

# Scenarios 1B and 2C Key Findings

**CRAC -- May 1, 2015**

# RPM Scenarios

- **Scenarios:**
  - **1B – Current policy with no penalty for CO2 emissions**
  - **2C – Current policy plus an uncertain penalty for CO2 emissions**

# Conservation Representation in the RPM

- **Supply curves for discretionary and lost opportunity with 7 bins each purchased at an average price**
- **Purchases vary based on market dynamics in the model**
- **Resource Strategies test increasing and decreasing the amount of conservation purchased**

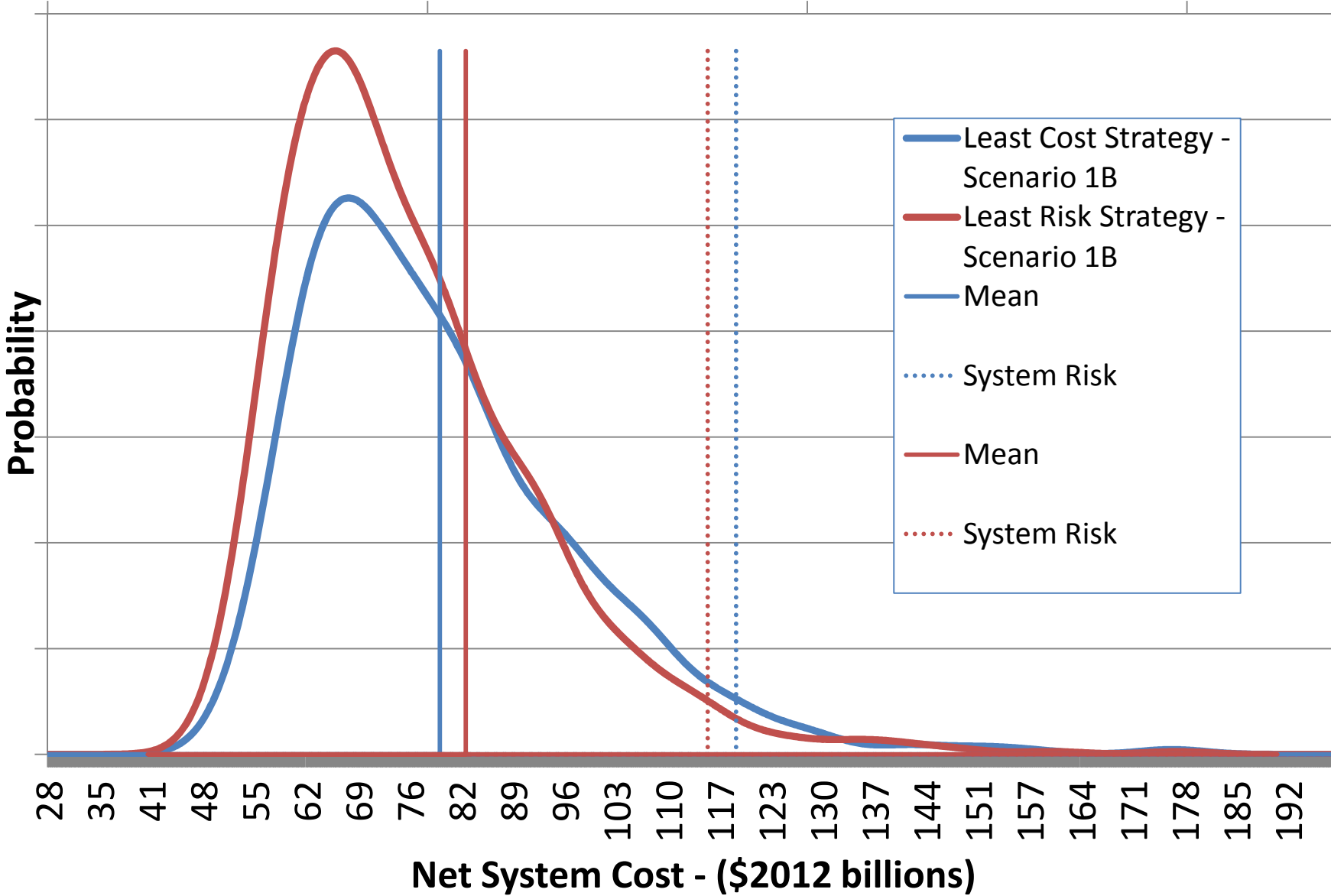
# Conservation in 1B

- **Least cost resource strategy has a wider range of outcomes for conservation than least risk**
- **Conservation supplies the majority of the capacity and energy needs both in the action plan and over the entire study**

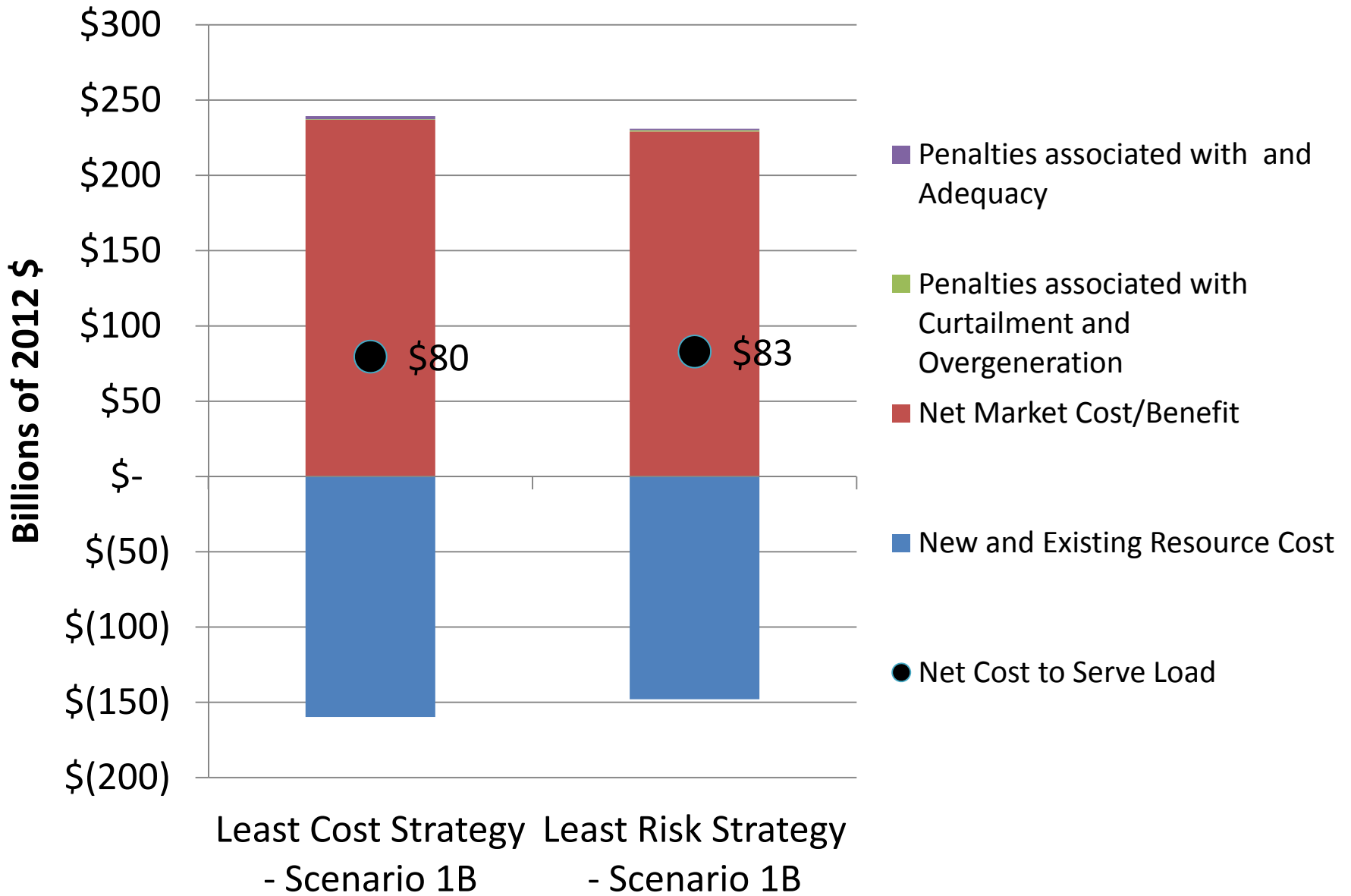
# Comparing 1B and 2C

- **Conservation**
  - Action plan period has 50 to 70 aMW more conservation purchased in 2C when comparing least cost strategies
  - Over the 20-year study, 2C has around 500 aMW more conservation when comparing least cost strategies

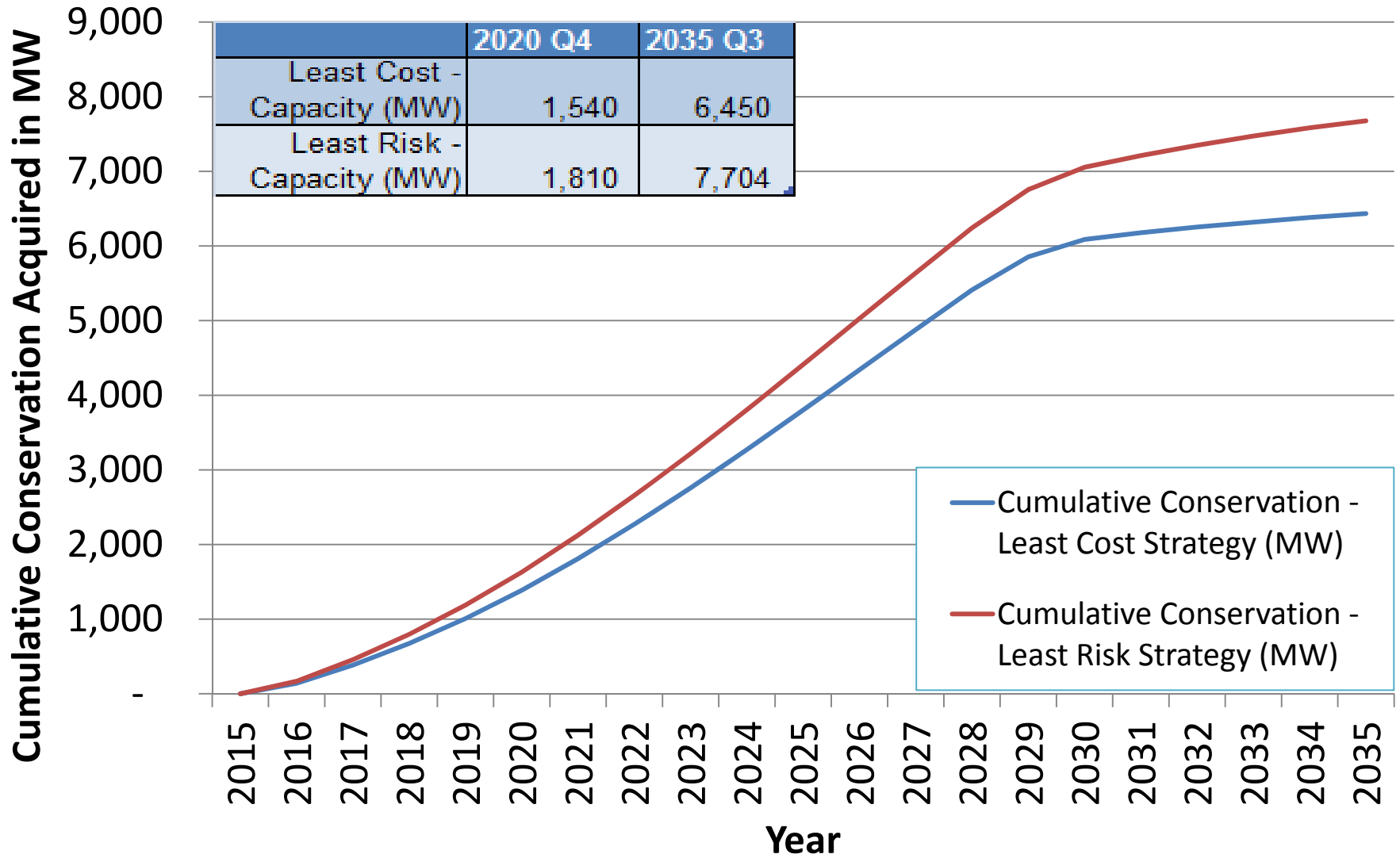
# Least Cost Strategy vs Least Risk Strategy



