

# Market Transformation for Accelerating Energy Efficiency Technology Adoption: Background and Opportunities

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- Why discuss market transformation?
- EO/EE market transformation definition by ACEEE
- How successful innovations are ideally adopted by a market – the market adoption curve
- How innovation often gets stopped or slowed – “The Chasm” of market barriers
- The role of market transformation in overcoming market barriers
- Best practices in managing market transformation
  - Establishing market transformation measures
  - Tracking and measuring market impact
  - Possible criteria for removing or phasing-out market transformations

# Why Discuss Market Transformation?

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- Consumers Energy agreed to introduce the topic in the Energy Optimization Collaborative as part of one of our recent settlement agreements
- There is interest among some stakeholders regarding market transformation and market transformation multipliers
- Beneficial to begin a dialogue on establishing more consistent criteria and processes for deciding which products are included, excluded, and removed from the list of market transformation options

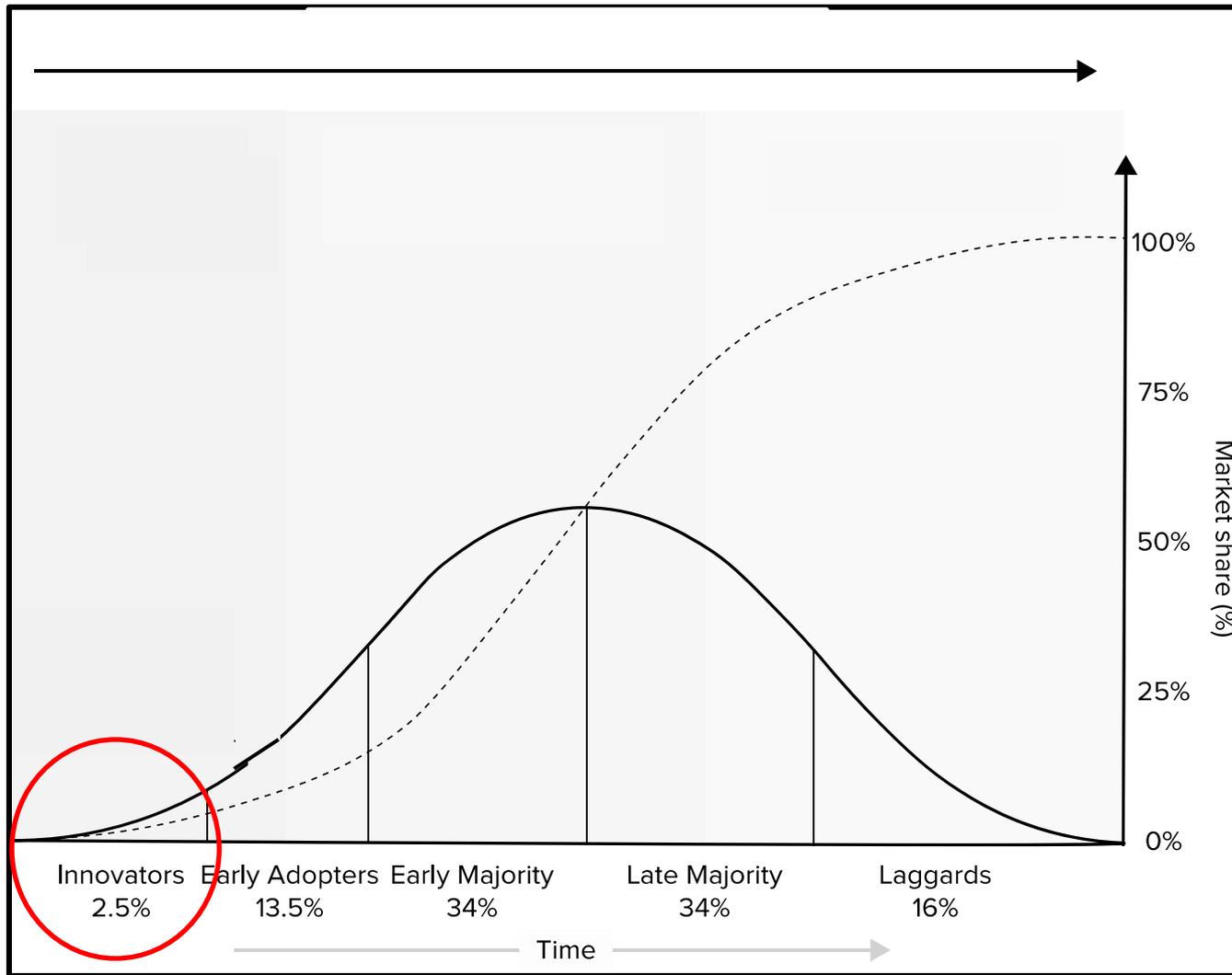
# What Is EE/EO Market Transformation?

