver	Candidate Methodologies	Potential Visibility Requirements
<p>The set of costs and benefits that should be evaluated by the PUC when reviewing rates, programs, and investment</p>	<p>For each category, the set of factors that, when changed, will increase or decrease the benefits or costs in that category</p>	<p>Options for ways to quantify or qualify the value of benefits and costs</p>	<p>Requirements of different valuation methods</p>

RI Benefit Cost Framework

- **Guidance Document:** “...*significant work still left to be done so that the Framework can be applied in a fully quantitative manner...*”



My opinion: need for improvement increases in this direction...



...rather than this direction



RI Benefit Cost Framework

Mixed Cost-Benefit, Cost, or Benefit Category	System Attribute Benefit/Cost Driver	Candidate Methodologies	Potential Visibility Requirements
<p>The set of costs and benefits that should be evaluated by the PUC when reviewing rates, programs, and investment</p>	<p>For each category, the set of factors that, when changed, will increase or decrease the benefits or costs in that category</p>	<p>Options for ways to quantify or qualify the value of benefits and costs</p>	<p>Requirements of different valuation methods</p>

Our work will focus mostly on this

Regulator's Point-of-View

- A participant asks, “Do my benefits outweigh my costs?”
- A program administrator asks, “Do the program benefits outweigh the program costs?”
- A ratepayer asks, “Will the rate decreases outweigh the rate increases?”
- Society asks, “Do the benefits to society outweigh costs to society?”

Regulator's Point-of-View

- A participant asks, “Do my benefits outweigh my costs?”
- A program administrator asks, “Do the program benefits outweigh the program costs?”
- A ratepayer asks, “Will the rate decreases outweigh the rate increases?”
- Society asks, “Do the benefits to society outweigh costs to society?”
- A regulator asks, “Do the energy policy benefits outweigh the energy policy costs?”

The Rhode Island Test

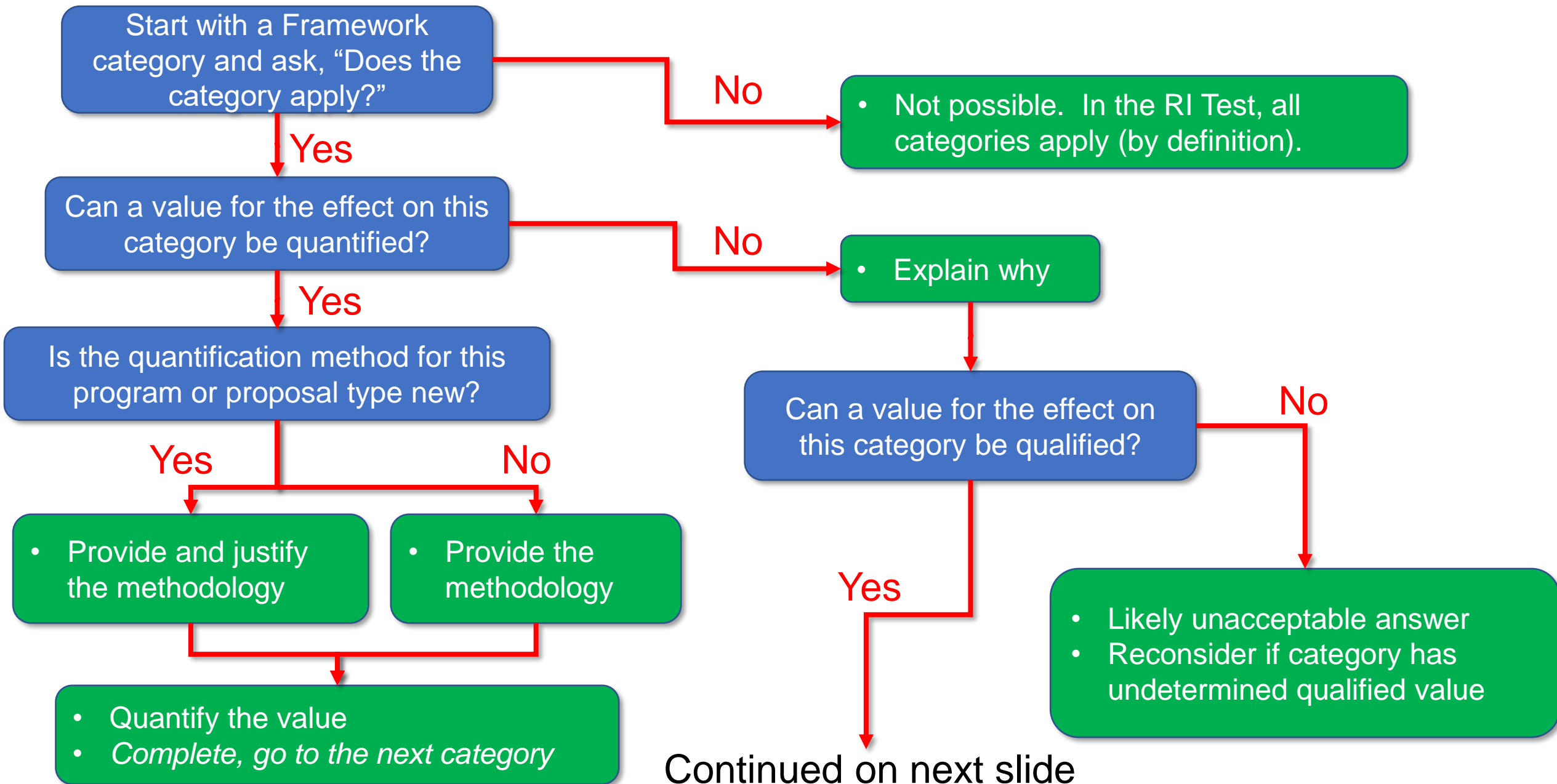
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The complete set of categories in this first column, analyzed as an alternative compared to a baseline for all society, is “The Rhode Island Test.”