# Net System Cost Components

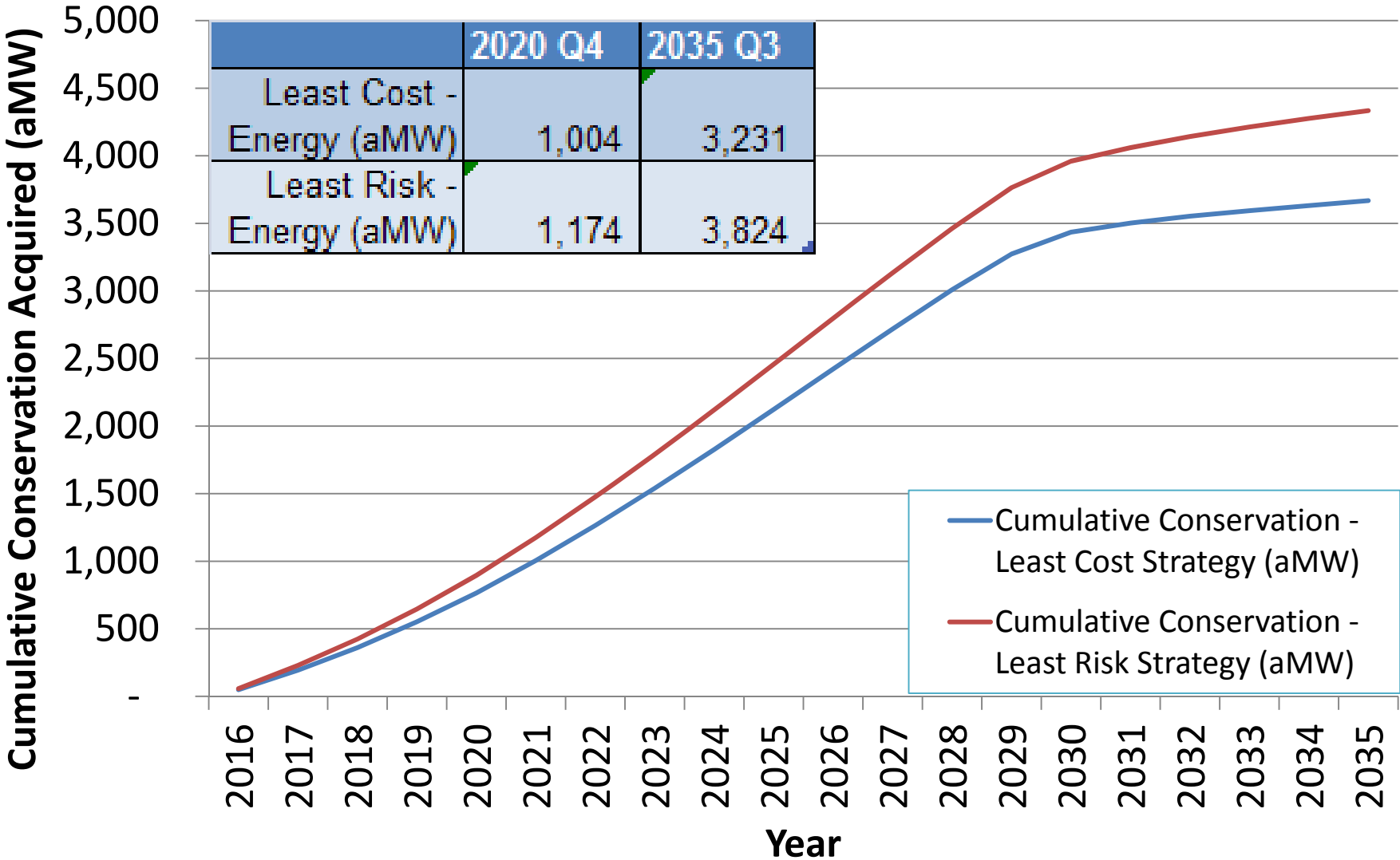


## Scenario 1B - Cumulative Conservation (MW)





## Scenario 1B - Cumulative Conservation (aMW)



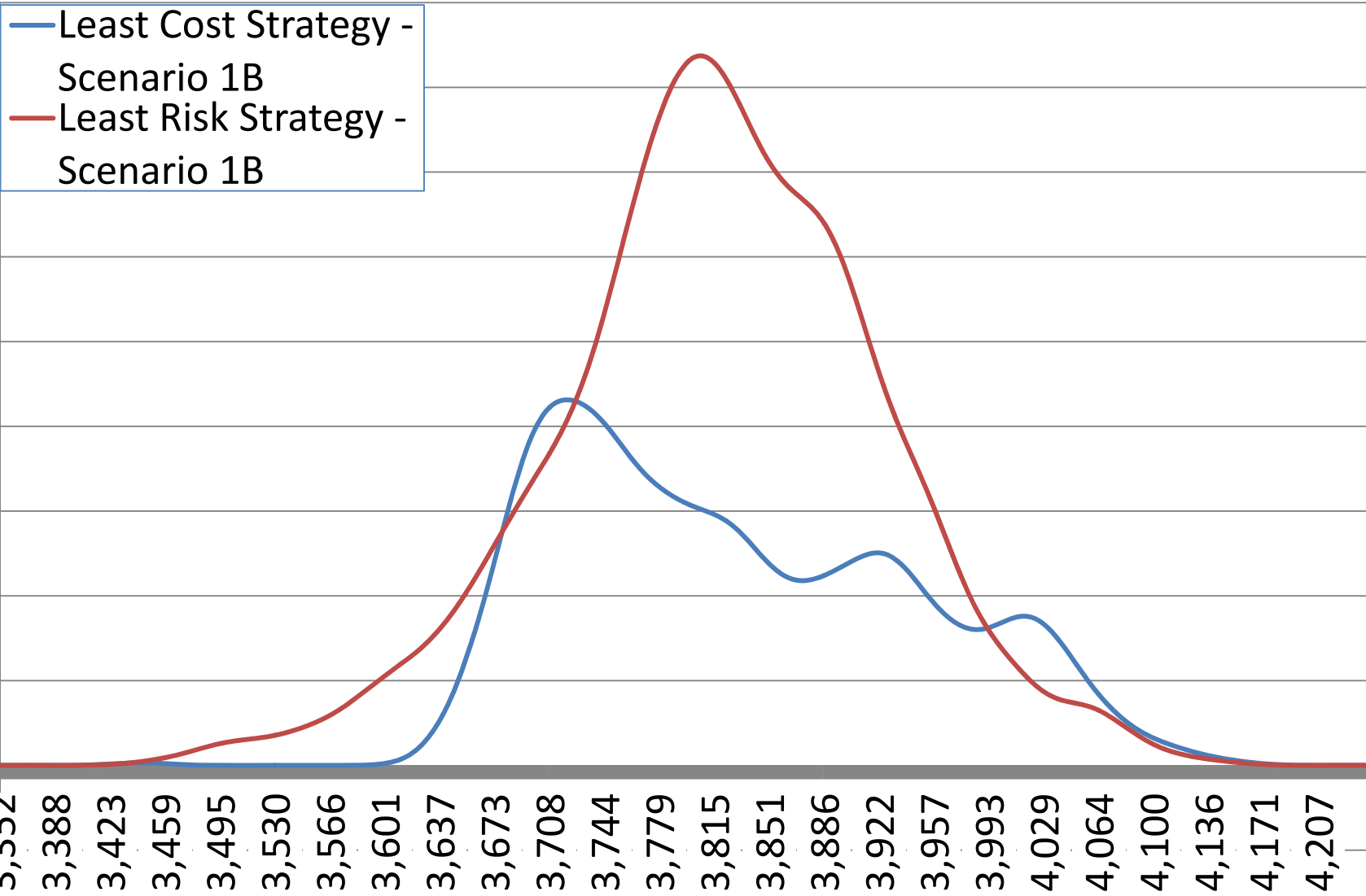
# Cumulative Conservation (aMW) in 2035

- Least Cost Strategy - Scenario 1B
- Least Risk Strategy - Scenario 1B

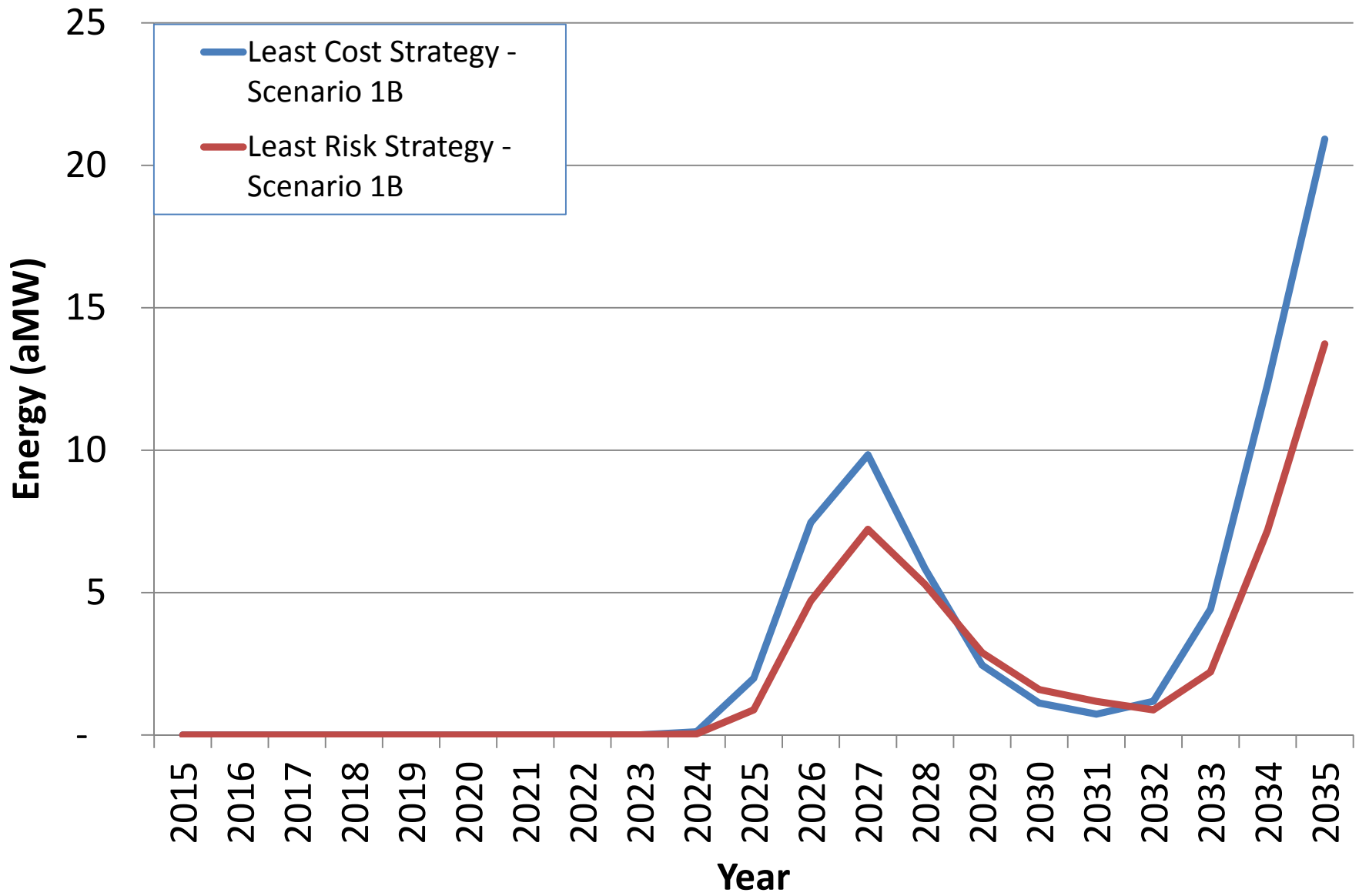
Probability

3,352  
3,388  
3,423  
3,459  
3,495  
3,530  
3,566  
3,601  
3,637  
3,673  
3,708  
3,744  
3,779  
3,815  
3,851  
3,886  
3,922  
3,957  
3,993  
4,029  
4,064  
4,100  
4,136  
4,171  
4,207

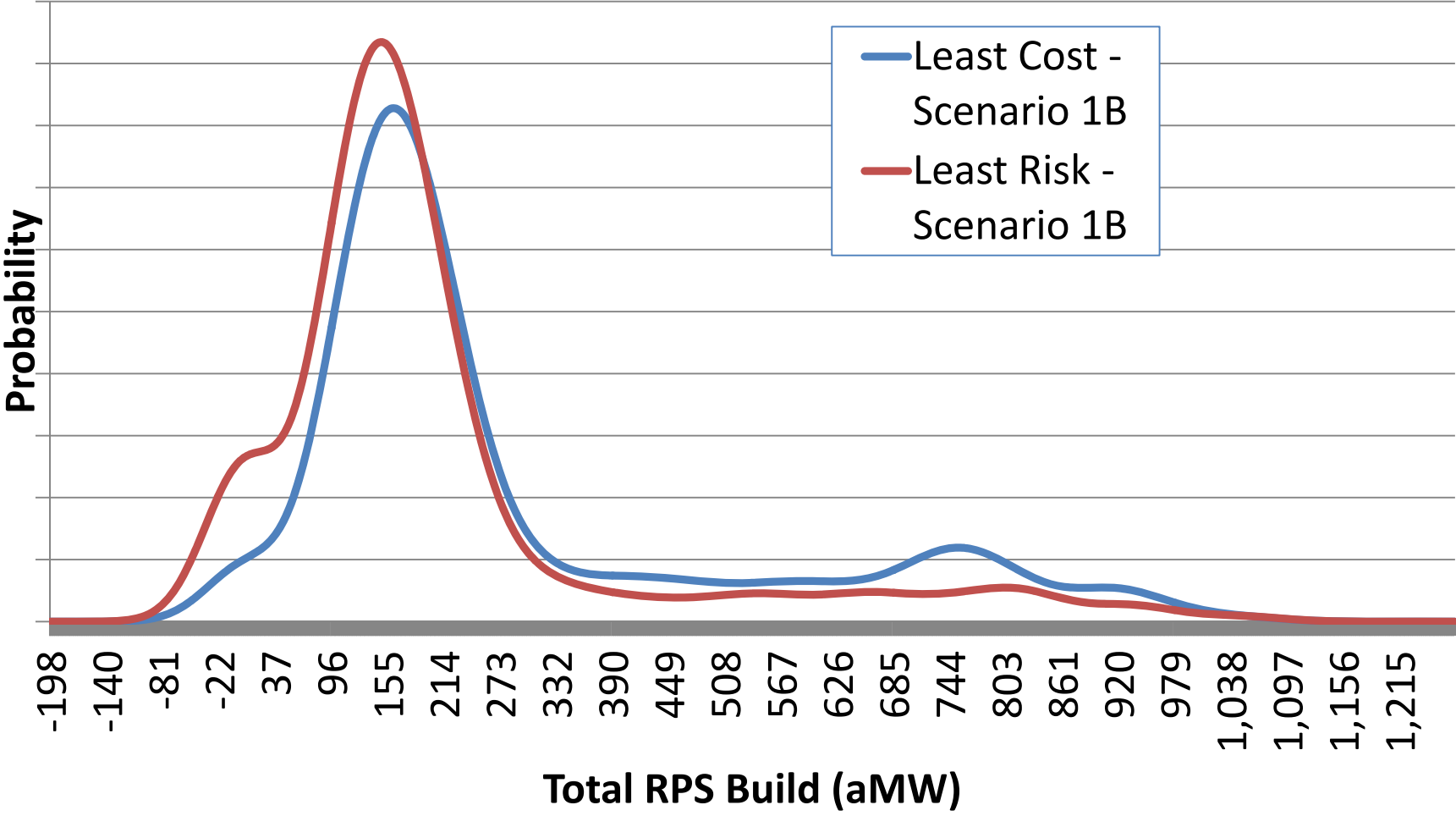
Cumulative Conservation (aMW) in 2035



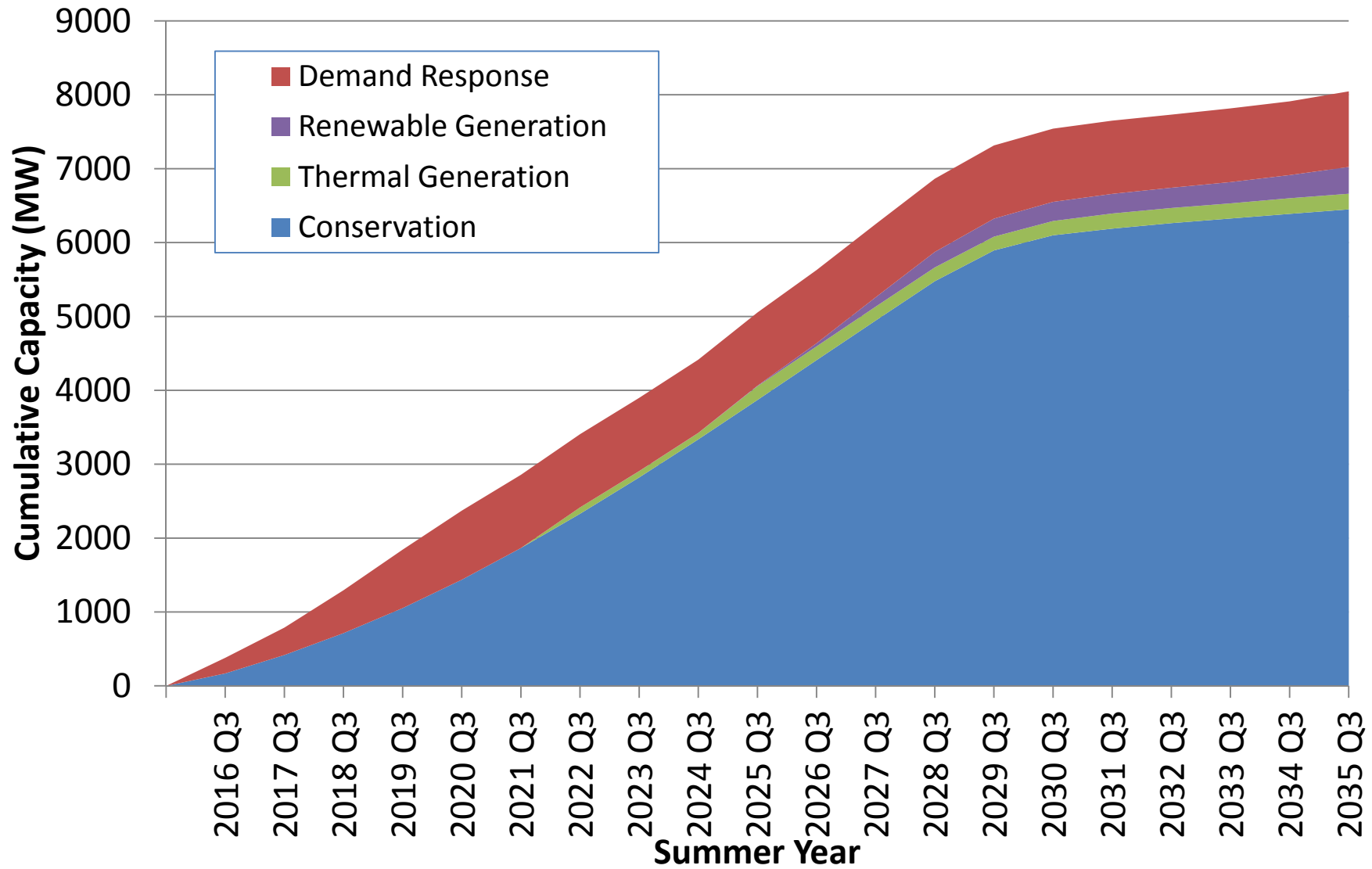
## Total RPS Average Additions (aMW)



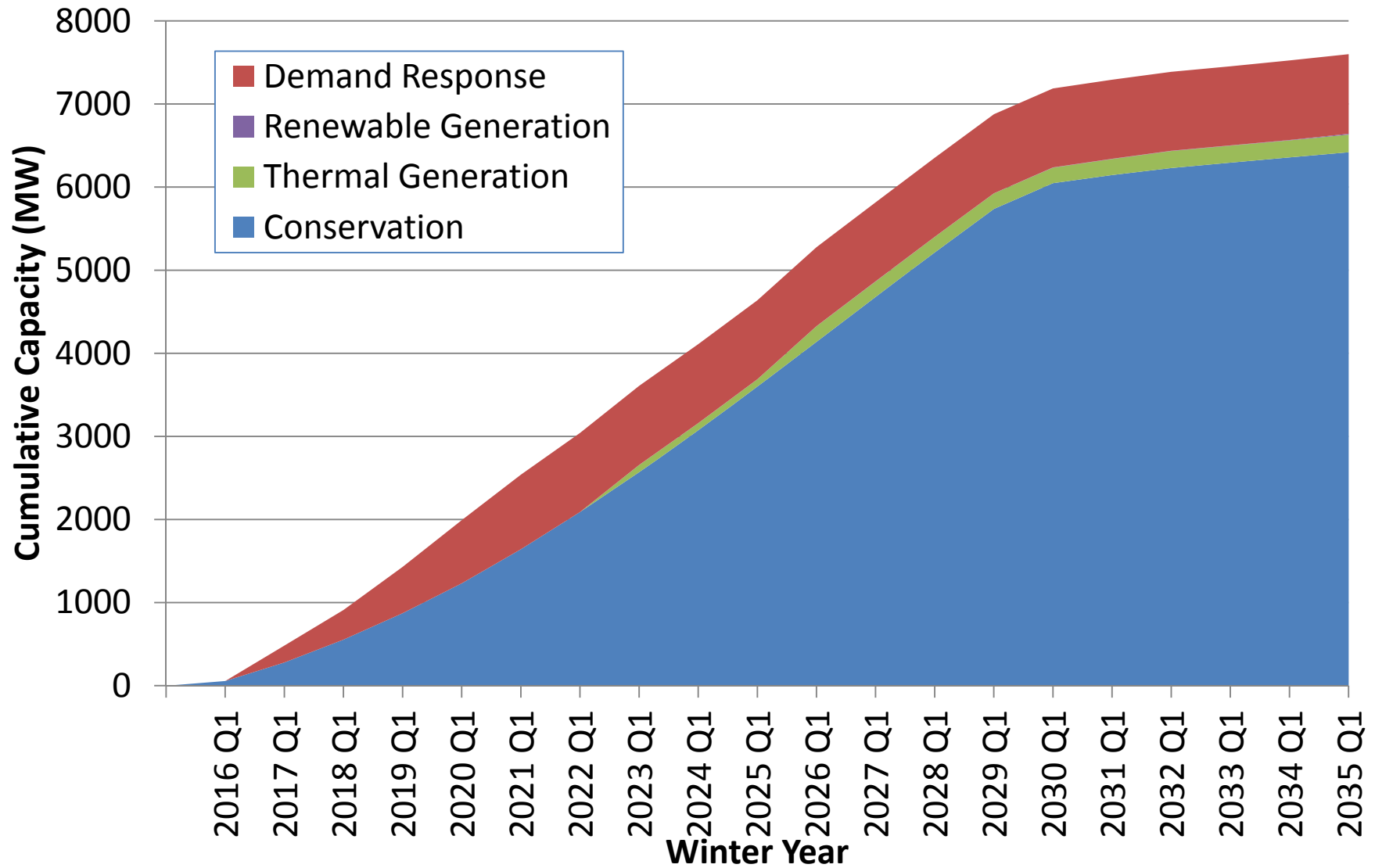
# Total RPS Build (aMW) by Q4 2035



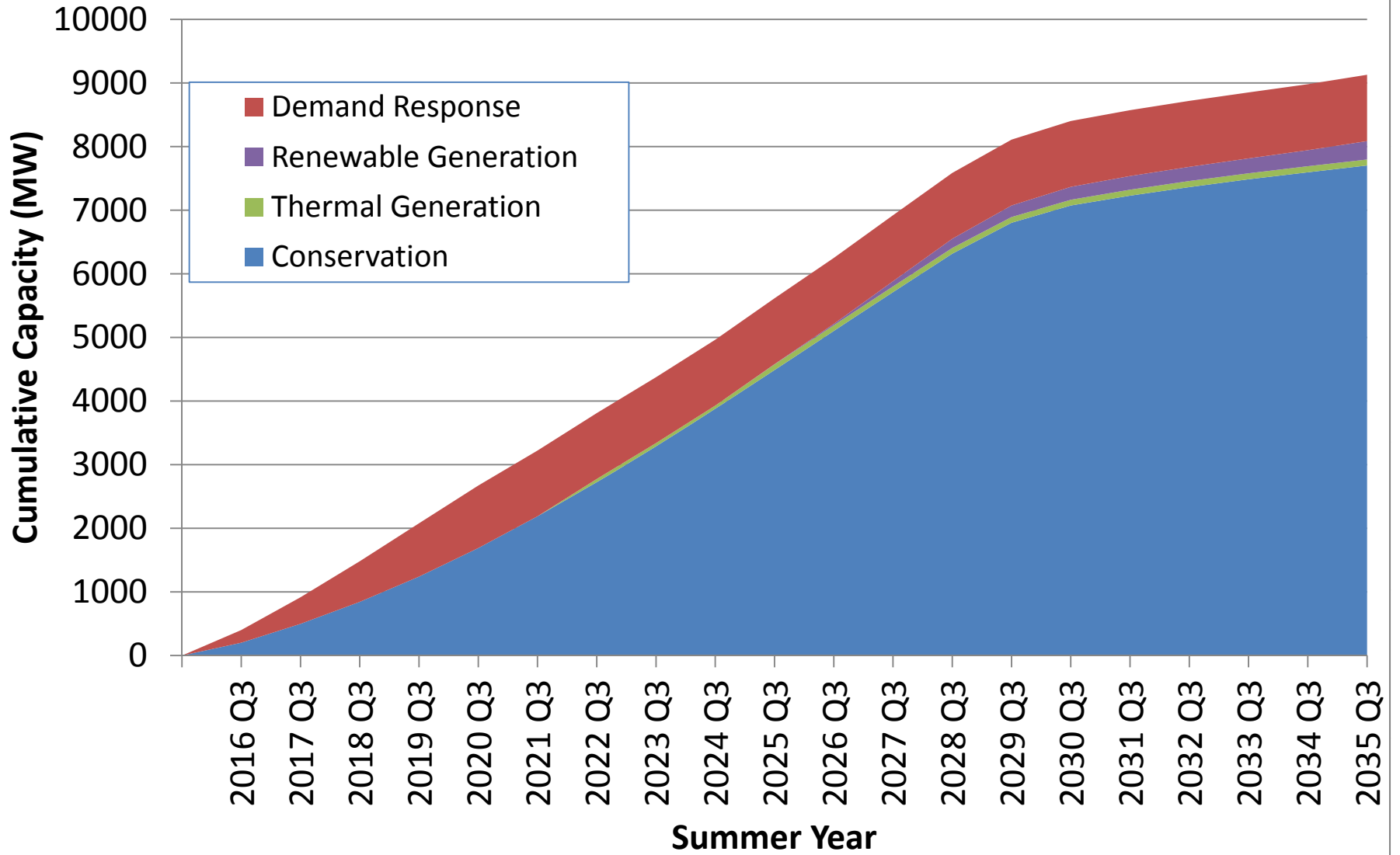
## Summer Peaking Capacity of New Resources - Least Cost Strategy Scenario 1B