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*“Market Transformation is the strategic process of intervening in a market to create lasting change in market behavior by removing identified barriers or exploiting opportunities to accelerate the adoption of all cost-effective energy efficiency as a matter of standard practice.”*

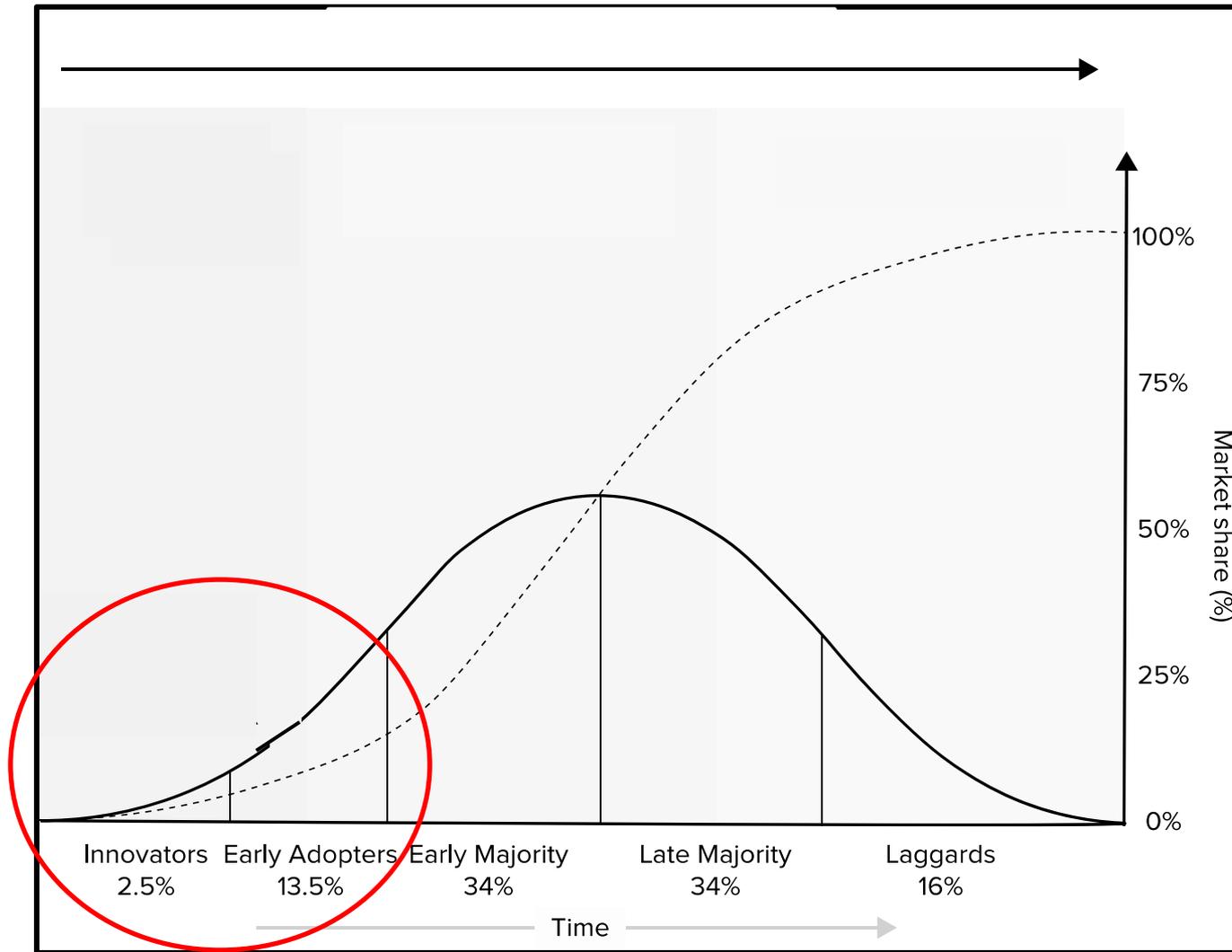
**Source: ACEEE**

# Market Adoption Curve for Successful