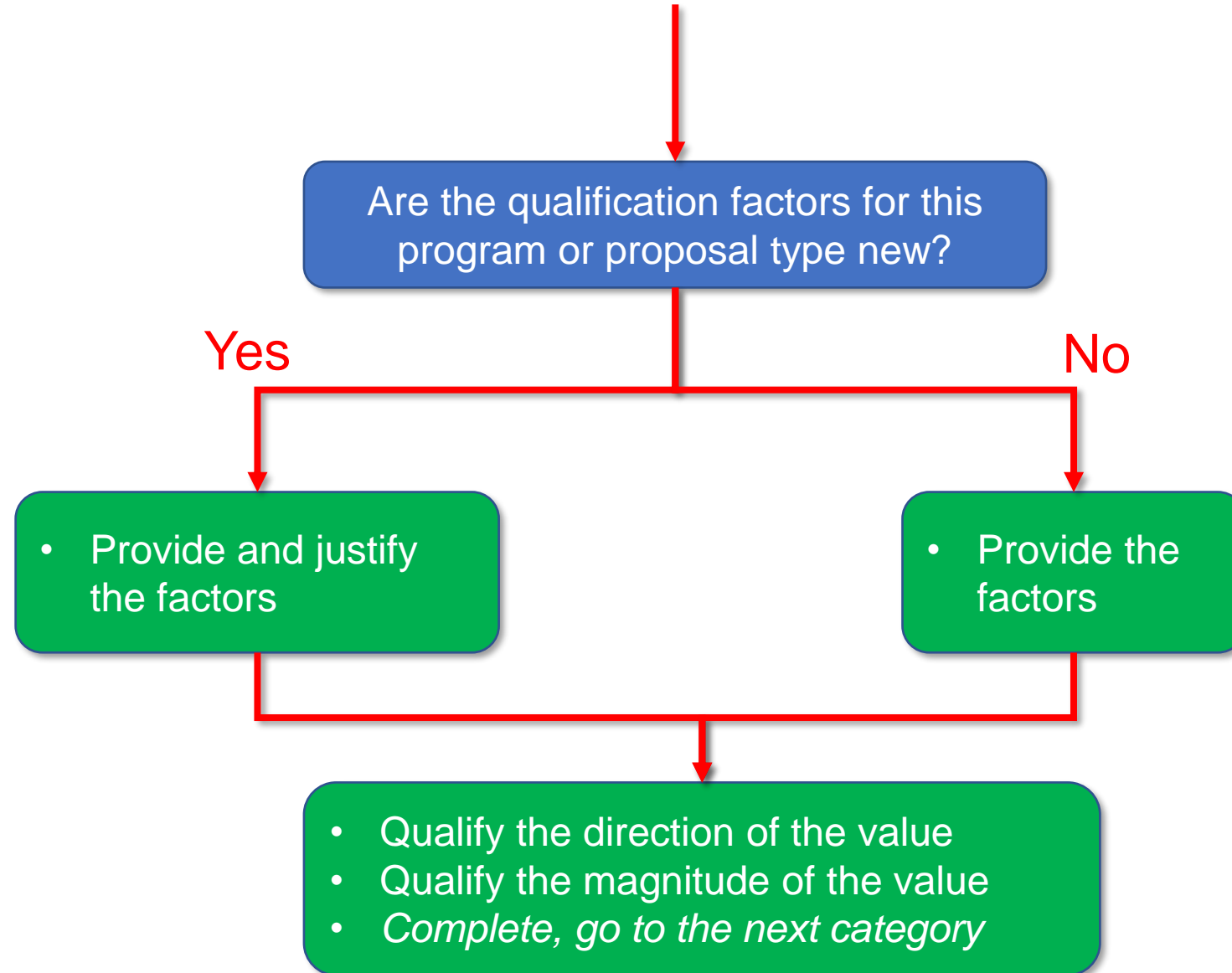
RI Test

- The RI Test is a benefit cost test from the regulator's point of view.
- Every category in the Framework applies.
- Some values will be zero because the program or proposal has no effect on that category, but this should be explicitly provided.