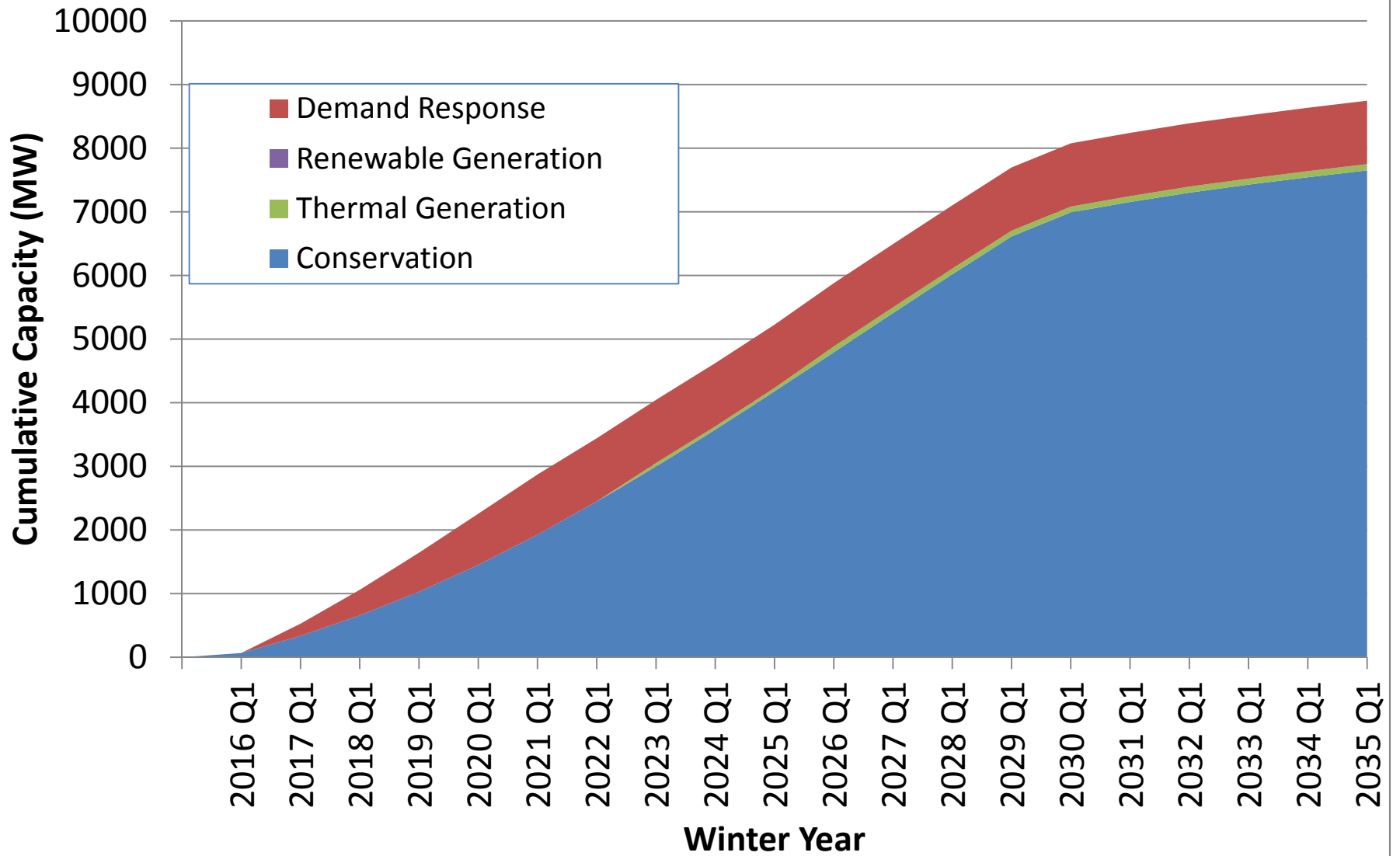
## Winter Peaking Capacity of New Resources - Least Cost Strategy Scenario 1B



## Summer Peaking Capacity of New Resources - Least Risk Strategy Scenario 1B

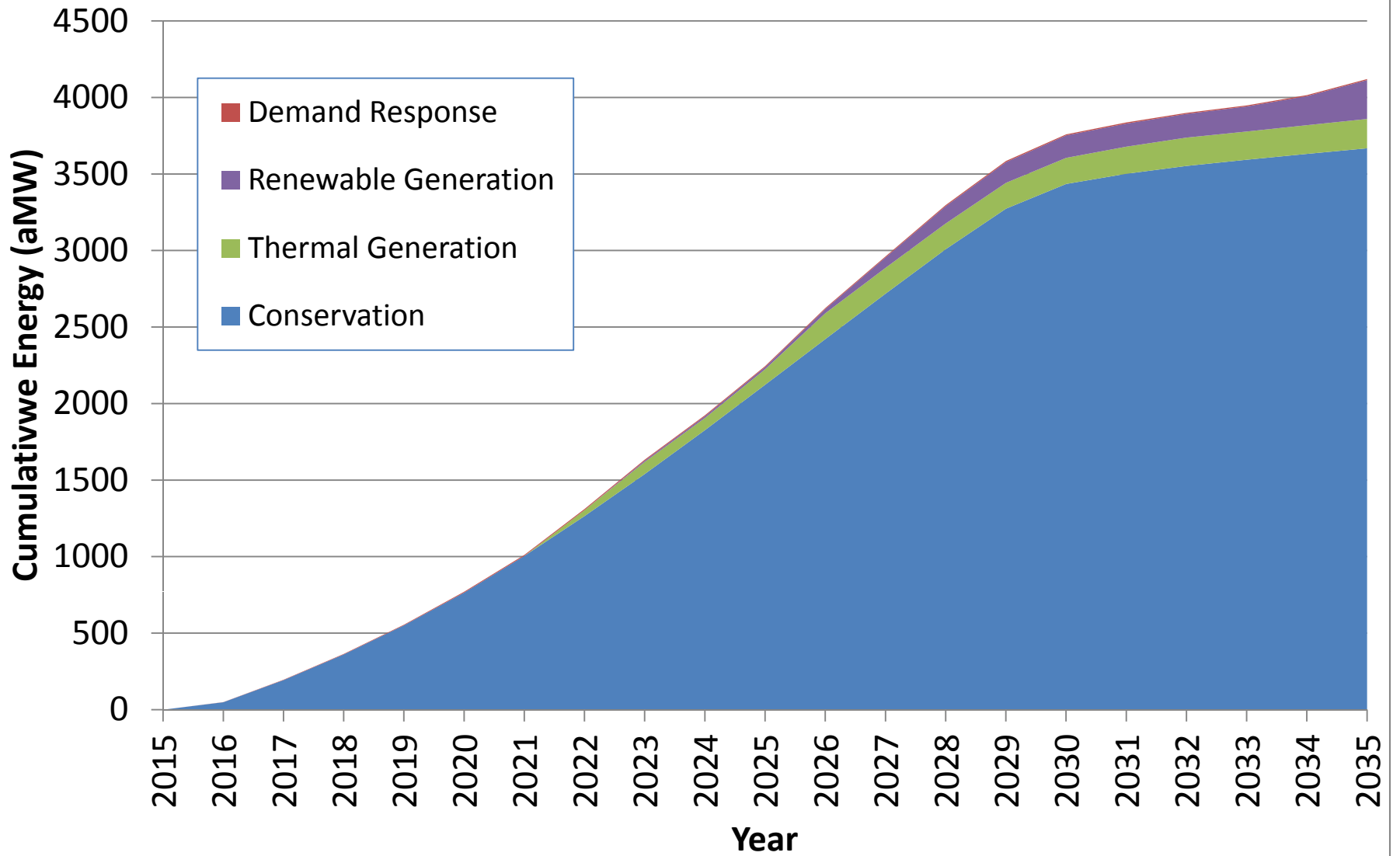


## Winter Peaking Capacity of New Resources - Least Risk Strategy Scenario 1B

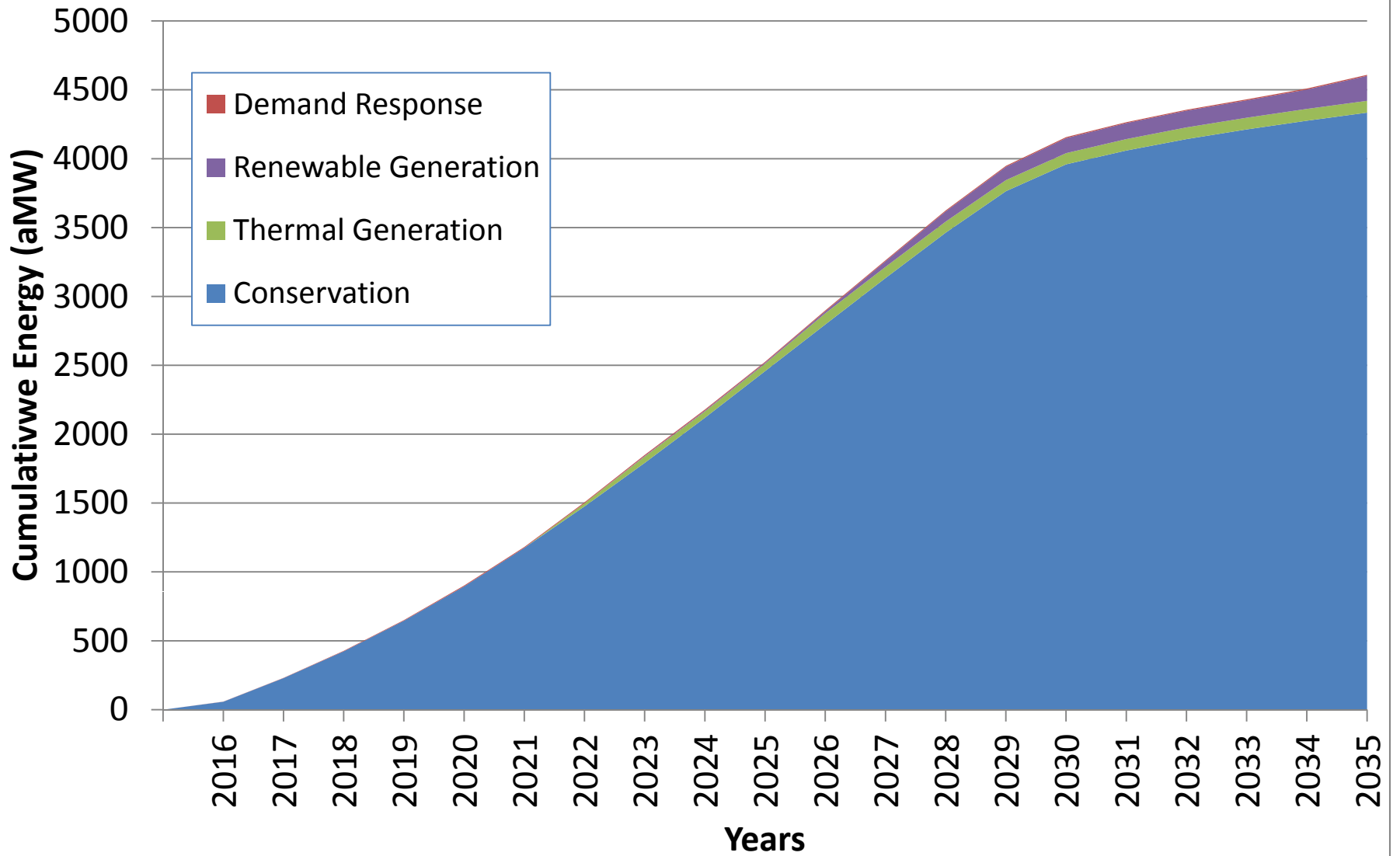




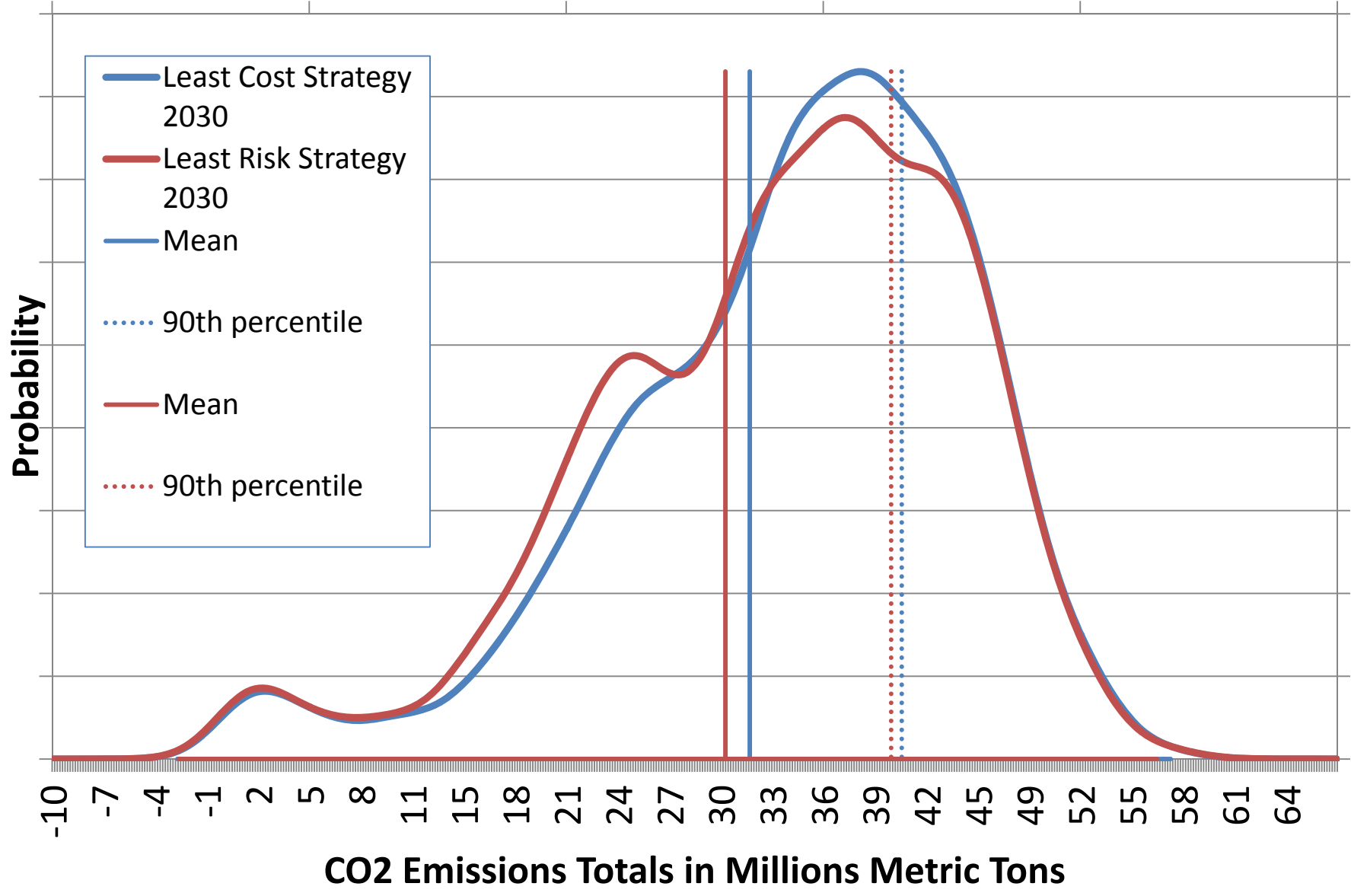
## Cumulative Energy of New Resources - Least Cost Strategy Scenario 1B



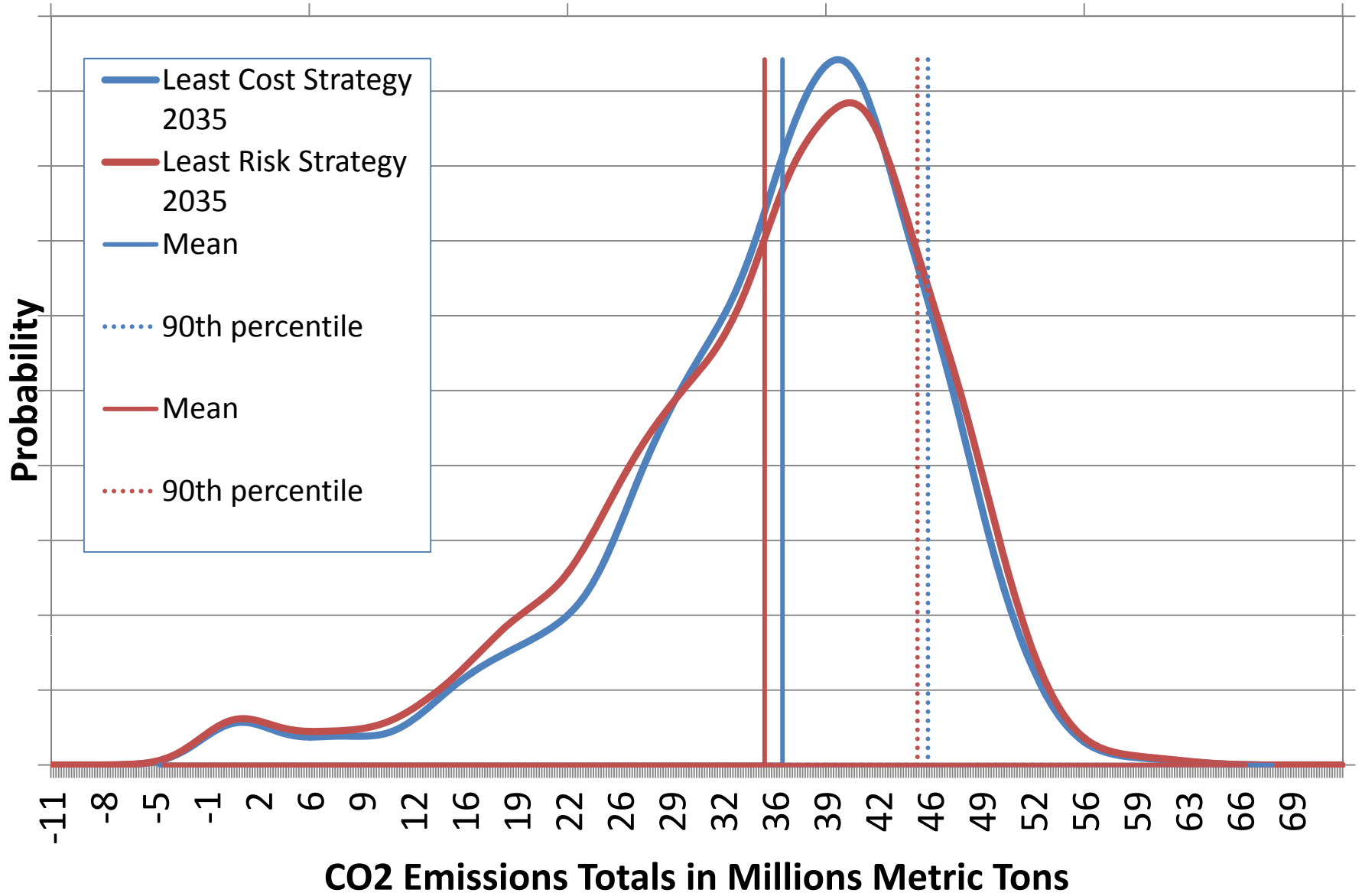
## Cumulative Energy of New Resources - Least Risk Strategy Scenario 1B



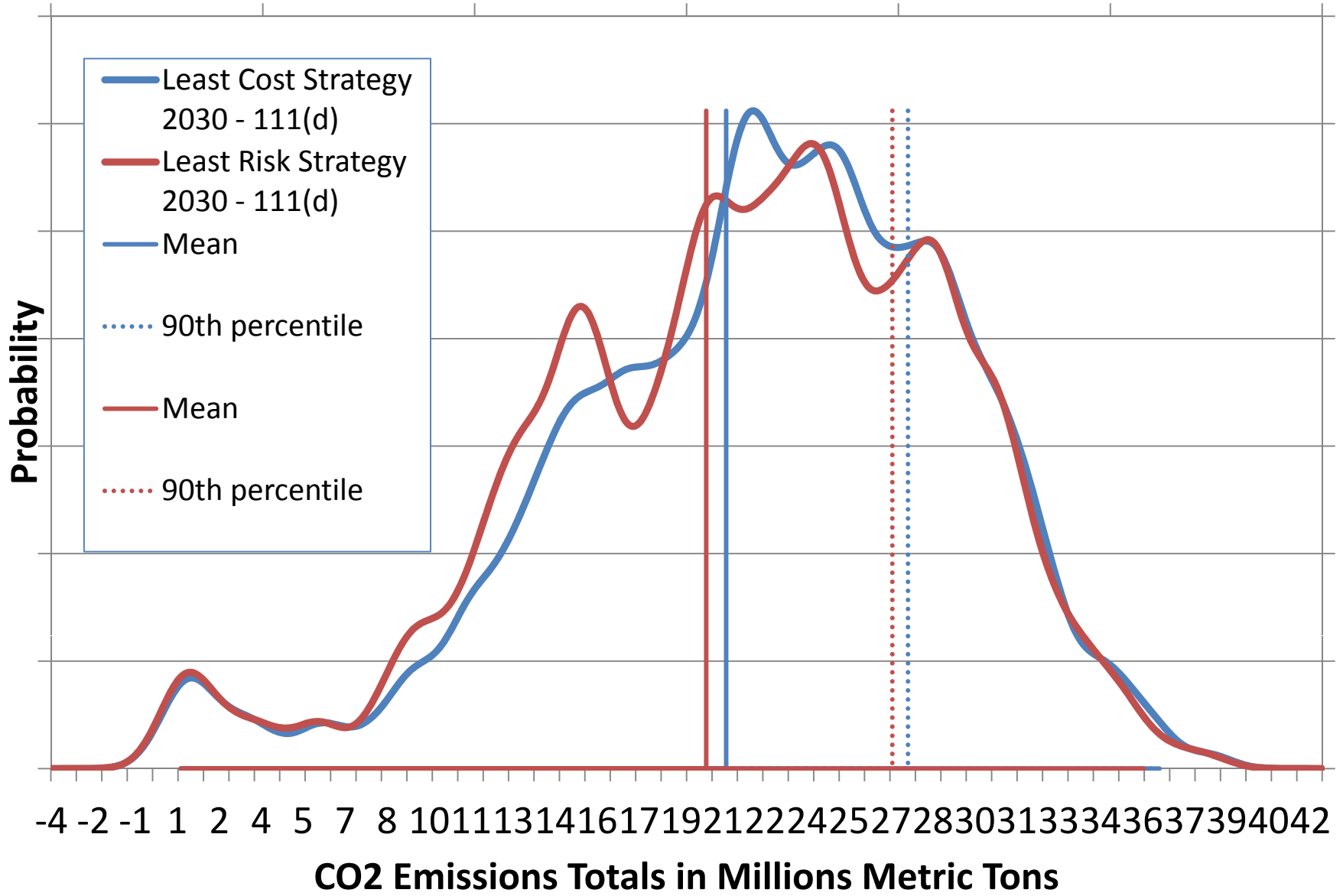
# Least Cost Strategy vs Least Risk Strategy - Scenario 1B