Innovations



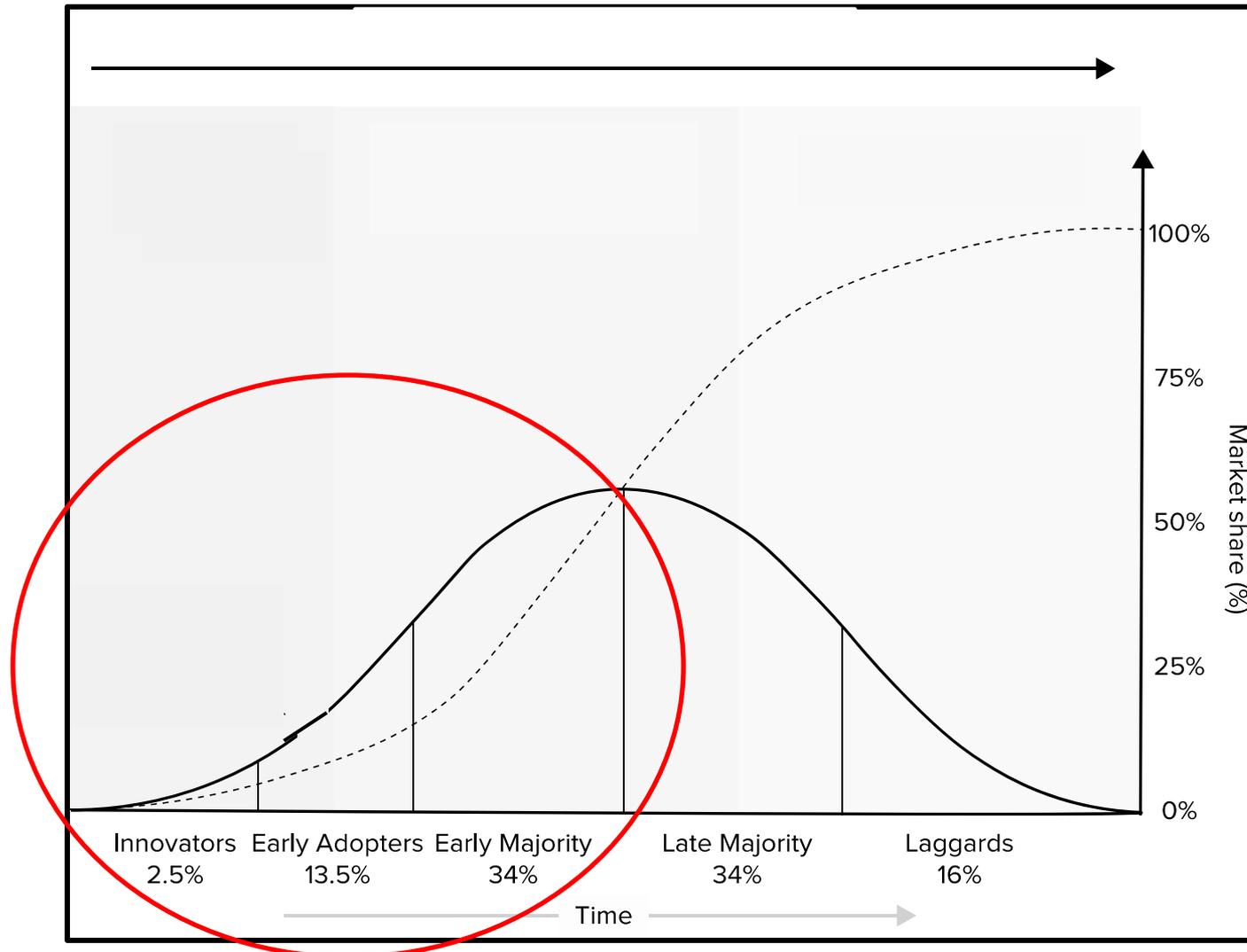
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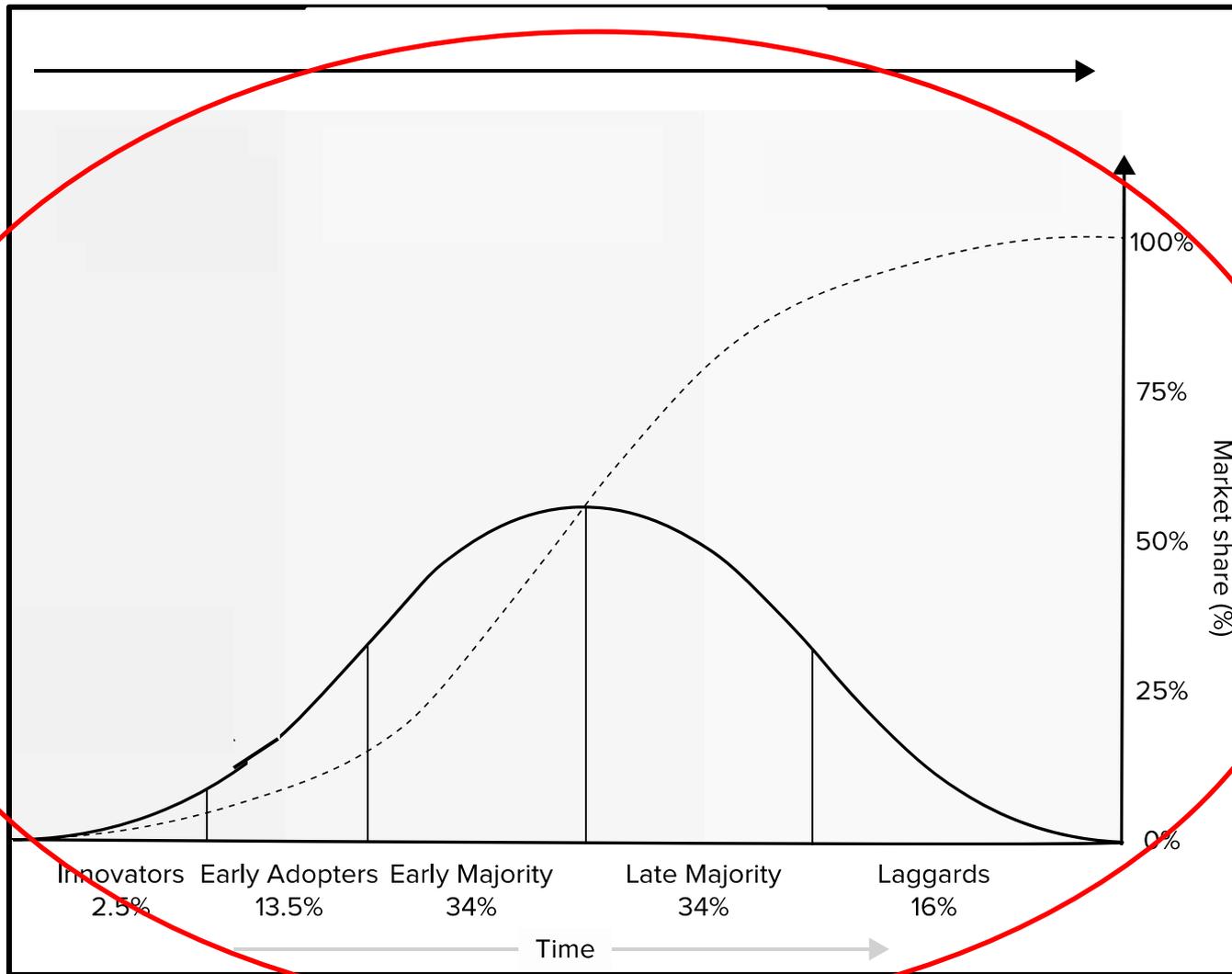
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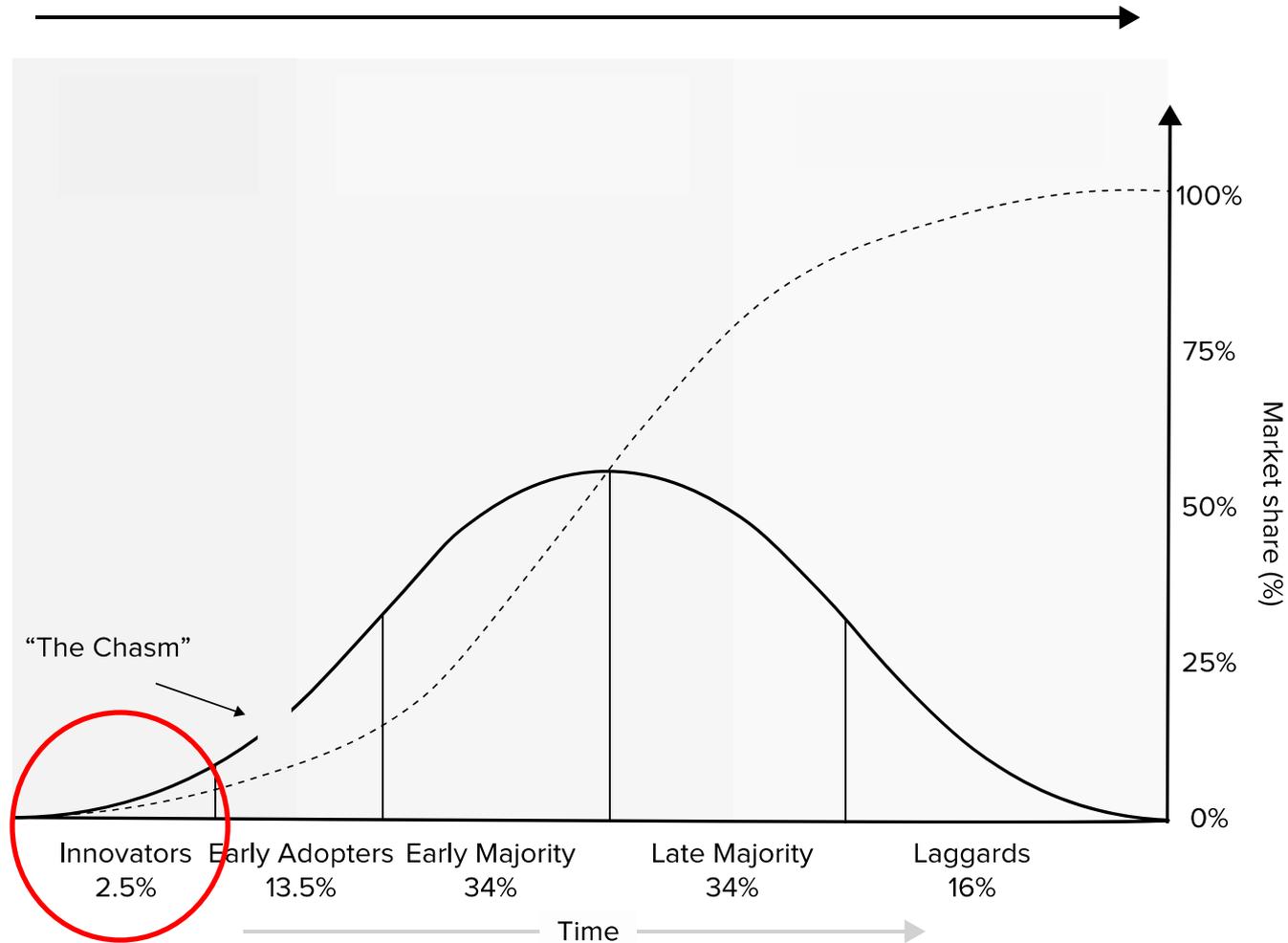