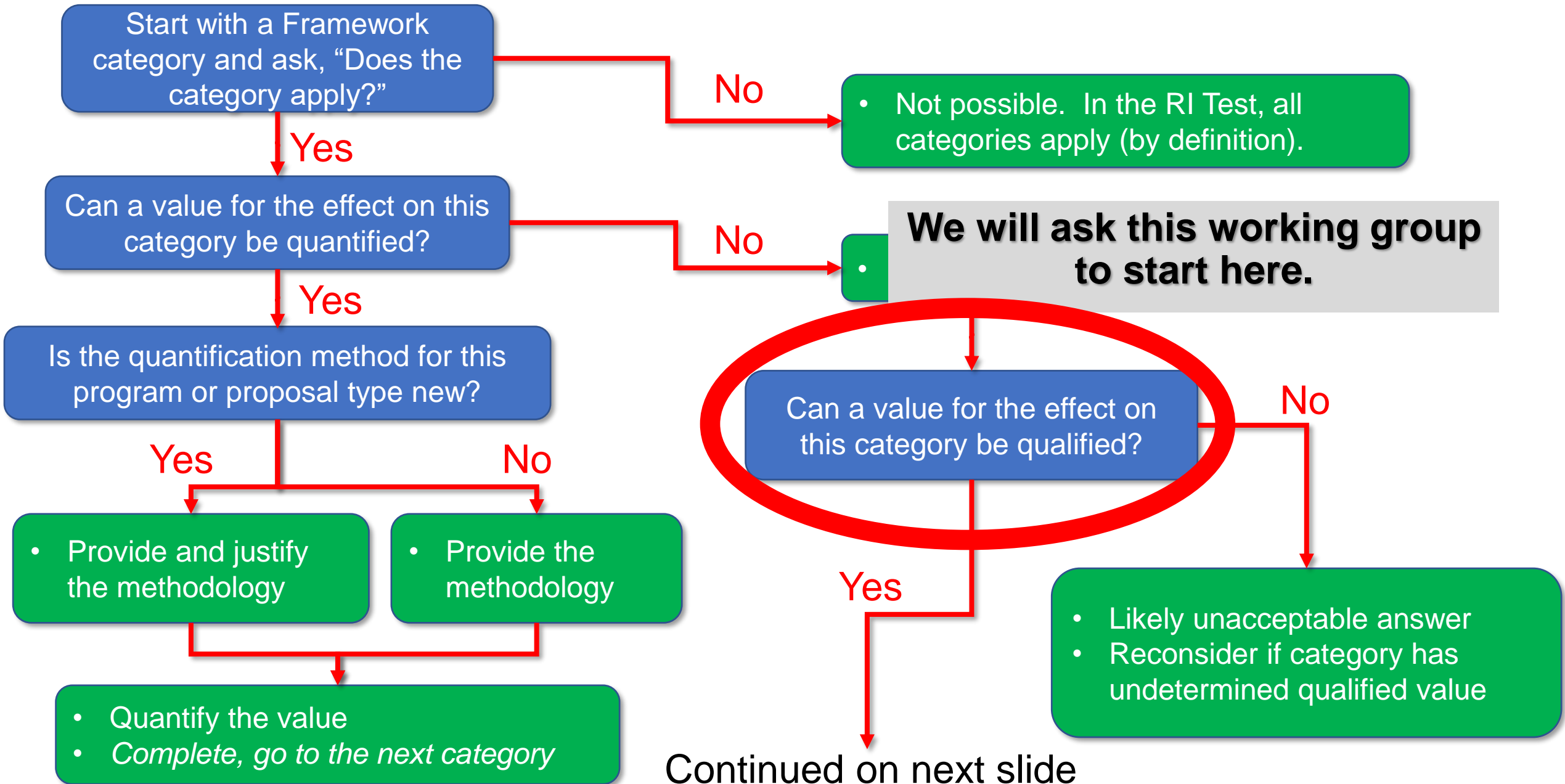
Executing the Rhode Island Test



Qualifying benefits continued from previous slide



Executing the Rhode Island Test



Qualitative Factors

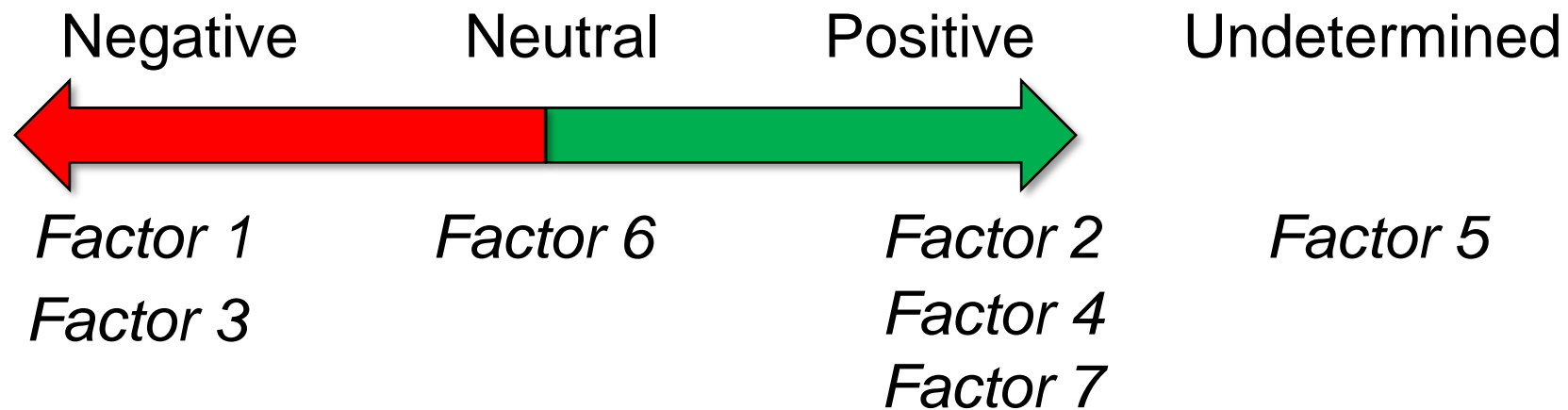
- Drivers of benefits and costs
- Identify independent and dependent factors
- Explain basis of each factor and any assumptions
- For each factor, identify direction and magnitude if possible, and identify confidence in each
- Identify order of magnitude or range if possible
- Call out ambiguity