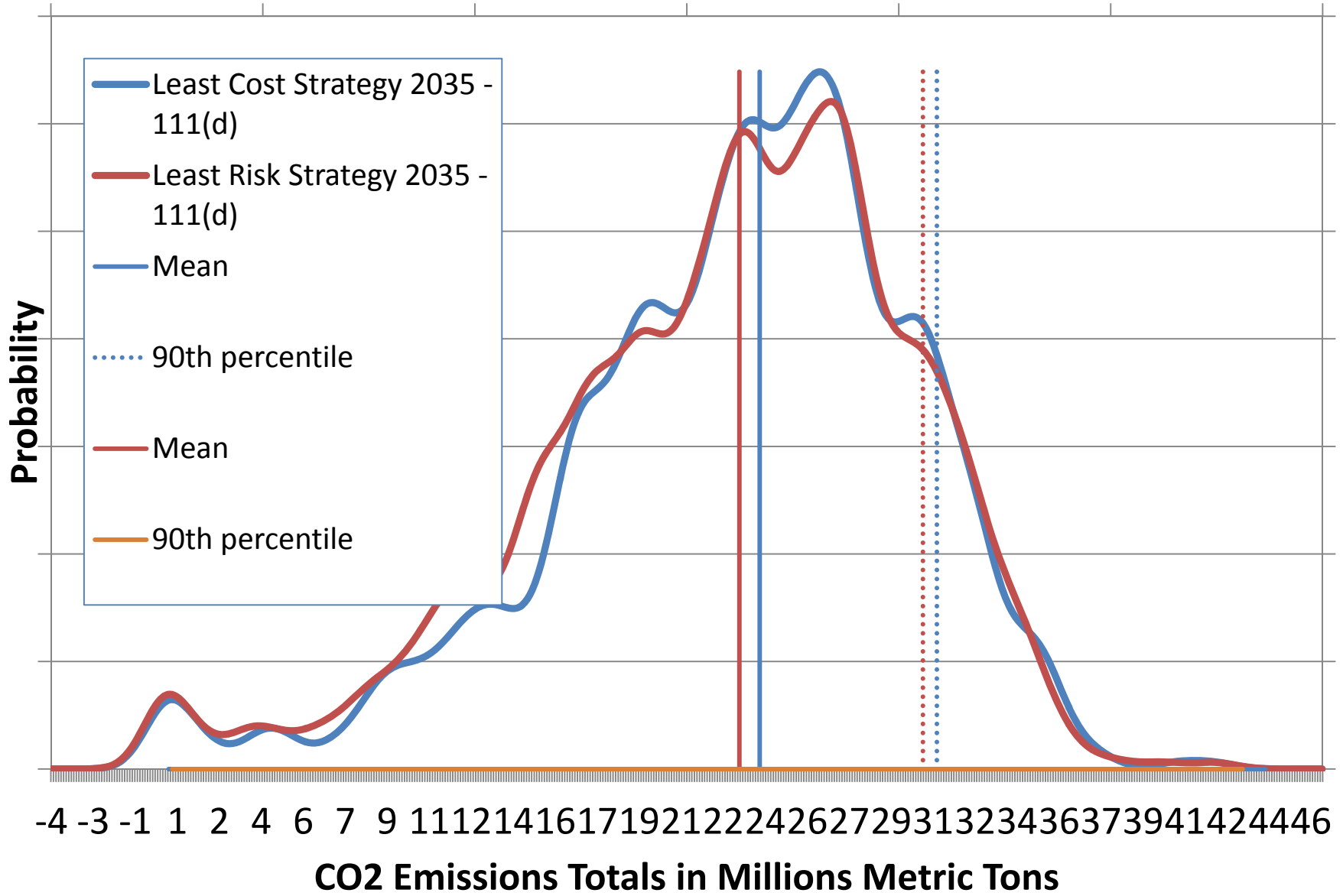
# Least Cost Strategy vs Least Risk Strategy - Scenario 1B



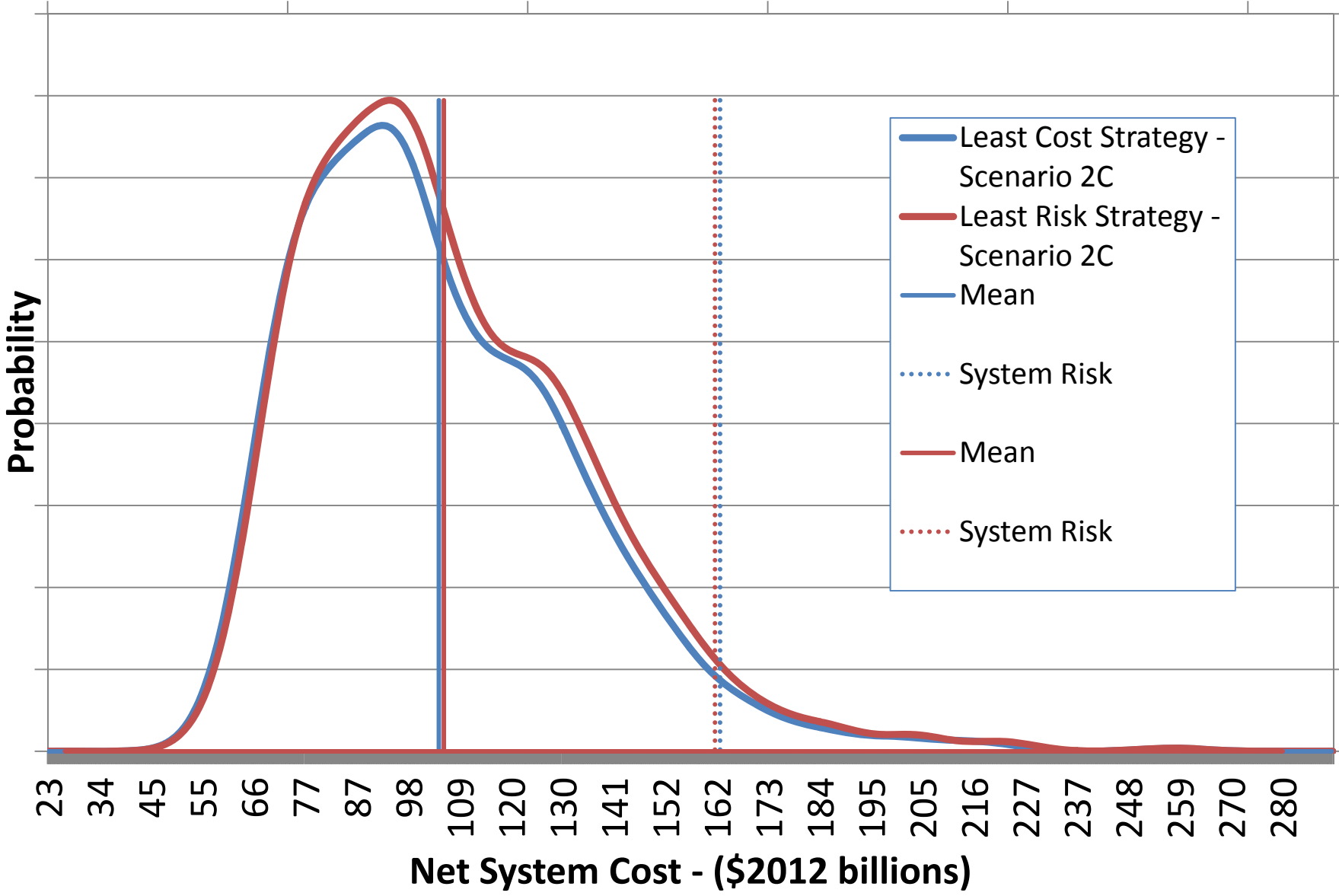
# Least Cost Strategy vs Least Risk Strategy - Scenario 1B



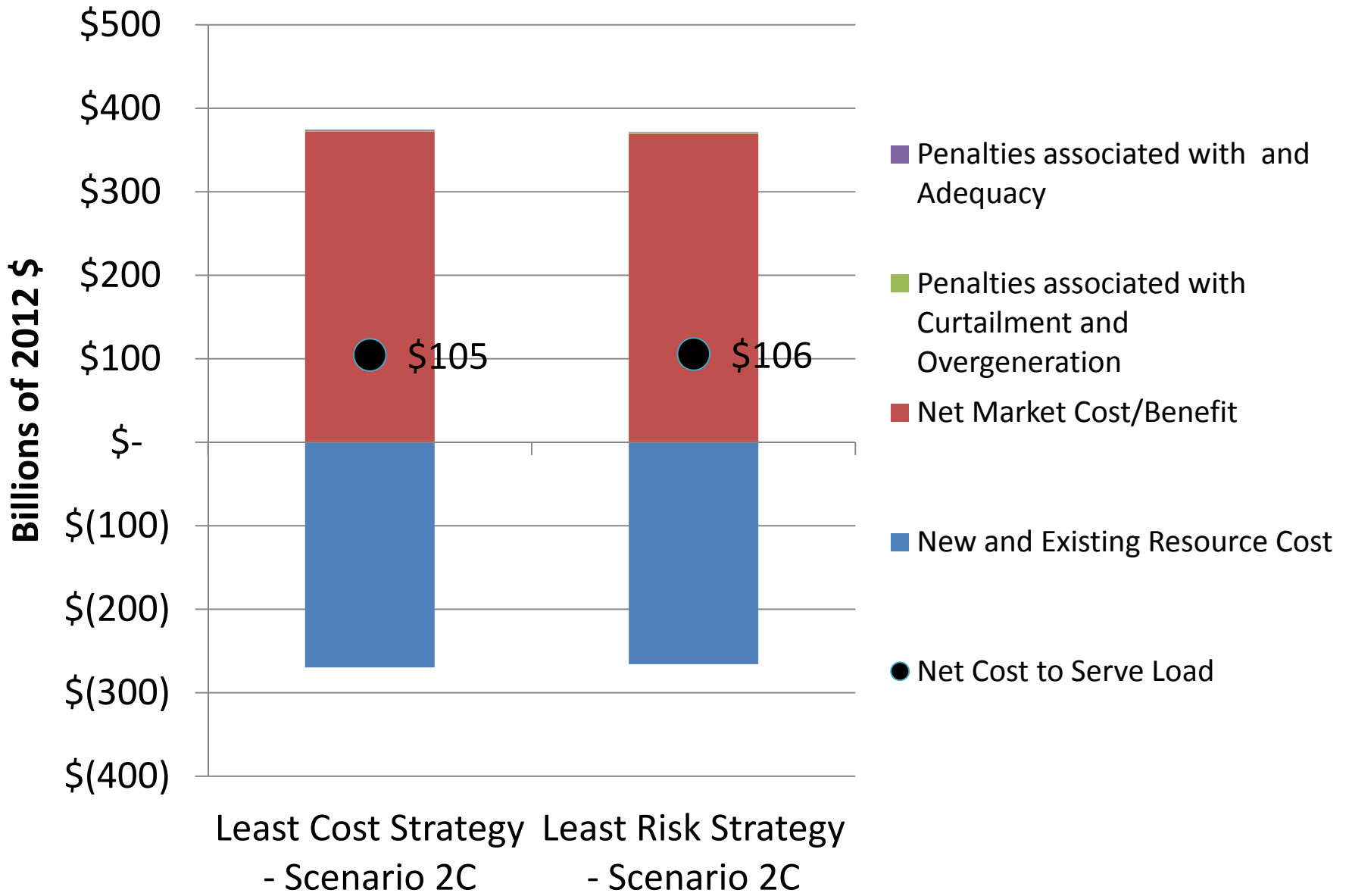
# Least Cost Strategy vs Least Risk Strategy - Scenario 1B