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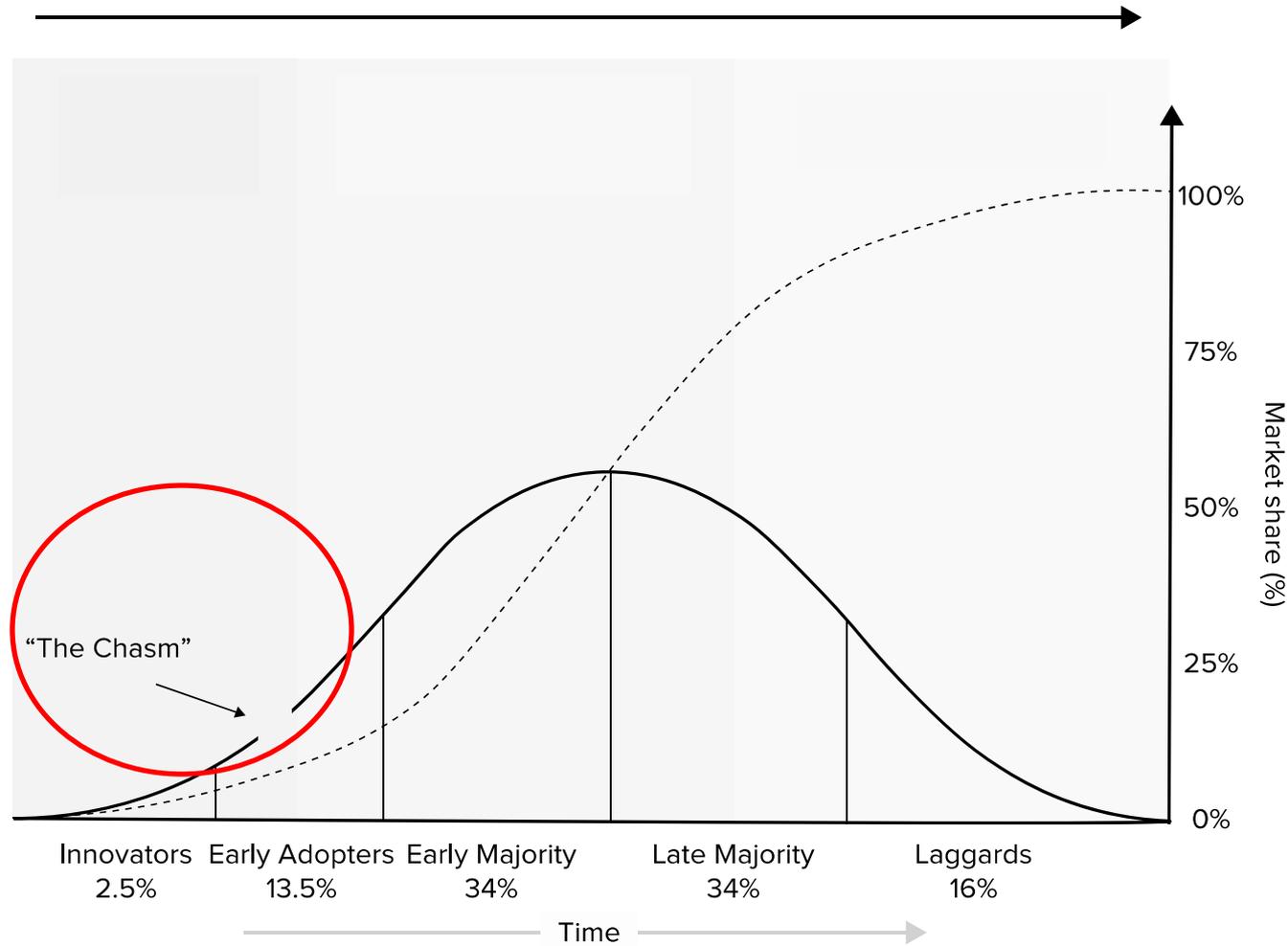
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# How Innovation Actually Tends to Be Adopted