Qualitative Factors

PROS	CONS
This That	The Other

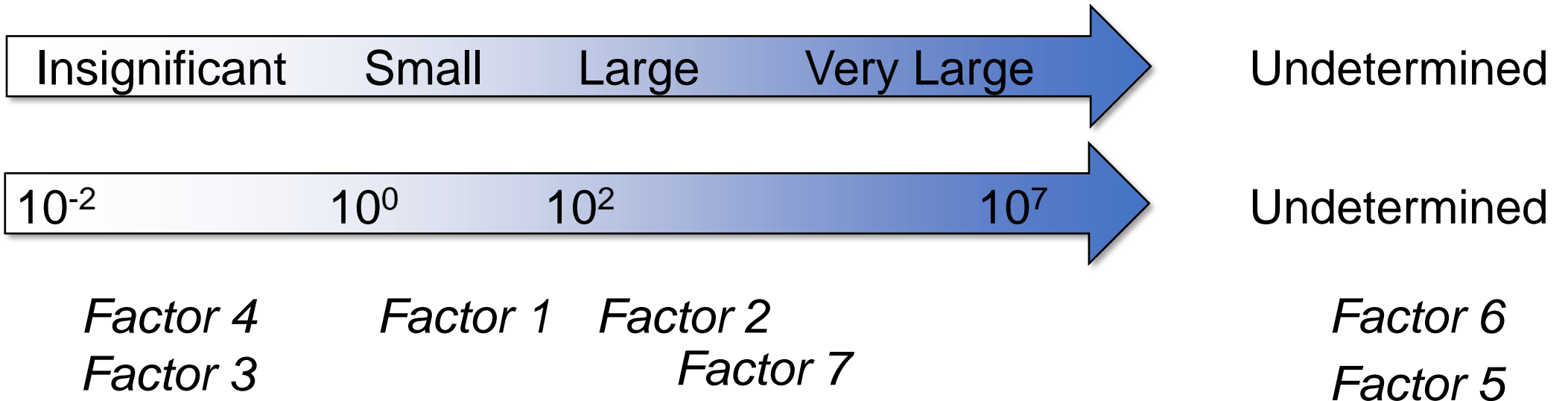
Qualifying the Net Direction and Magnitude of Value