# Least Cost Strategy vs Least Risk Strategy

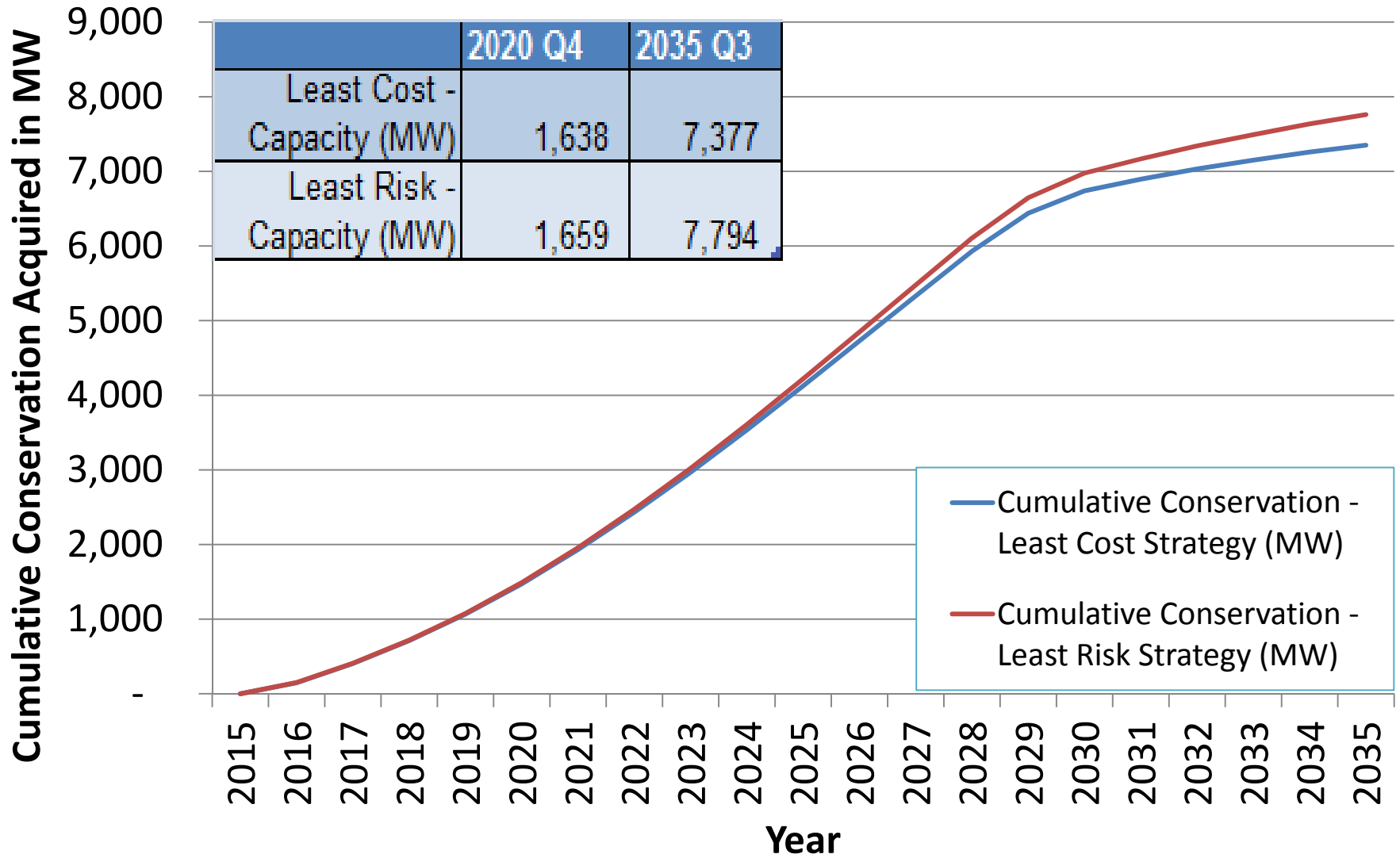


# Net System Cost Components

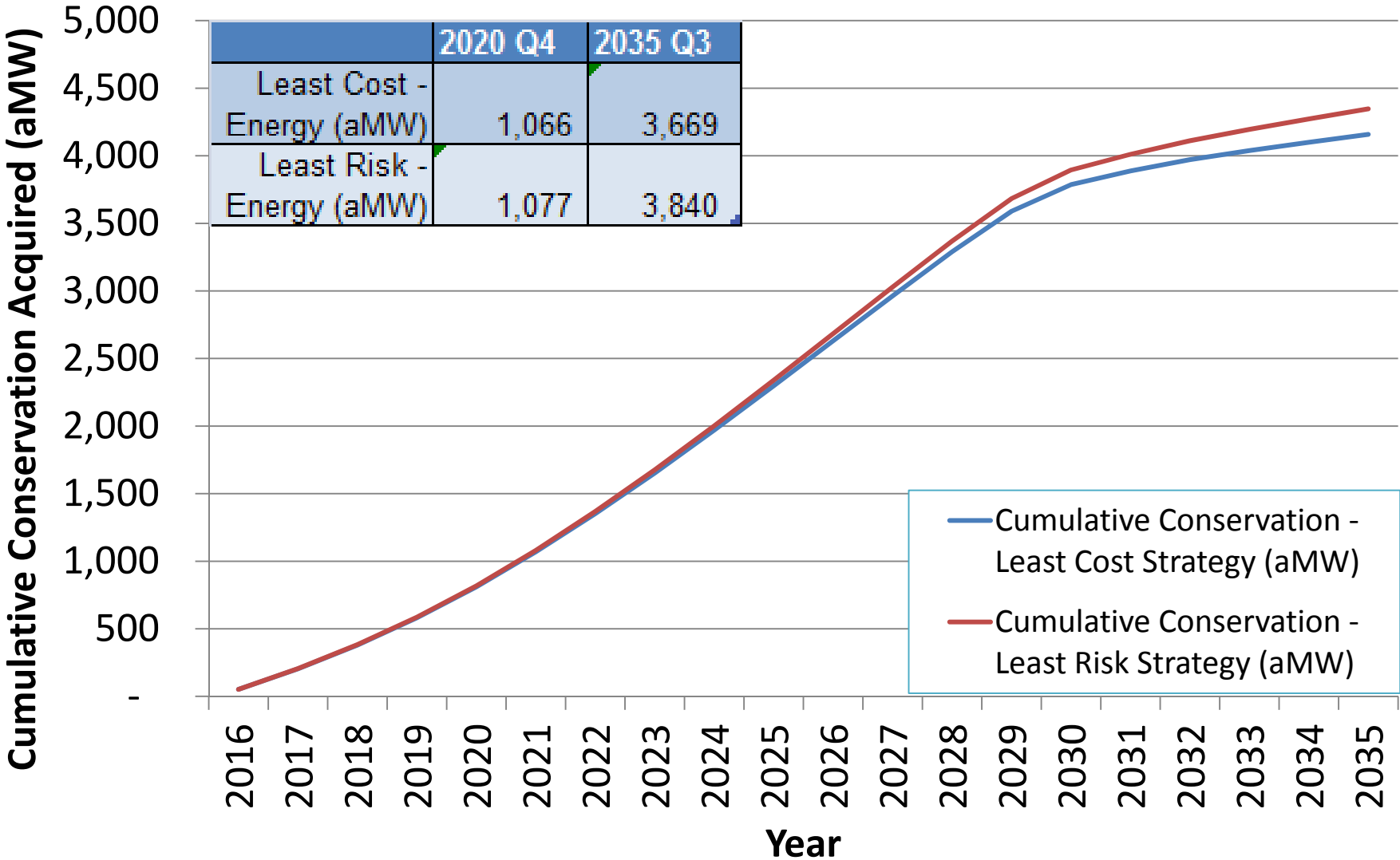




## Scenario 2C - Cumulative Conservation (MW)



## Scenario 2C - Cumulative Conservation (aMW)



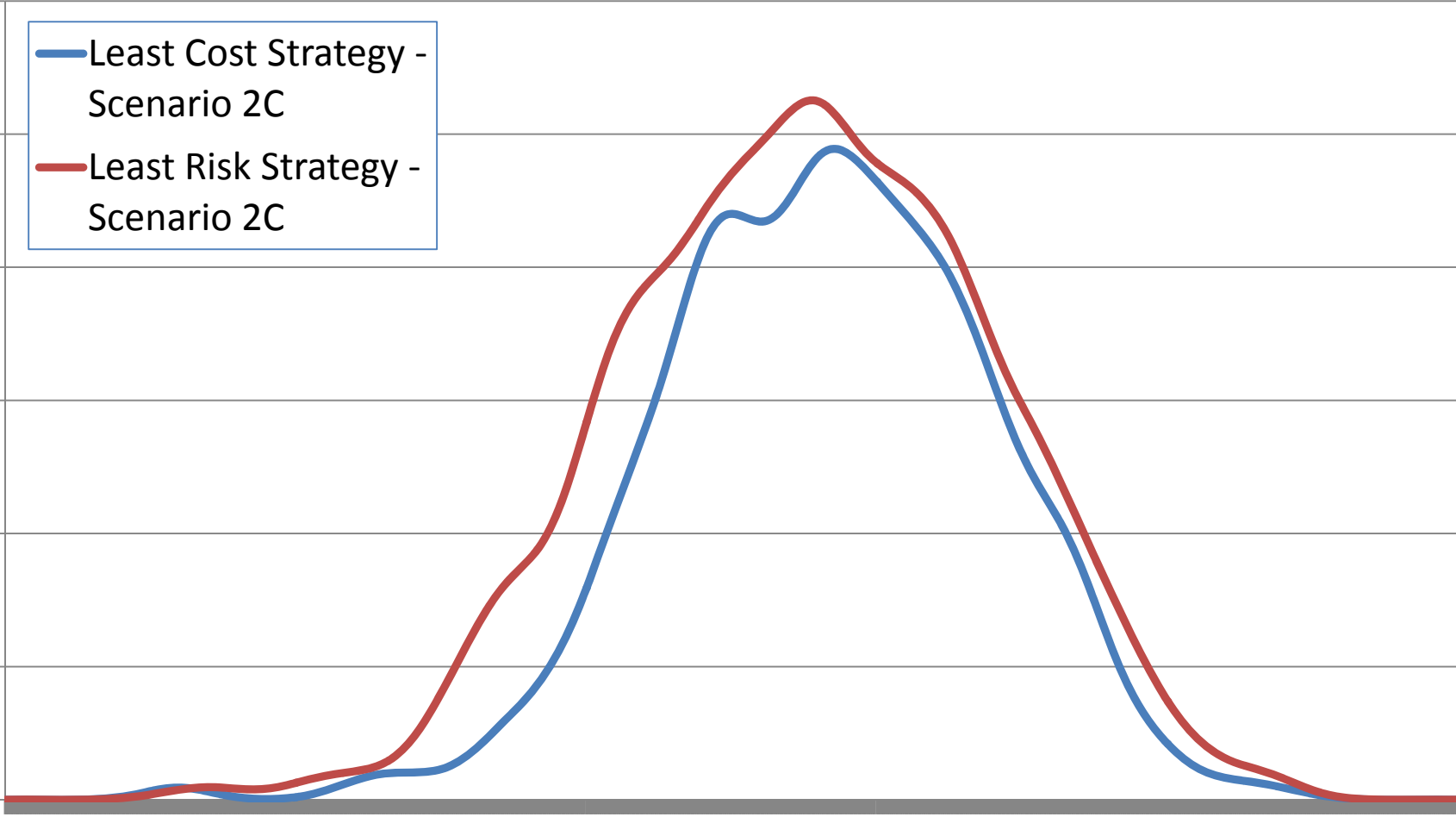
# Cumulative Conservation (aMW) in 2035

- Least Cost Strategy - Scenario 2C
- Least Risk Strategy - Scenario 2C

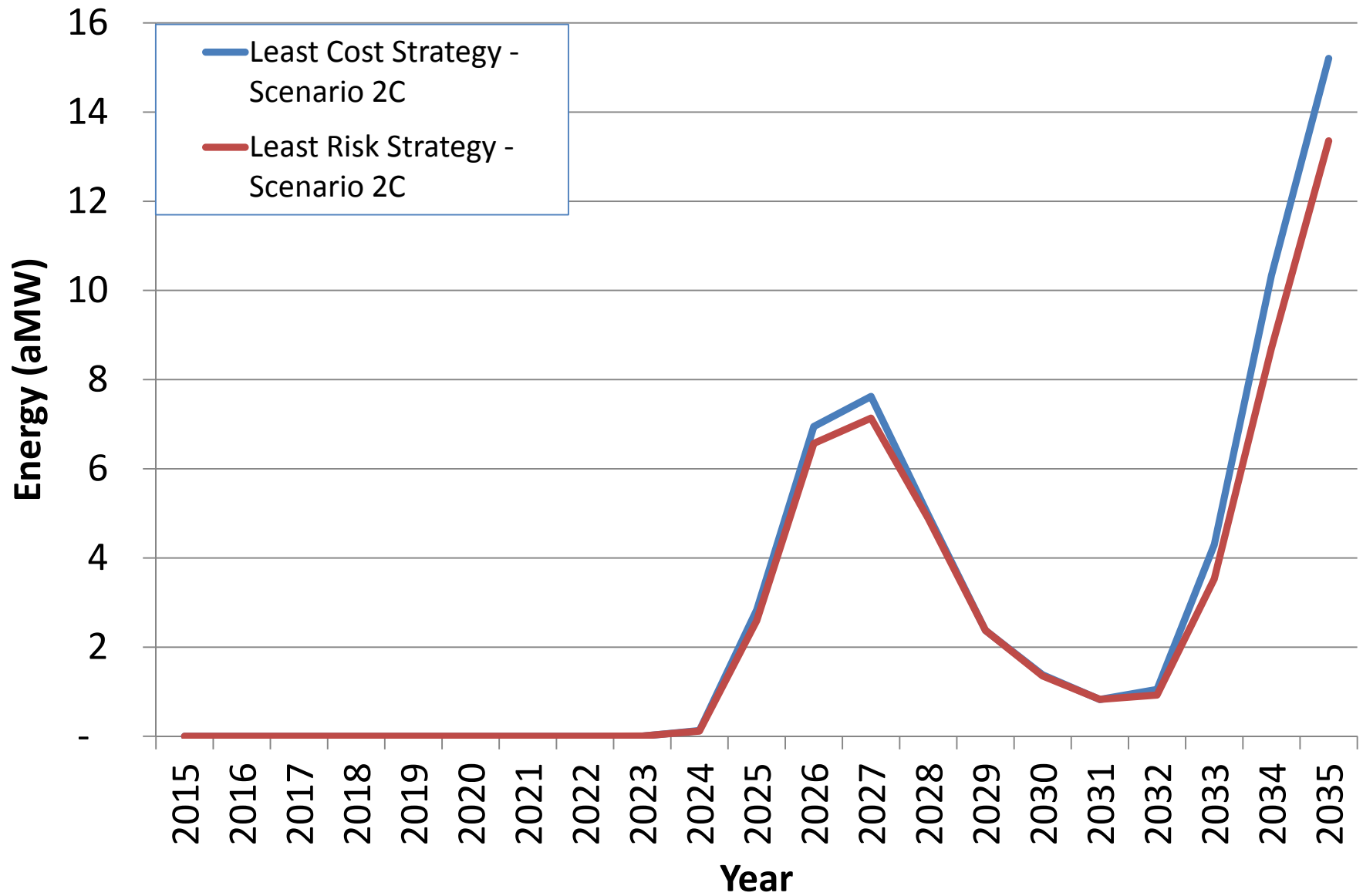
Probability

3,204  
3,250  
3,297  
3,343  
3,389  
3,436  
3,482  
3,528  
3,574  
3,621  
3,667  
3,713  
3,760  
3,806  
3,852  
3,899  
3,945  
3,991  
4,037  
4,084  
4,130  
4,176  
4,223  
4,269  
4,315

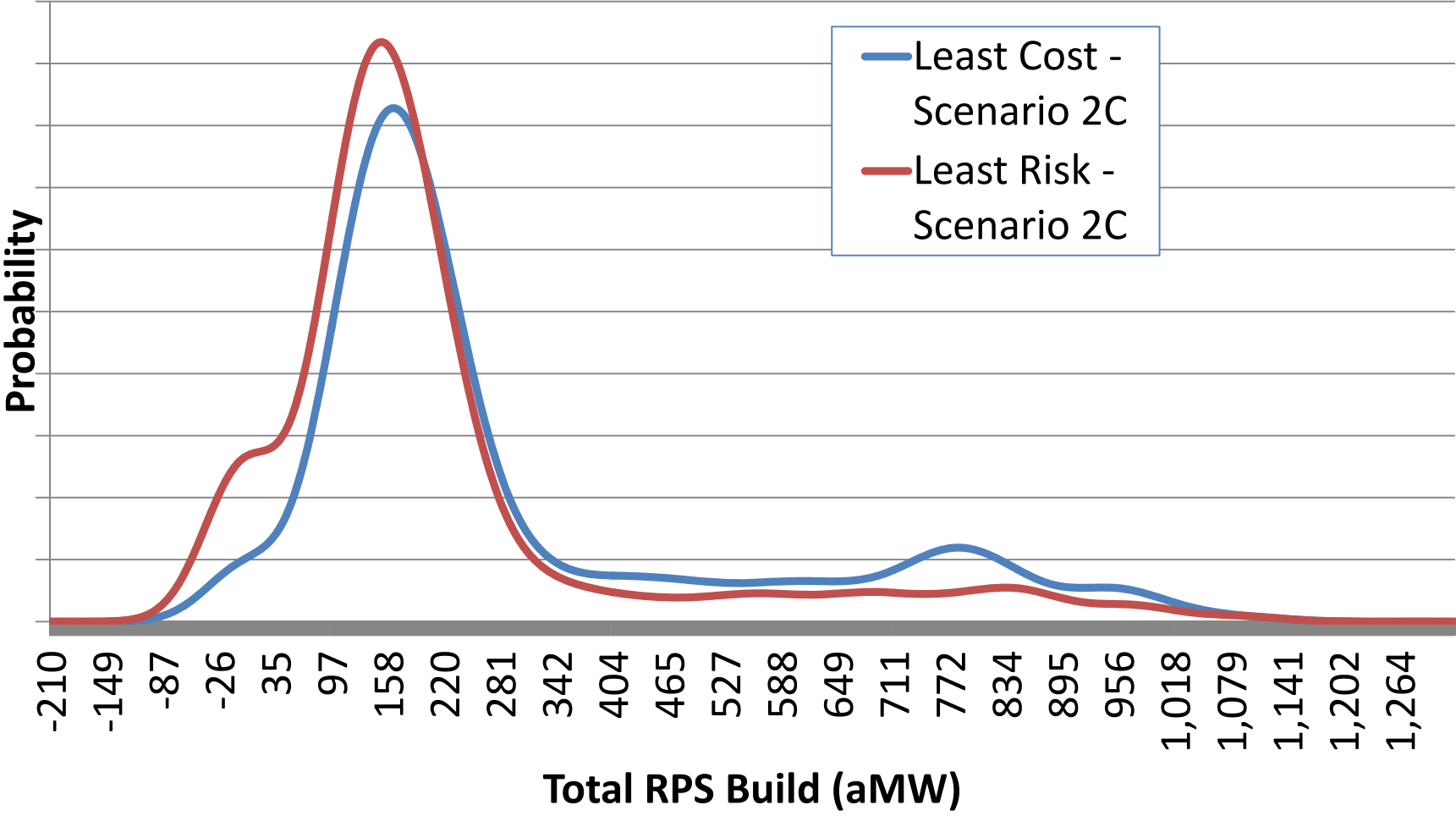
Cumulative Conservation (aMW) in 2035



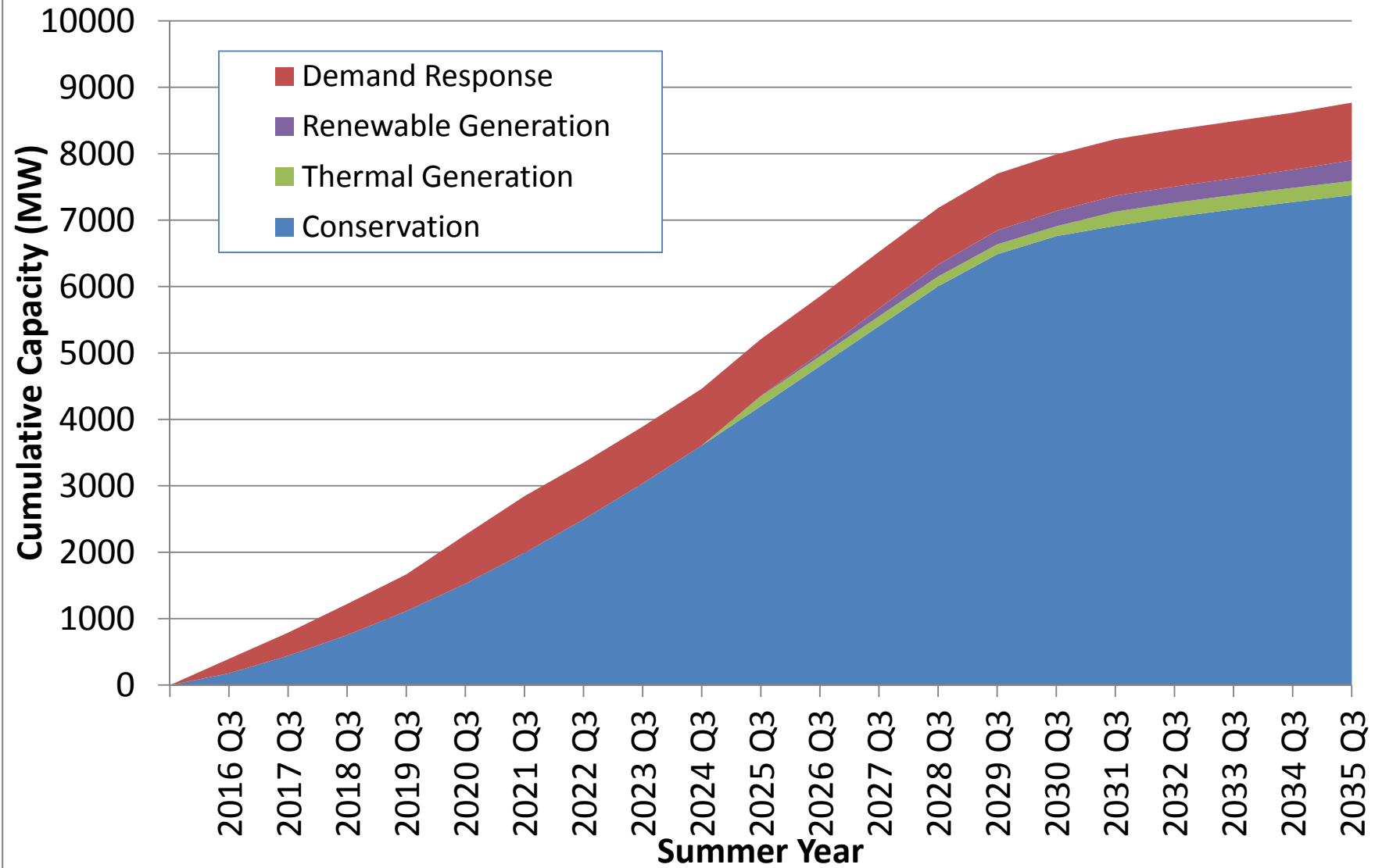
## Total RPS Average Additions (aMW)



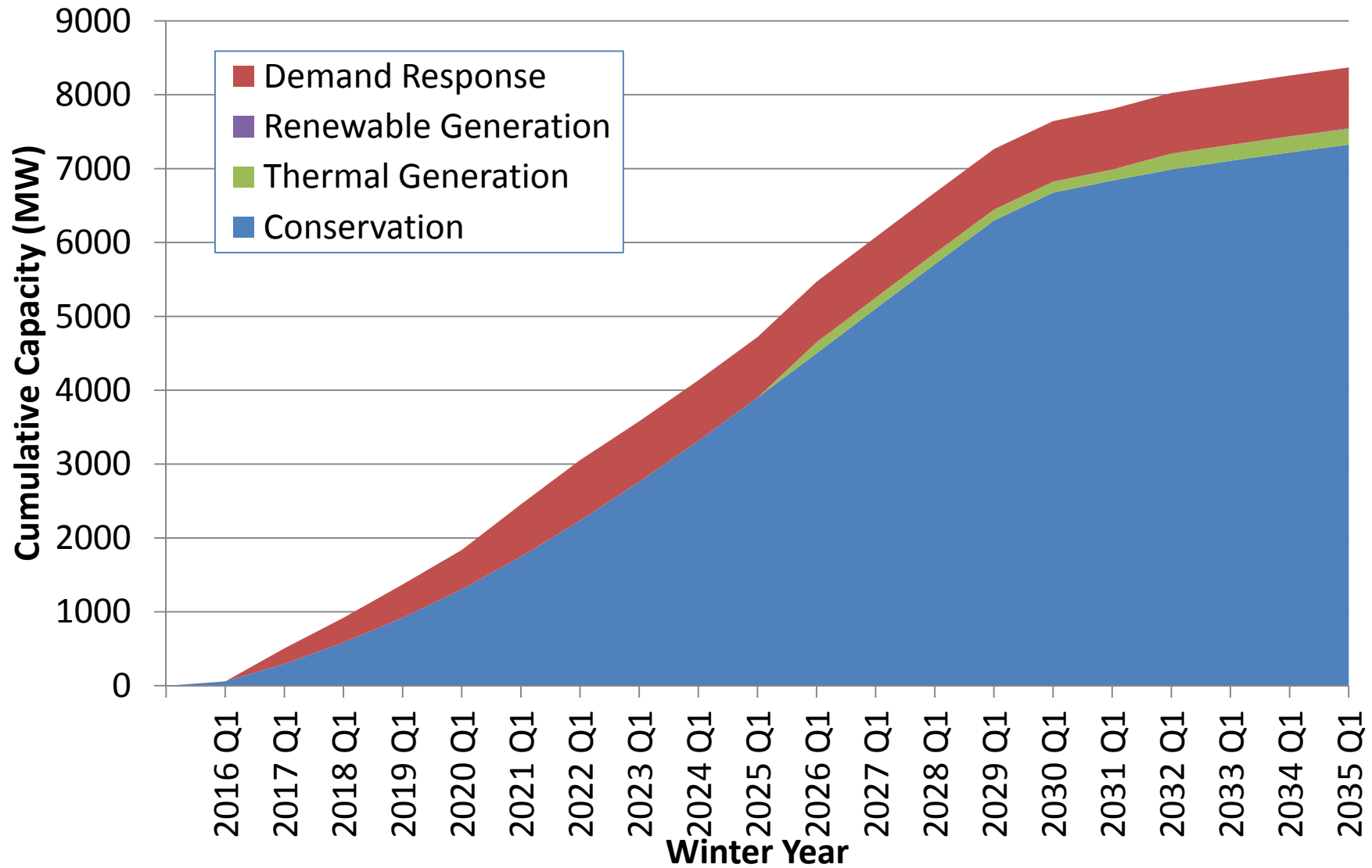
# Total RPS Build (aMW) by Q4 2035



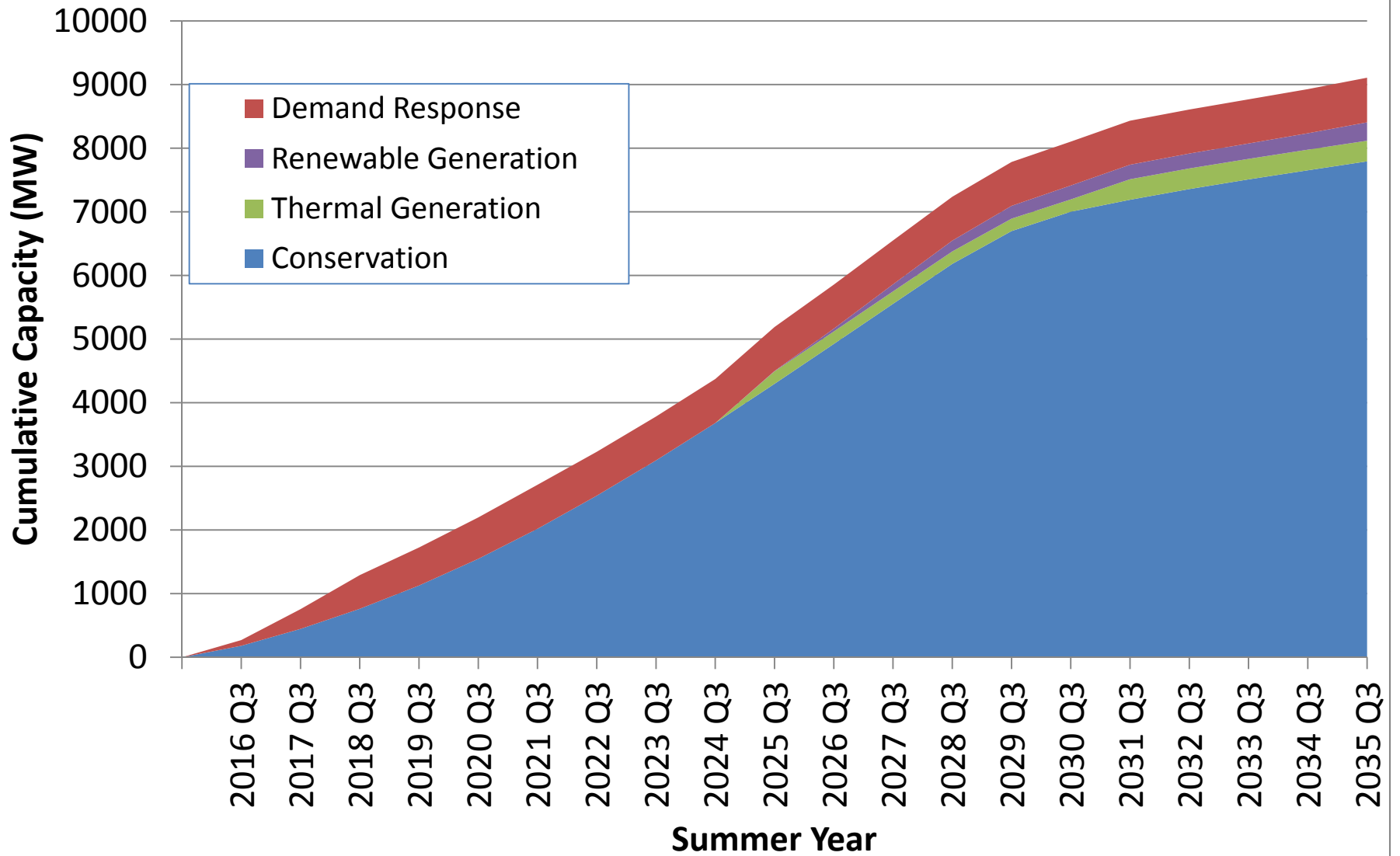
## Summer Peaking Capacity of New Resources - Least Cost Strategy Scenario 2C