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# Technology Adoption Typically Fails at "The Chasm" <sup>10</sup>



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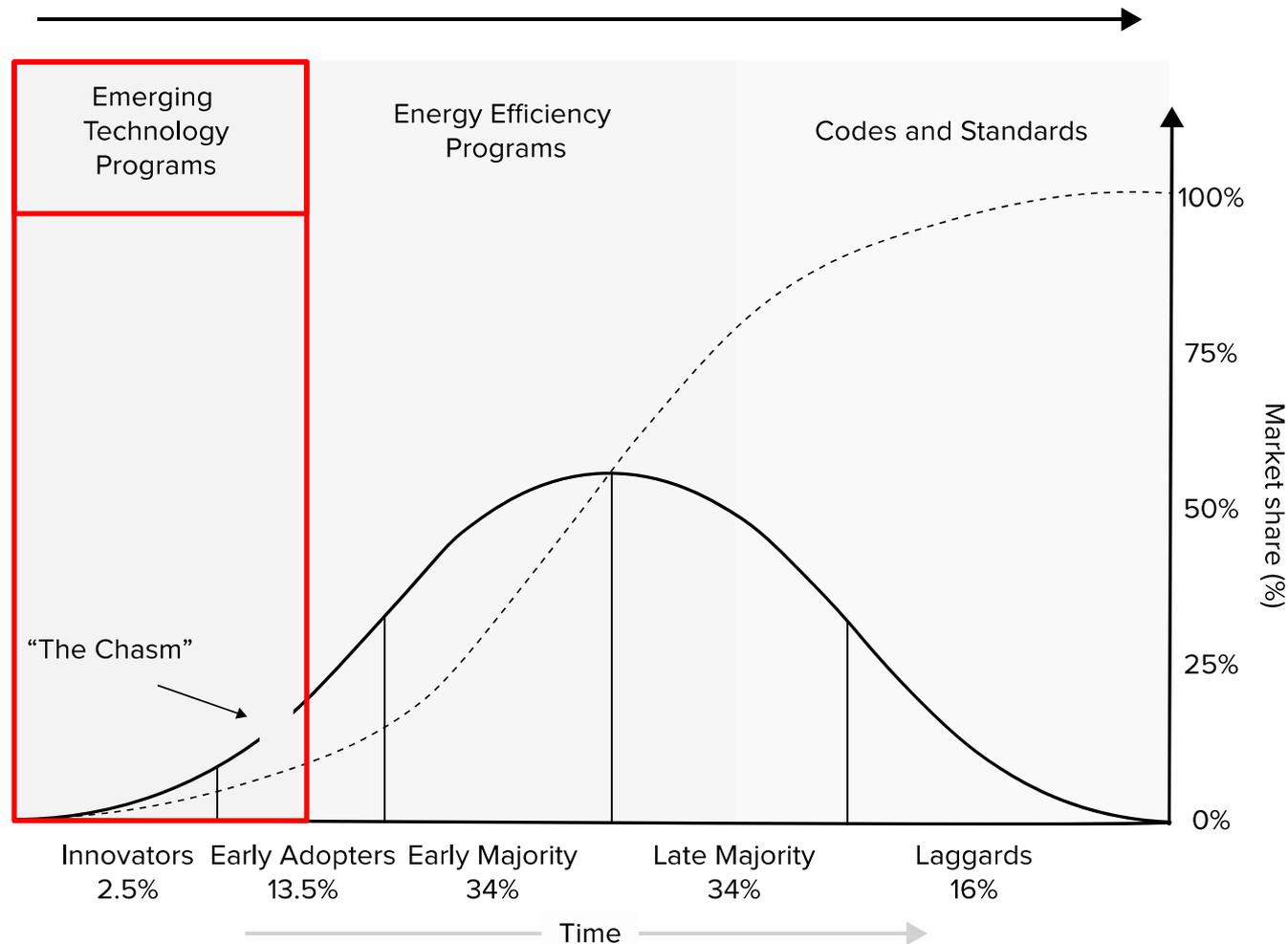
# Market Transformation Bridges Barriers

- Bridges barriers that create “The Chasm” and/or reduce barriers in order to further accelerate market adoption
- Possible barriers include:

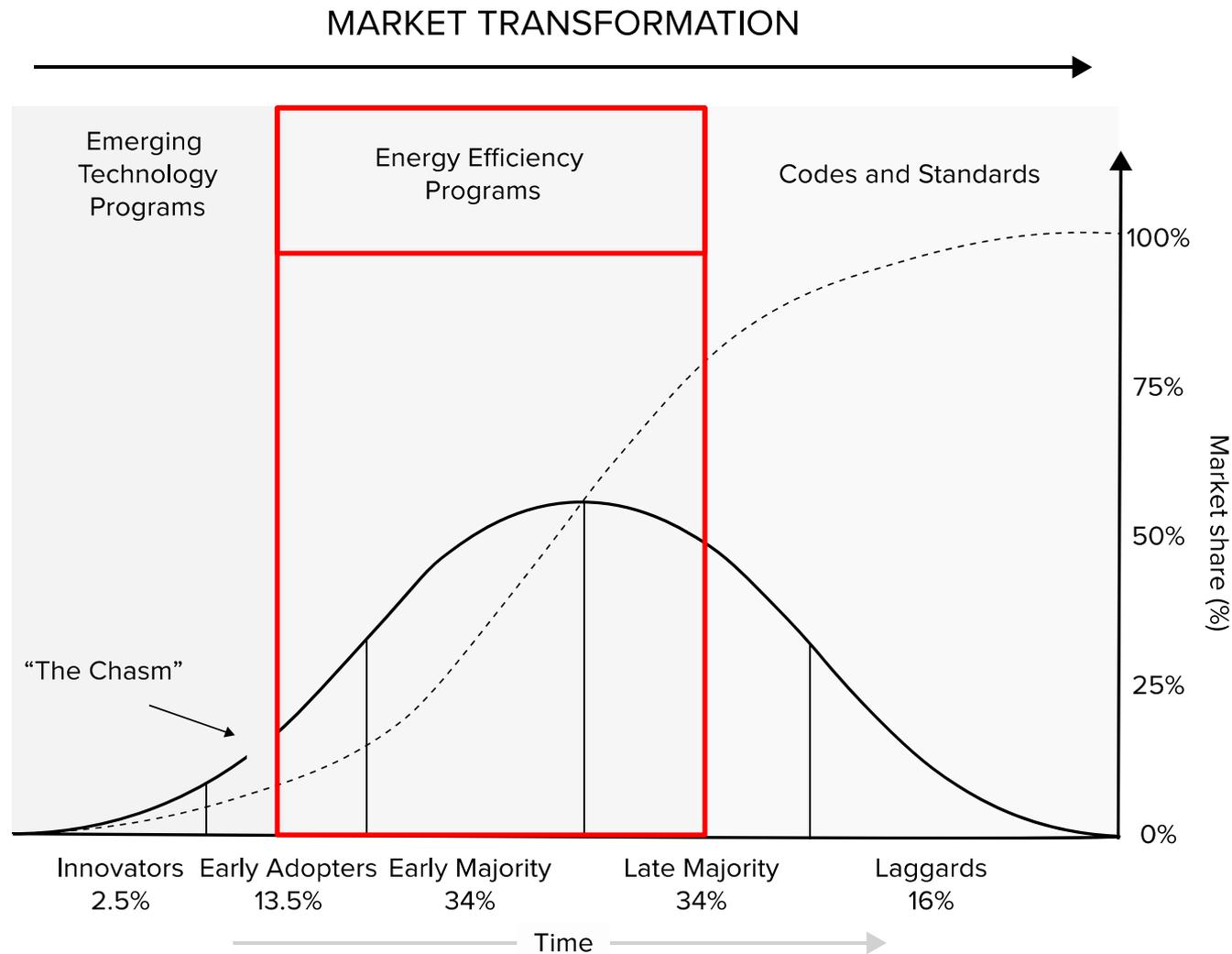
Supply Side	Demand Side
Product Availability	Product Awareness
Product Quality	Product Price
Knowledge/Capability	Value Proposition

- Stronger candidates for market transformation include:
  - Technologies early on the adoption curve
  - Technologies with large market potential
  - Technologies where costs likely to decrease significantly as manufacturers gain economies of scale