- Net direction can have four responses



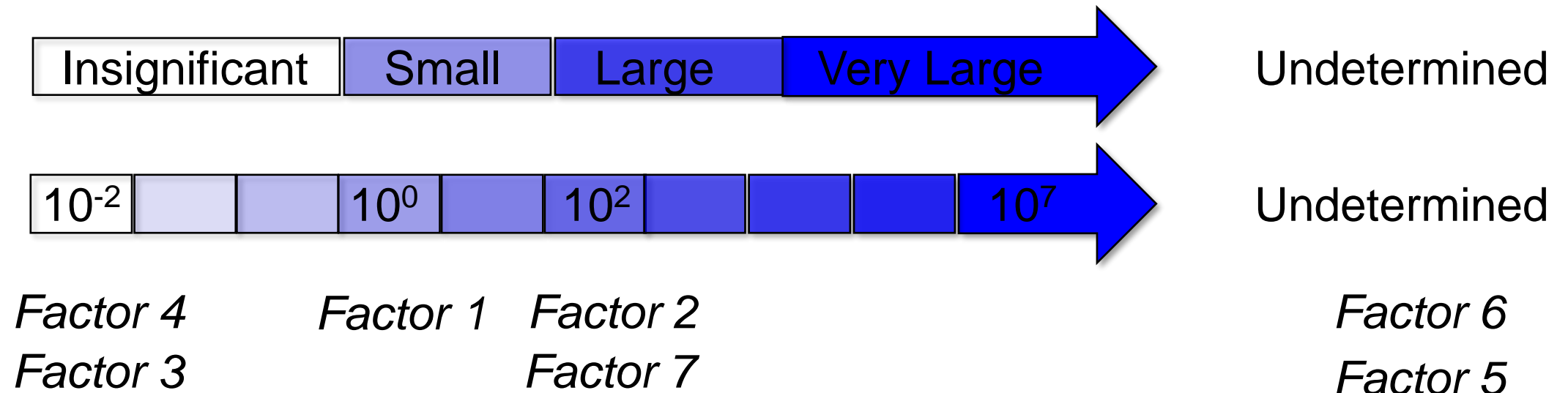
Qualifying the Net Direction and Magnitude of Value

- Net magnitude can be on a continuum, discrete ordering, comparison, or some other metric
- Continuum might use qualitative size or order-of-magnitude



Qualifying the Net Direction and Magnitude of Value

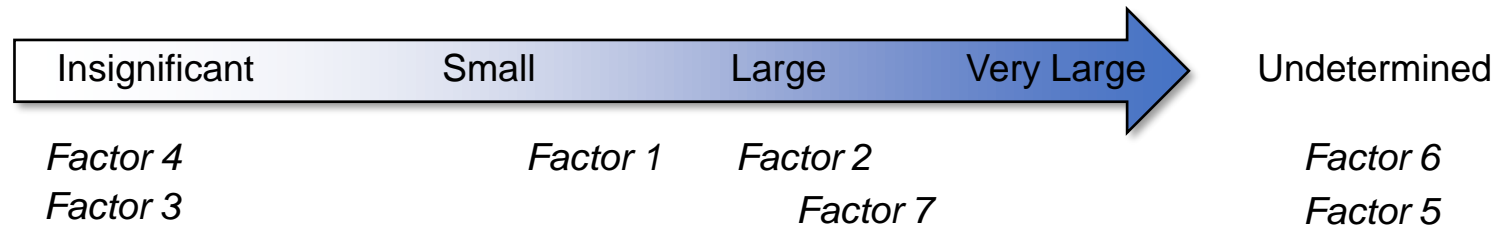
- Net magnitude can be on a continuum, discrete ordering, comparison, or some other metric
- Discrete ordering might use qualitative size or order-of-magnitude too



Qualifying the Net Direction and Magnitude of Value







- Net magnitude can be on a continuum, discrete ordering, comparison, or some other metric
- Comparison might use equality or inequality relationships

Factor 3 ≈ Factor 4 << Factor 1 < Factor 2 ≈ Factor 7 ? Factor 5, Factor 6



Qualifying Value

- Should be done at factor level
- Total net qualitative value is a sort of “sum” of individual factors

Factor	Net Direction	Net Magnitude	Value Vector
1	-	Small	
2	+	Large	
3	-	Insignificant	
4	+	Insignificant	
5	?	?	
6	0	?	?
7	+	Large	
Total			

Qualifying Value

- It may be possible to enhance both quantified and qualified value by indicating a confidence level
 - Very low
 - Low
 - Medium
 - High
 - Very high
- IPCC Uncertainty Guidance may have useful information
 - <https://www.ipcc.ch/pdf/supporting-material/uncertainty-guidance-note.pdf>
 - Independence of factors
 - Quality of information regarding factors