## Winter Peaking Capacity of New Resources - Least Cost Strategy Scenario 2C

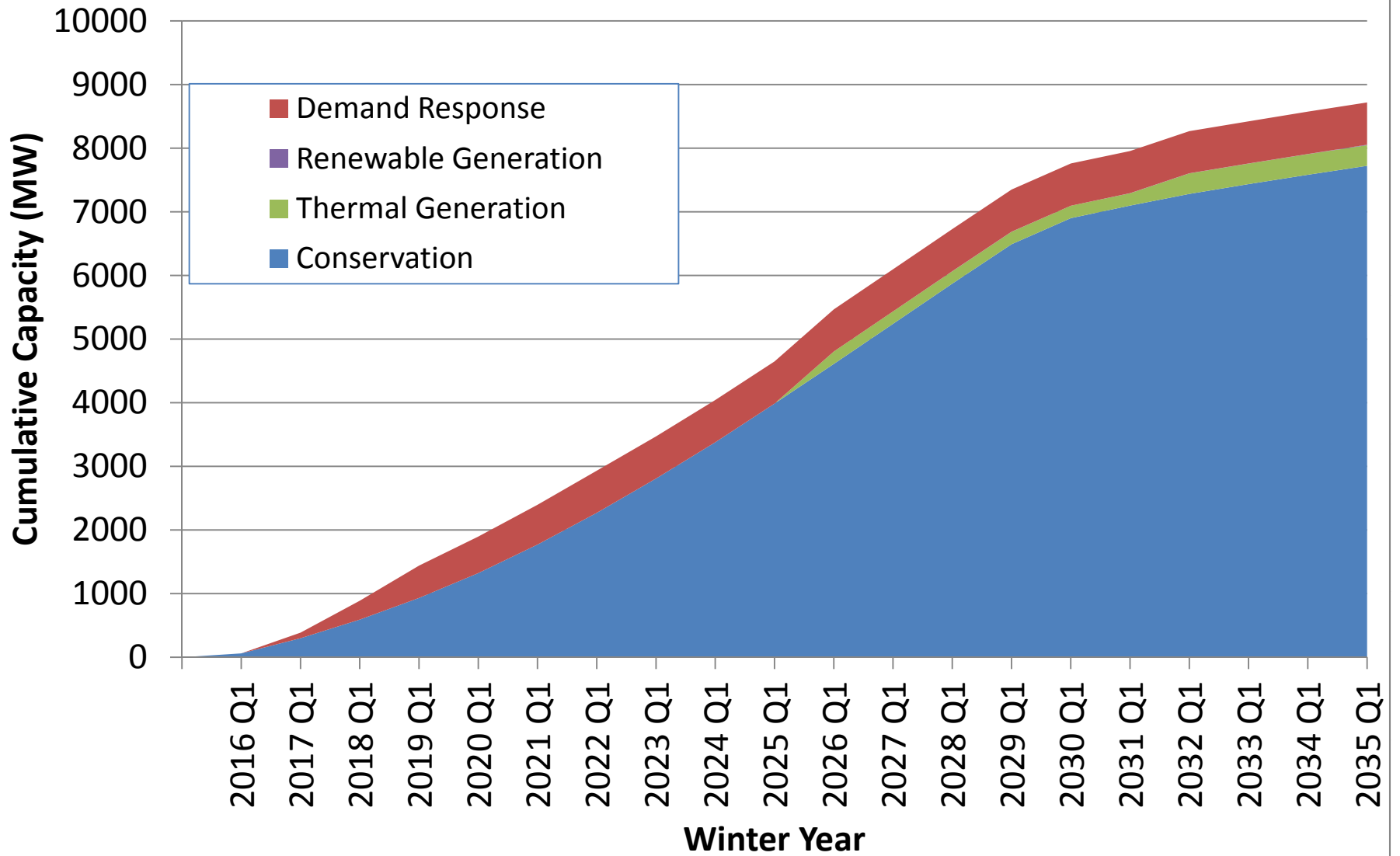


## Summer Peaking Capacity of New Resources - Least Risk Strategy Scenario 2C

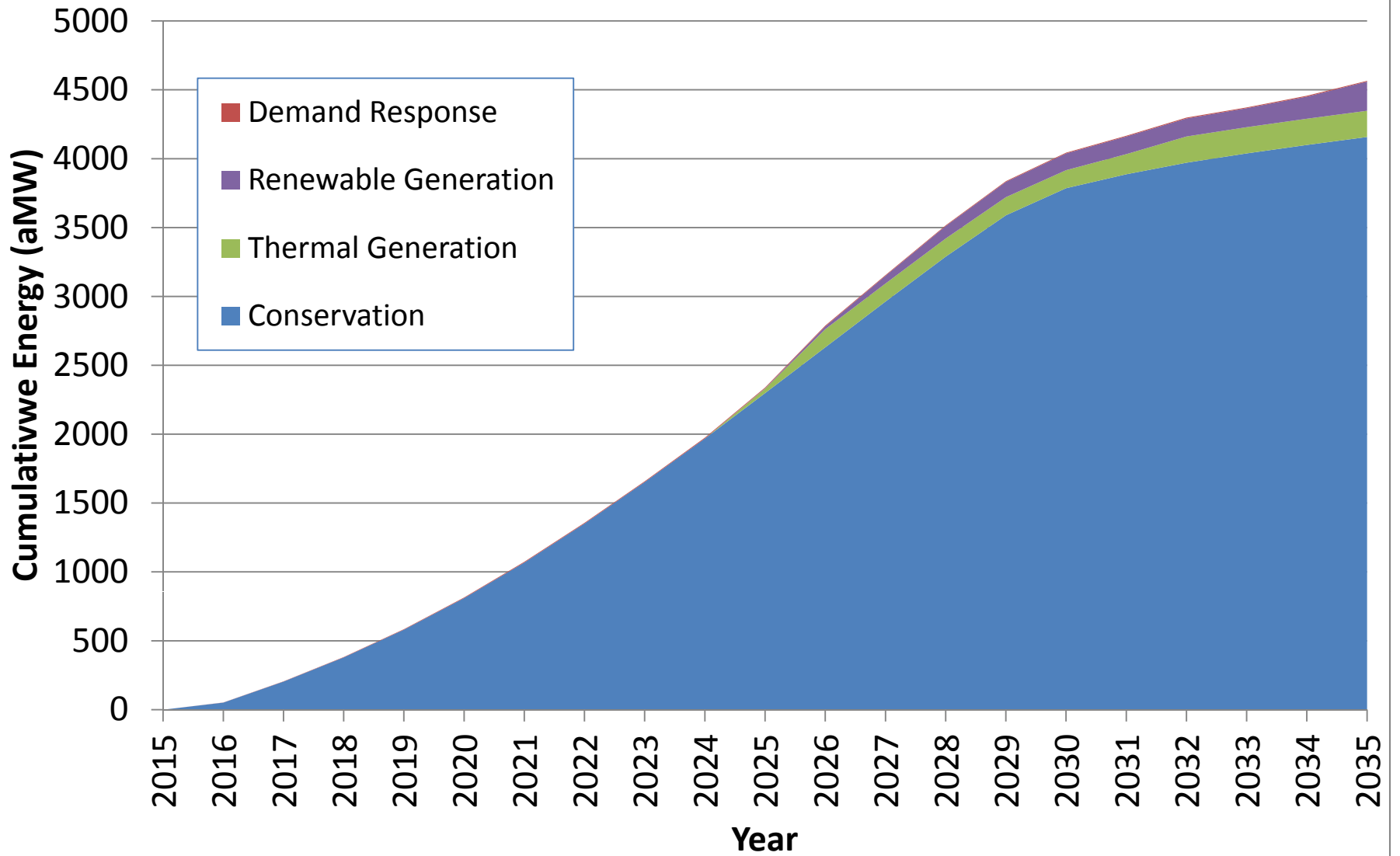




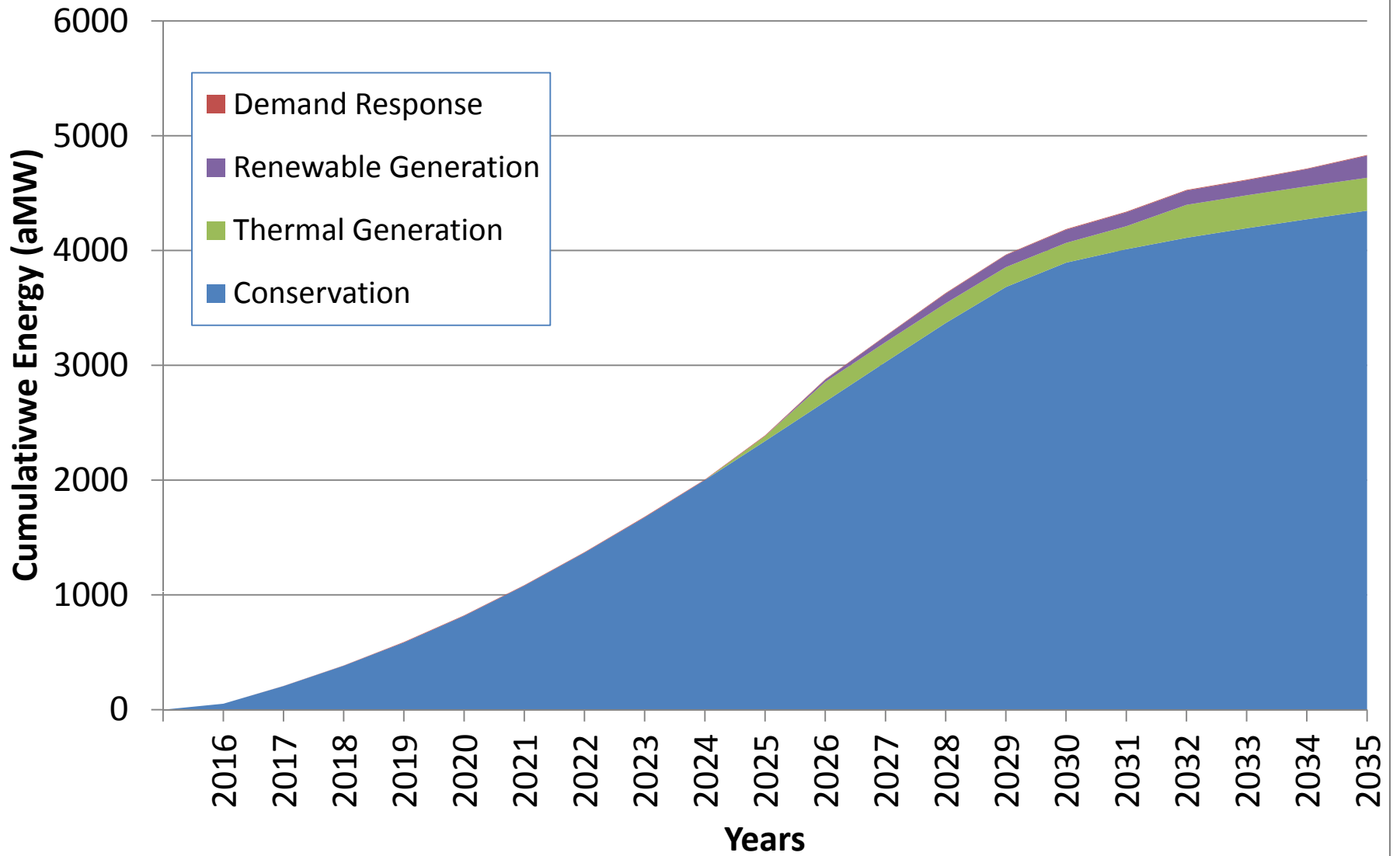
## Winter Peaking Capacity of New Resources - Least Risk Strategy Scenario 2C



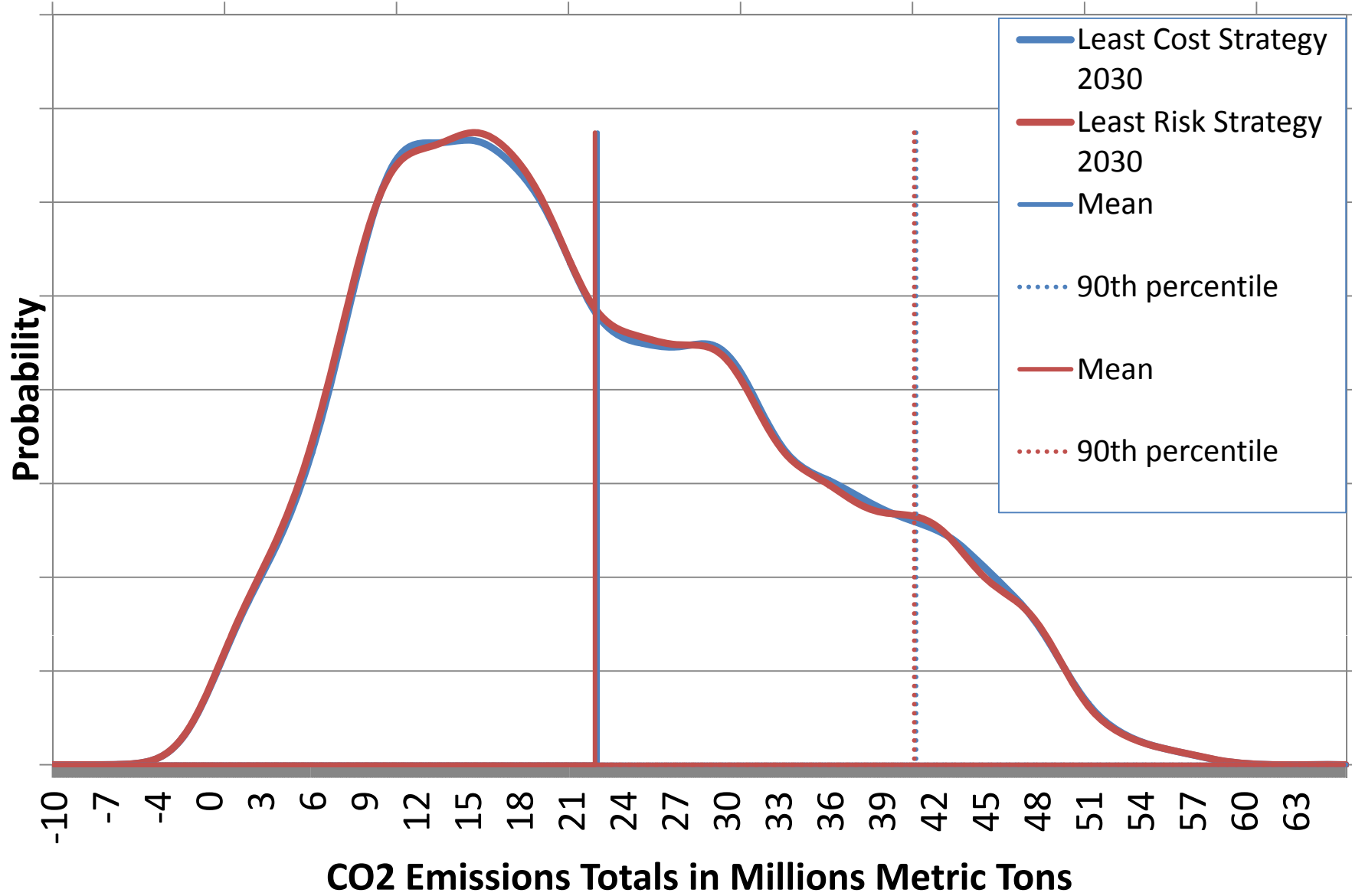
## Cumulative Energy of New Resources - Least Cost Strategy Scenario 2C



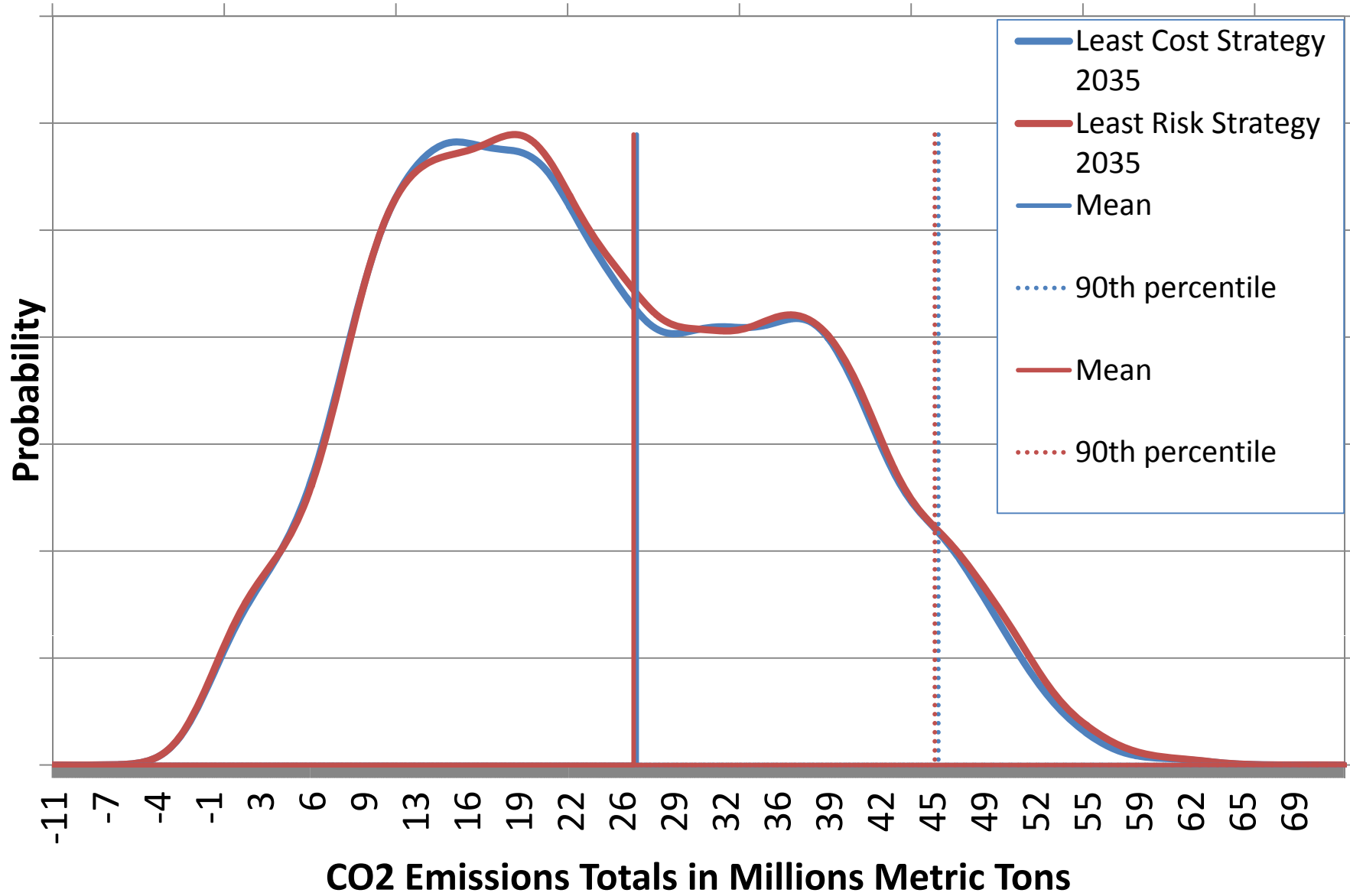
## Cumulative Energy of New Resources - Least Risk Strategy Scenario 2C