## MARKET TRANSFORMATION

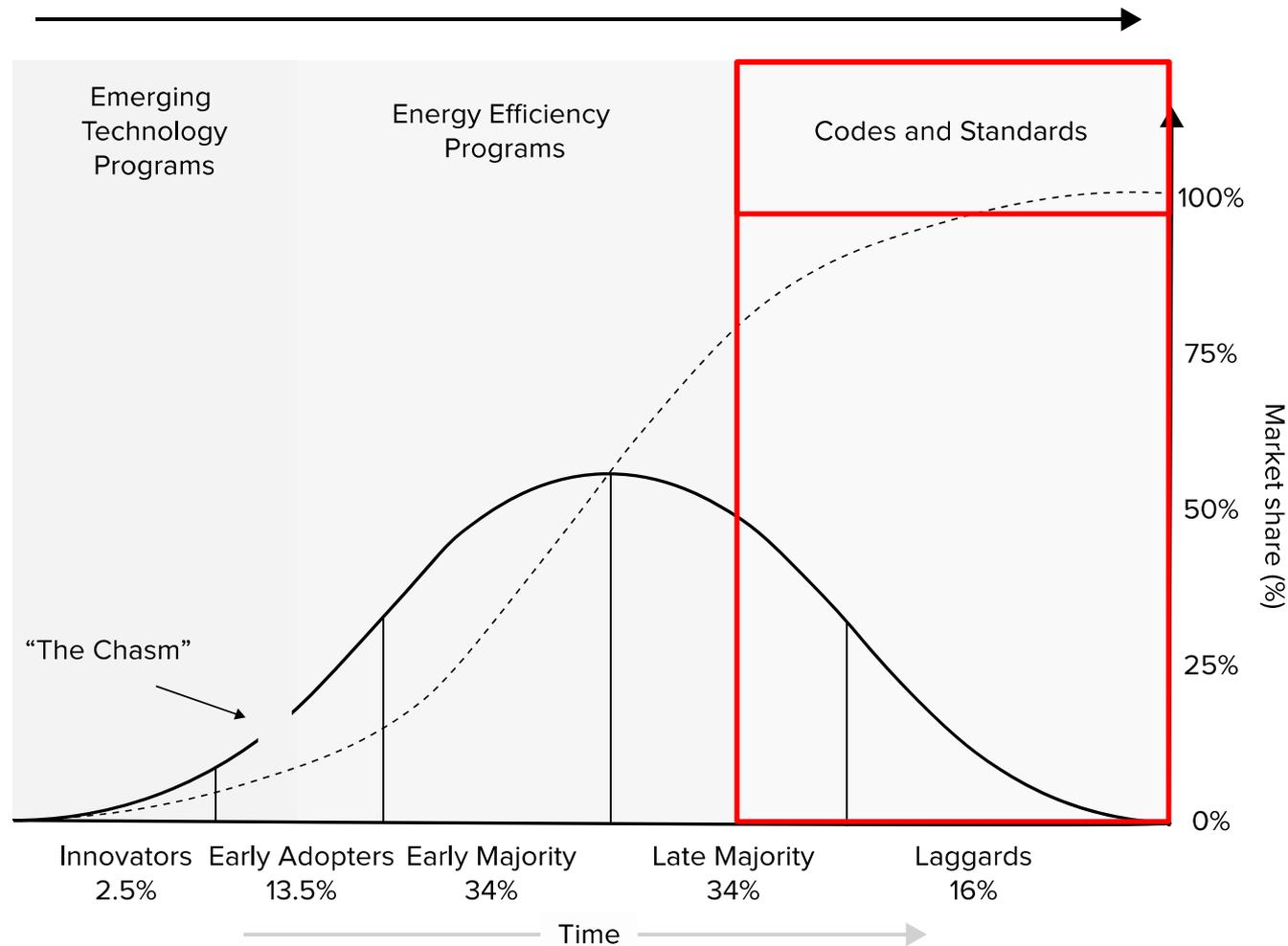


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## MARKET TRANSFORMATION



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- Identify target markets where market transformation looks most appropriate
  - What are the baseline characteristics of the market?
  - What market transformation strategies are needed to close the “chasm”
    - i.e. MPSC provided savings multipliers for LED bulbs to make the higher rebates needed more cost-effective for utility portfolios
- Establish tracking and measuring to monitor market effects
- Set criteria for removing or phasing-out market transformation
- Continue to monitor the market

# Measuring Shorter Term and Longer Term Metrics

	Typical Market Barriers	Short/Mid-term Progress Indicators	Market Transformation Indicators
Supply Side	Product Availability	<ul style="list-style-type: none"> <li>Shelf/floor/online storefront space</li> <li>Retailer/distributor stocking practices</li> </ul>	<ul style="list-style-type: none"> <li>Product standard or building code</li> <li>Inefficient technology/practices discontinued</li> </ul>
	Product Quality	<ul style="list-style-type: none"> <li>Product performance (e.g., lumen degradation, early burnout)</li> </ul>	
	Knowledge/Capability	<ul style="list-style-type: none"> <li>Sales practices</li> <li>Installation practices</li> </ul>	<ul style="list-style-type: none"> <li>Technology accepted as standard among market actors</li> </ul>
Demand Side	Product Price/1 <sup>st</sup> Cost	<ul style="list-style-type: none"> <li>Price/willingness to pay</li> <li>Availability of financing (if relevant)</li> </ul>	<ul style="list-style-type: none"> <li>Price no longer a factor in purchase decision</li> </ul>
	Product Awareness	<ul style="list-style-type: none"> <li>End user awareness of technology</li> <li>End user perceptions</li> </ul>	<ul style="list-style-type: none"> <li>Technology preferred and accepted as standard among end users</li> </ul>
	Value Proposition/Business Case	<ul style="list-style-type: none"> <li>End user awareness of benefits</li> <li>For C&amp;I end users, able to make business case</li> </ul>	

- Widespread market adoption is standard practice
  - Market adoption has reached a “tipping point” characterized by rapid acceleration\*
  - Due to building code or product standard
- Continued intervention no longer has potential for cost effective long-term savings

\* In Everett Rogers' *Diffusion of Innovations*, typically seen once the market moved past the “early adopters” into the “early majority”, characterized by rapid acceleration, as market penetration moves from ~20% to 50%. NEEA relies on the general criteria presented earlier, rather than a specific market adoption number.

- Questions?
- Comments?
- Additional resources to consider?
- Thank You!

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