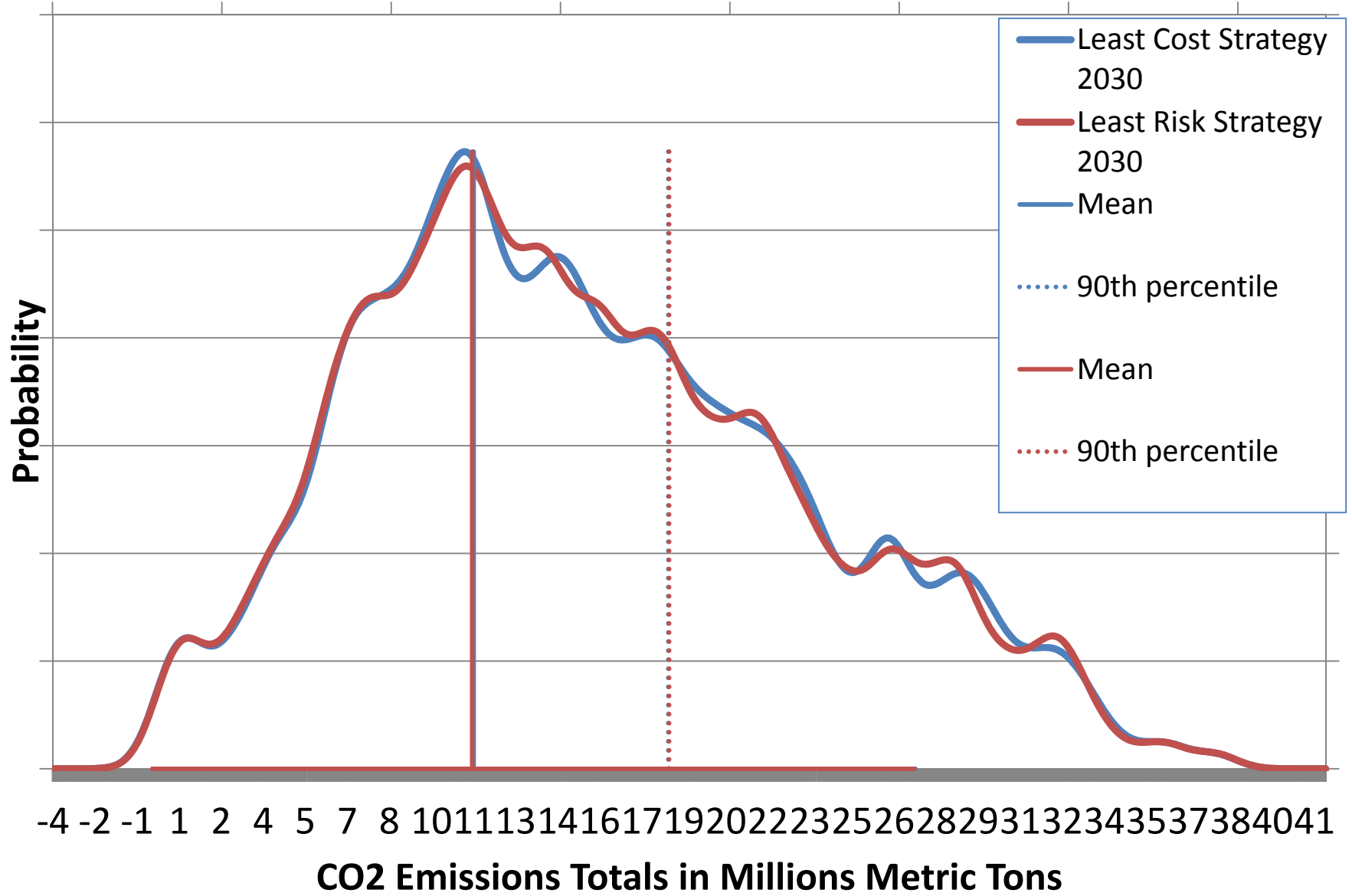
# Least Cost Strategy vs Least Risk Strategy - Scenario 2C



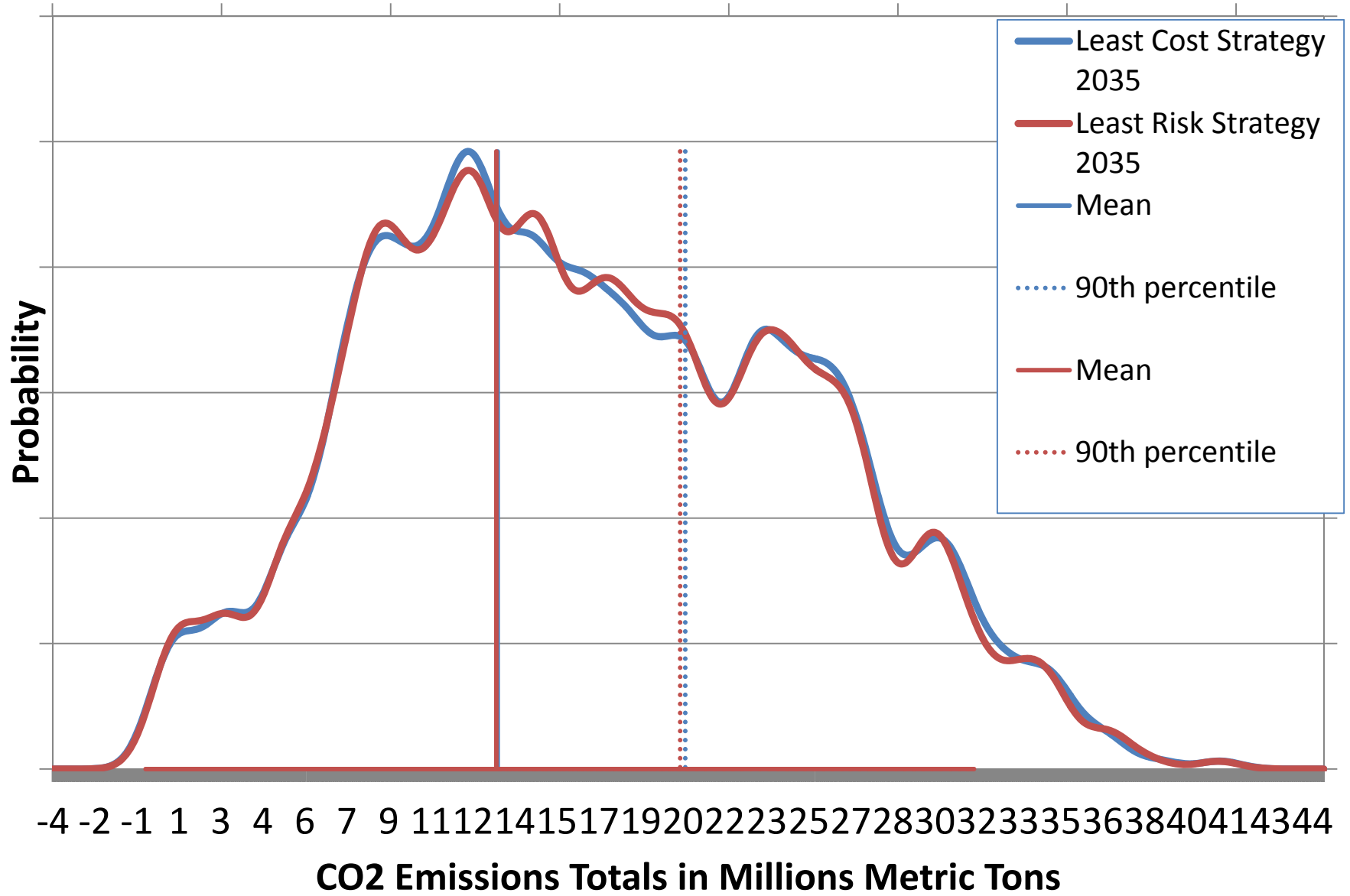
# Least Cost Strategy vs Least Risk Strategy - Scenario 2C



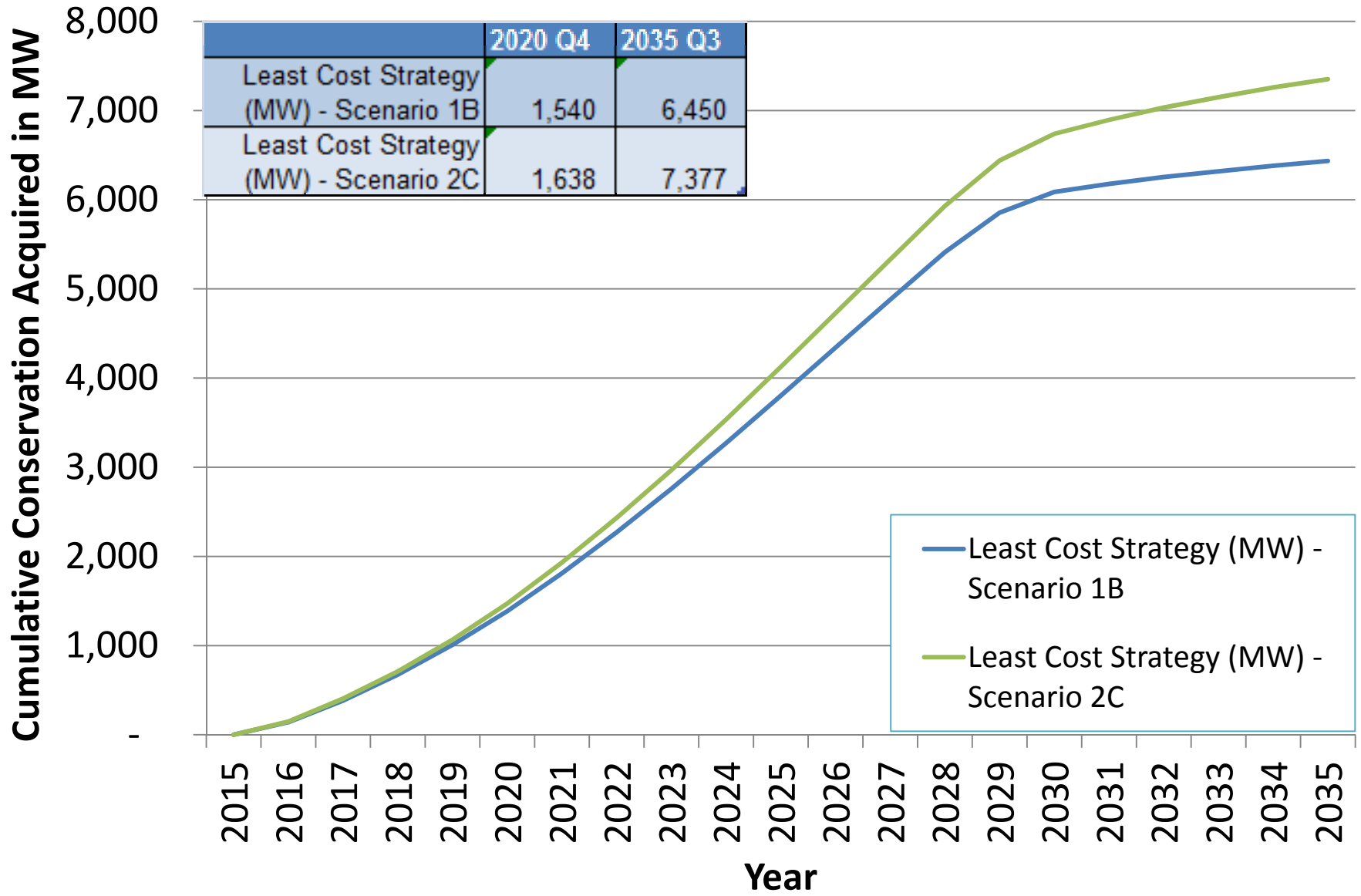
# Least Cost Strategy vs Least Risk Strategy - Scenario 2C



# Least Cost Strategy vs Least Risk Strategy - Scenario 2C

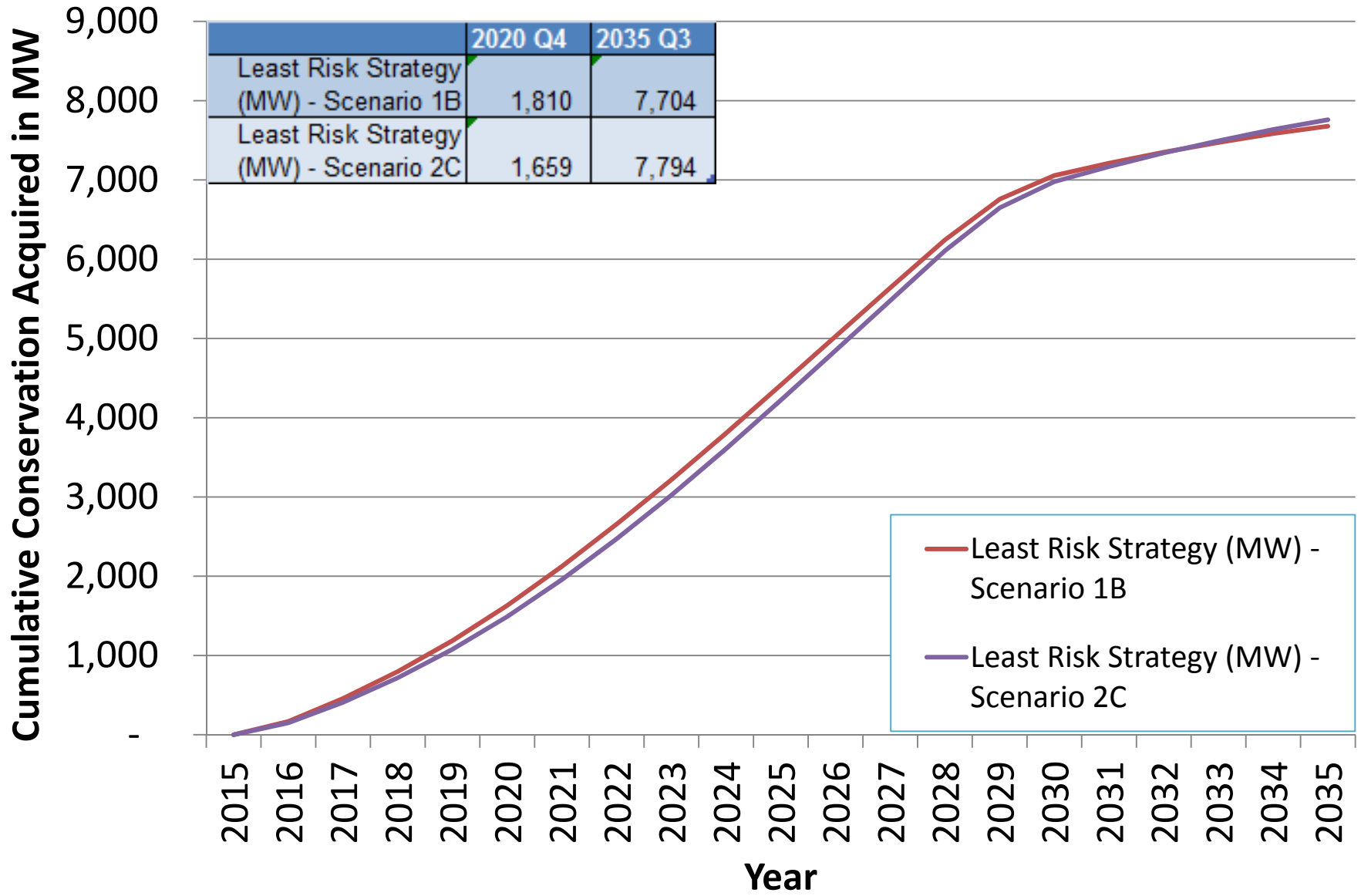


# Cumulative Conservation (MW)





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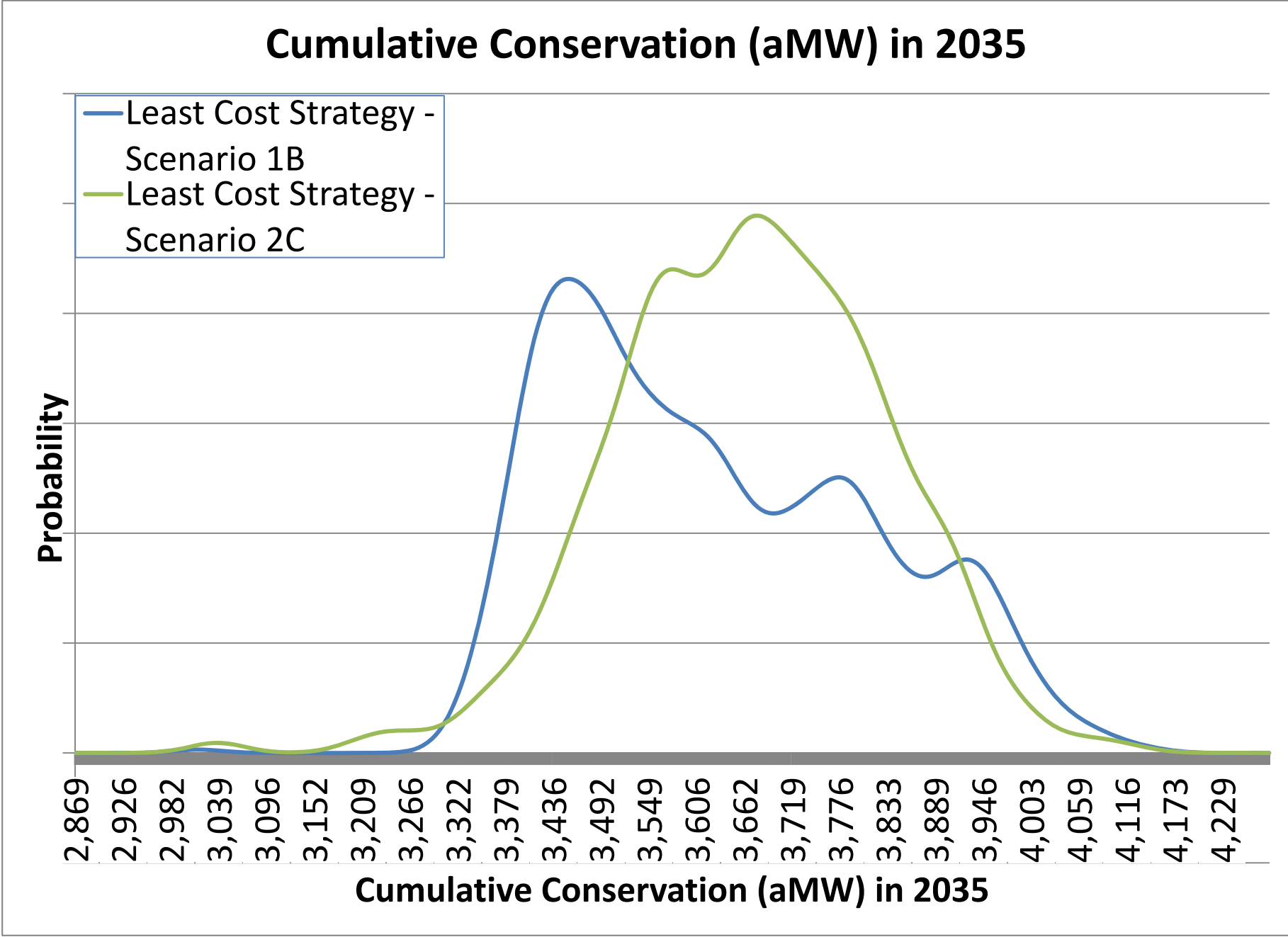
# Cumulative Conservation (aMW) in 2035

- Least Cost Strategy - Scenario 1B
- Least Cost Strategy - Scenario 2C

Probability

2,869  
2,926  
2,982  
3,039  
3,096  
3,152  
3,209  
3,266  
3,322  
3,379  
3,436  
3,492  
3,549  
3,606  
3,662  
3,719  
3,776  
3,833  
3,889  
3,946  
4,003  
4,059  
4,116  
4,173  
4,229

Cumulative Conservation (aMW) in 2035



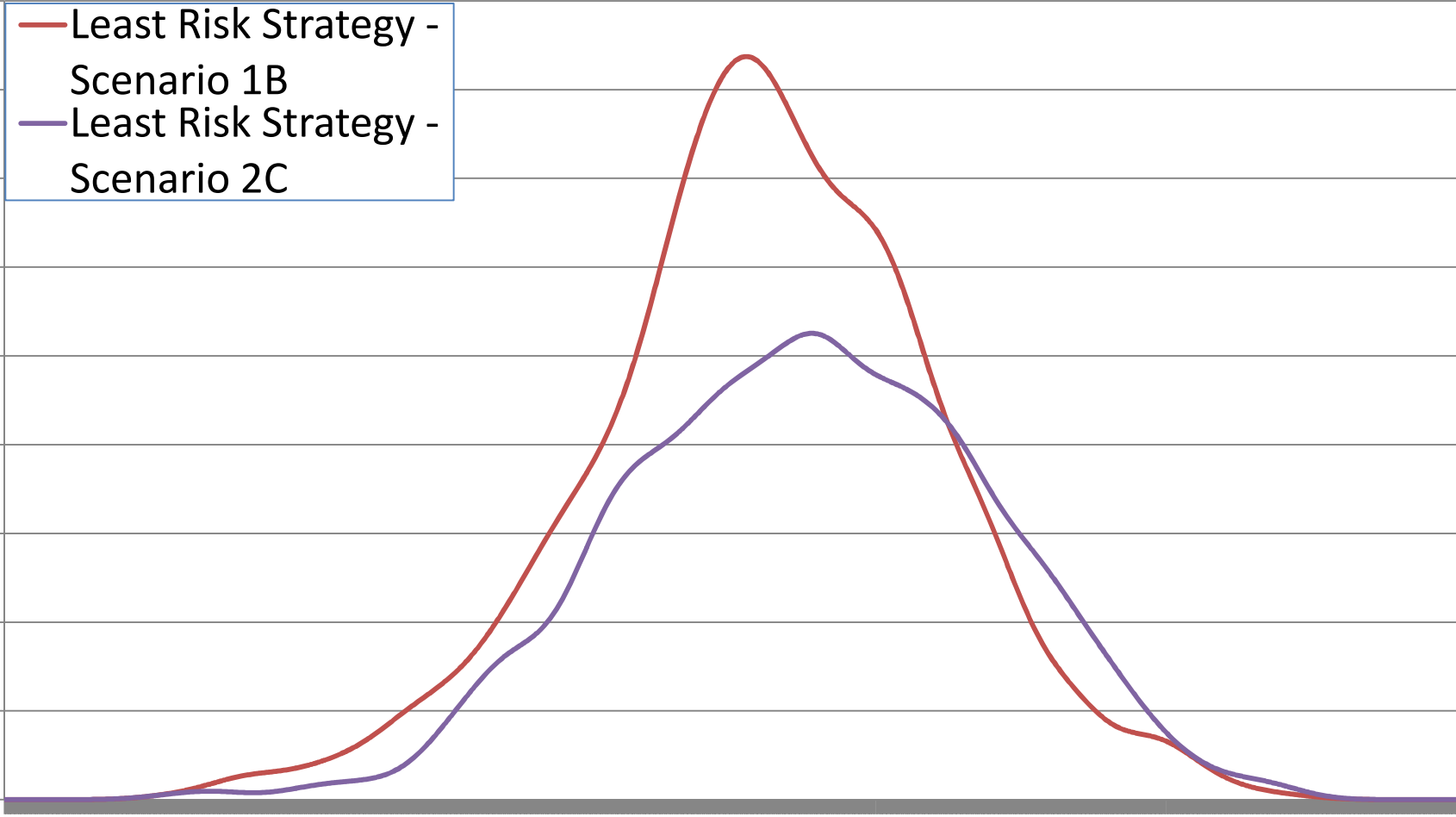
# Cumulative Conservation (aMW) in 2035

- Least Risk Strategy - Scenario 1B
- Least Risk Strategy - Scenario 2C

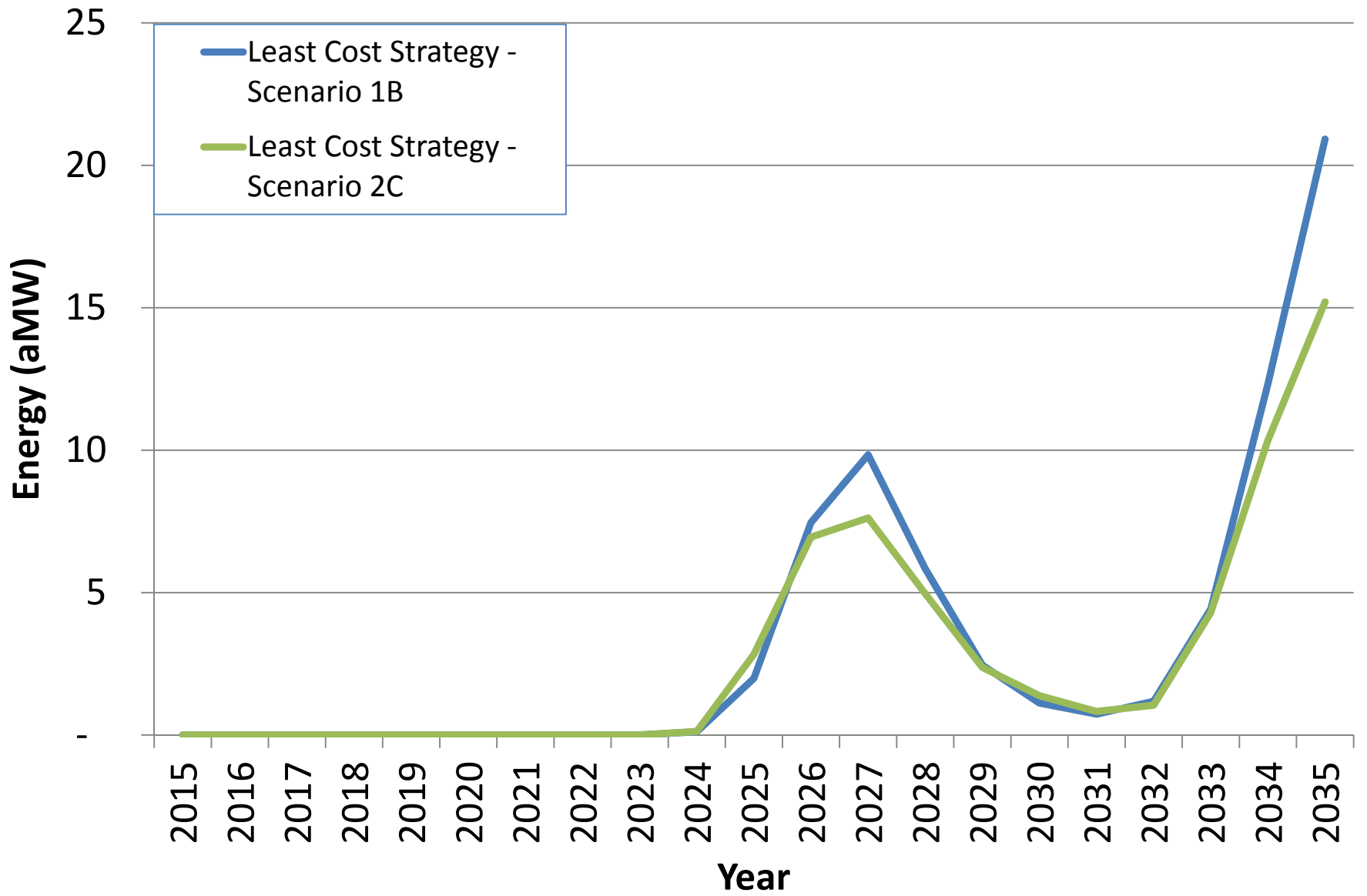
Probability

3,204  
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3,297  
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4,269  
4,315

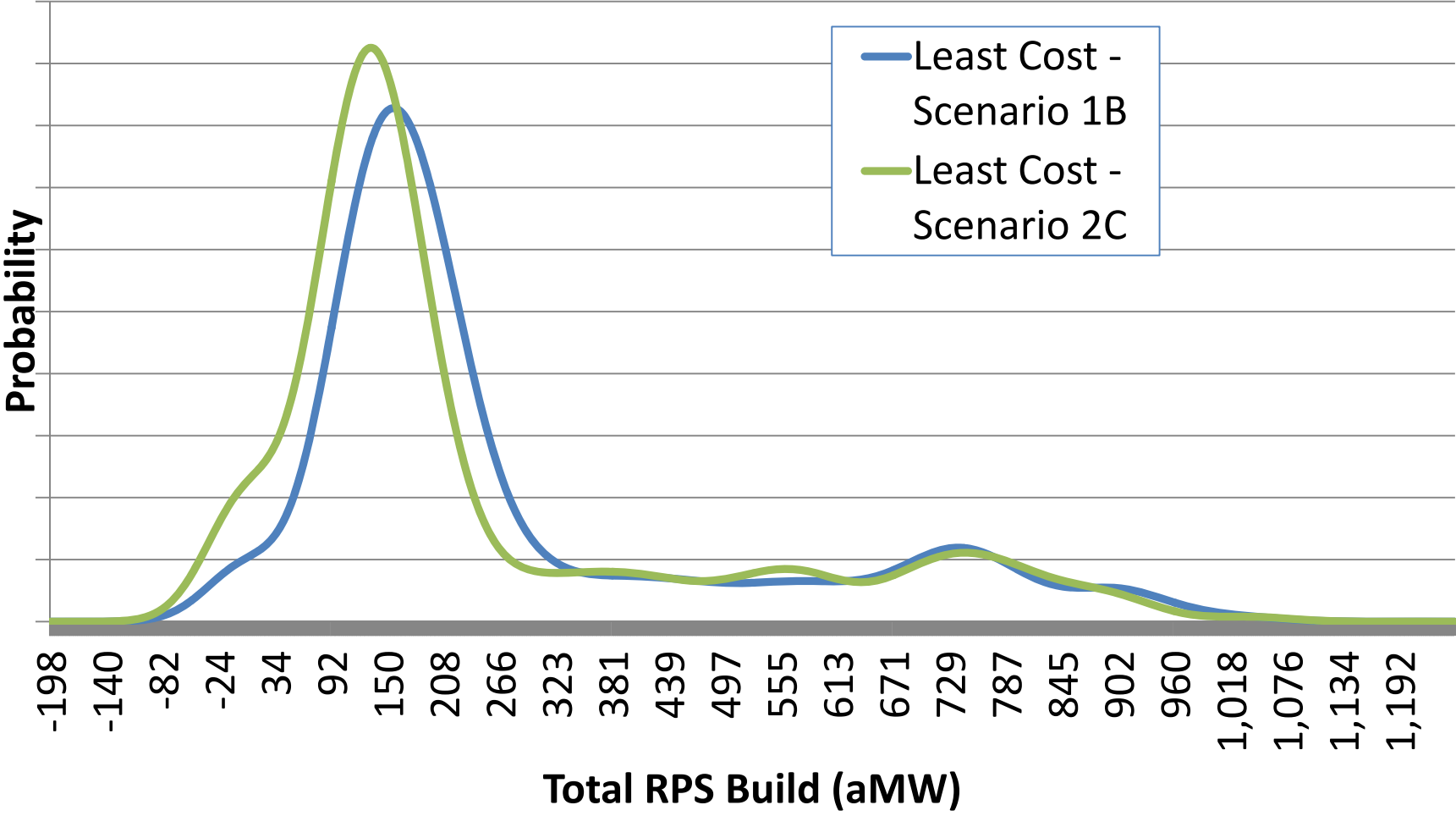
Cumulative Conservation (aMW) in 2035



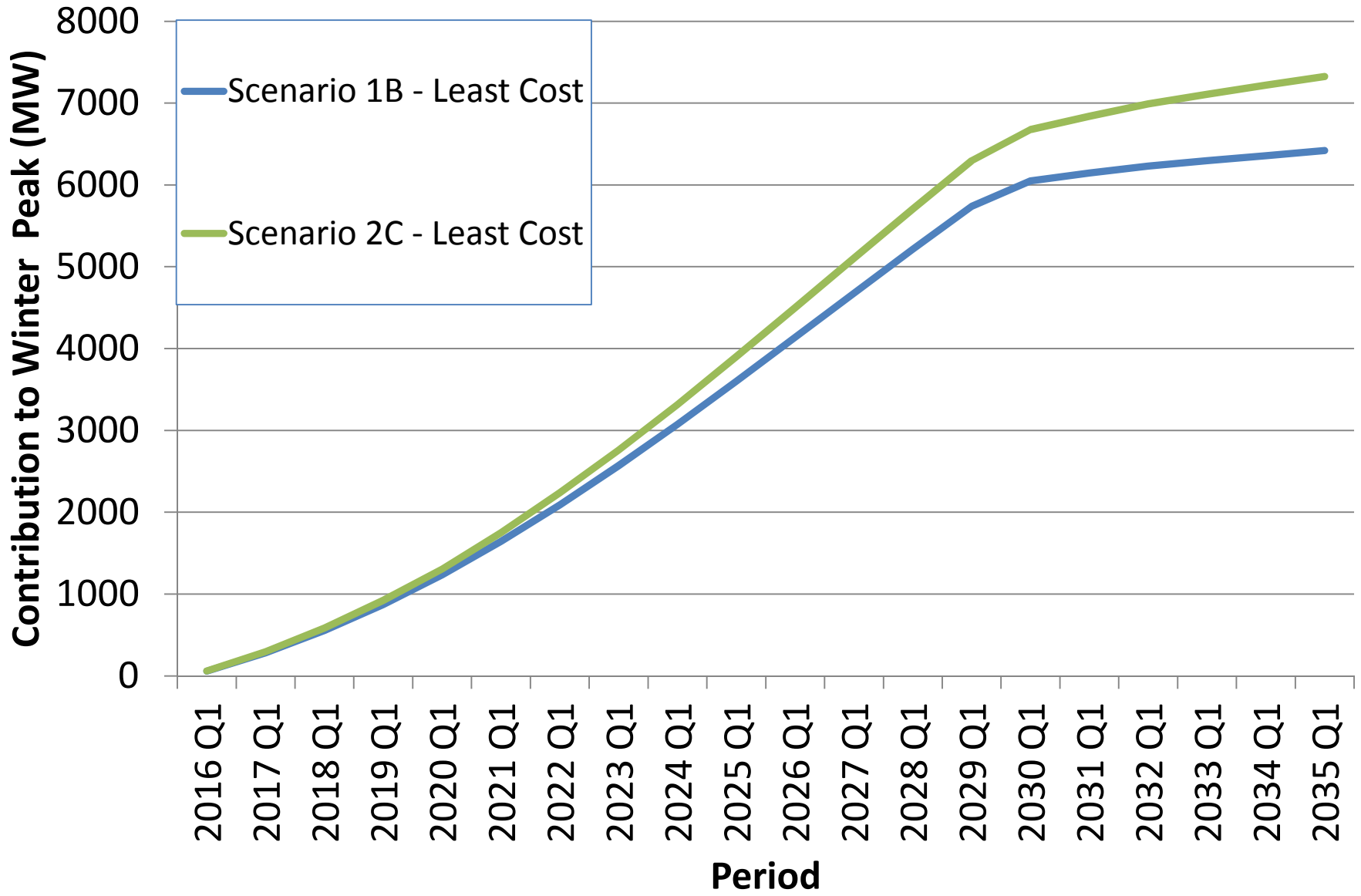
## Total RPS Average Additions (aMW)



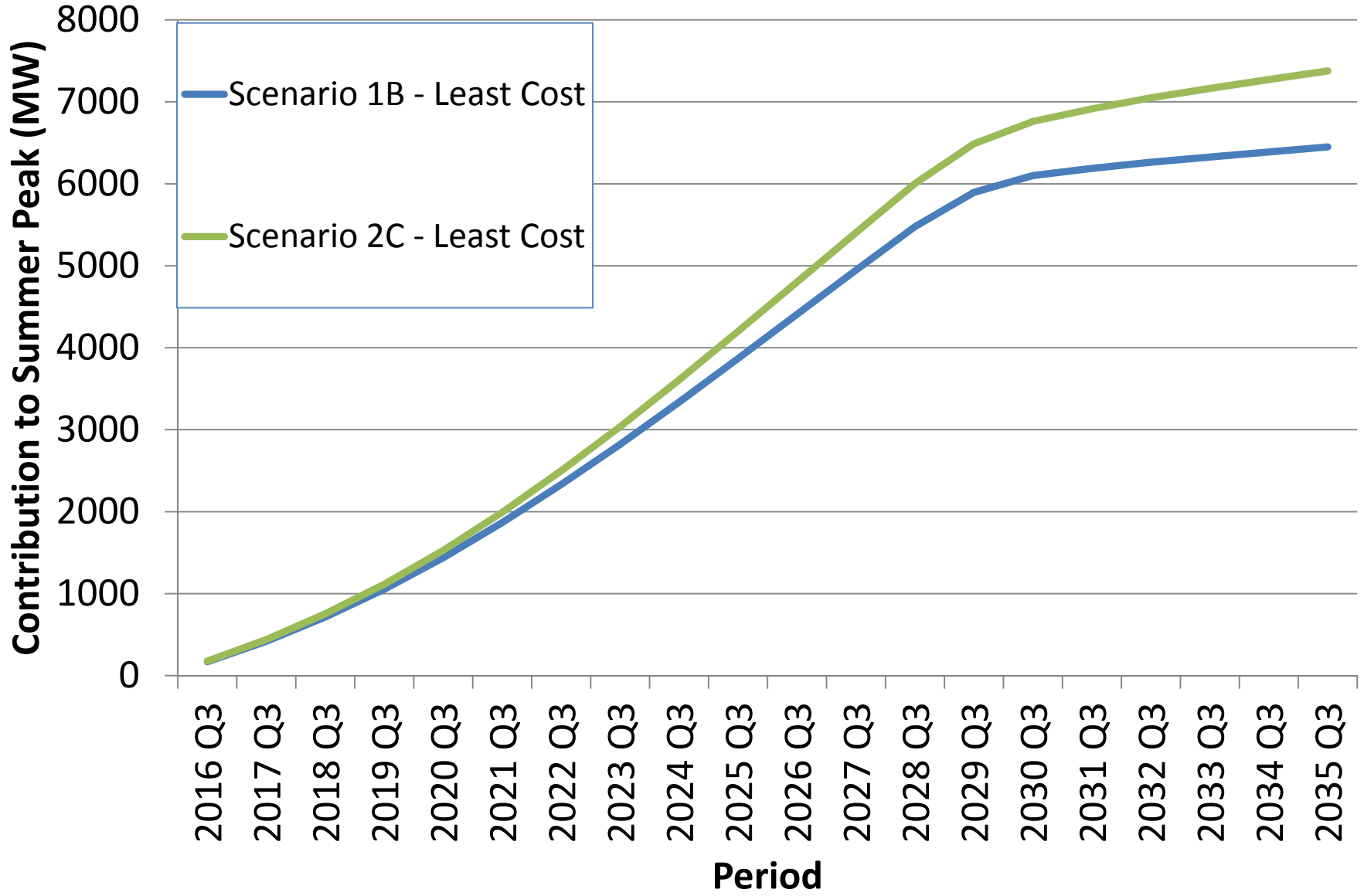
# Total RPS Build (aMW) by Q4 2035



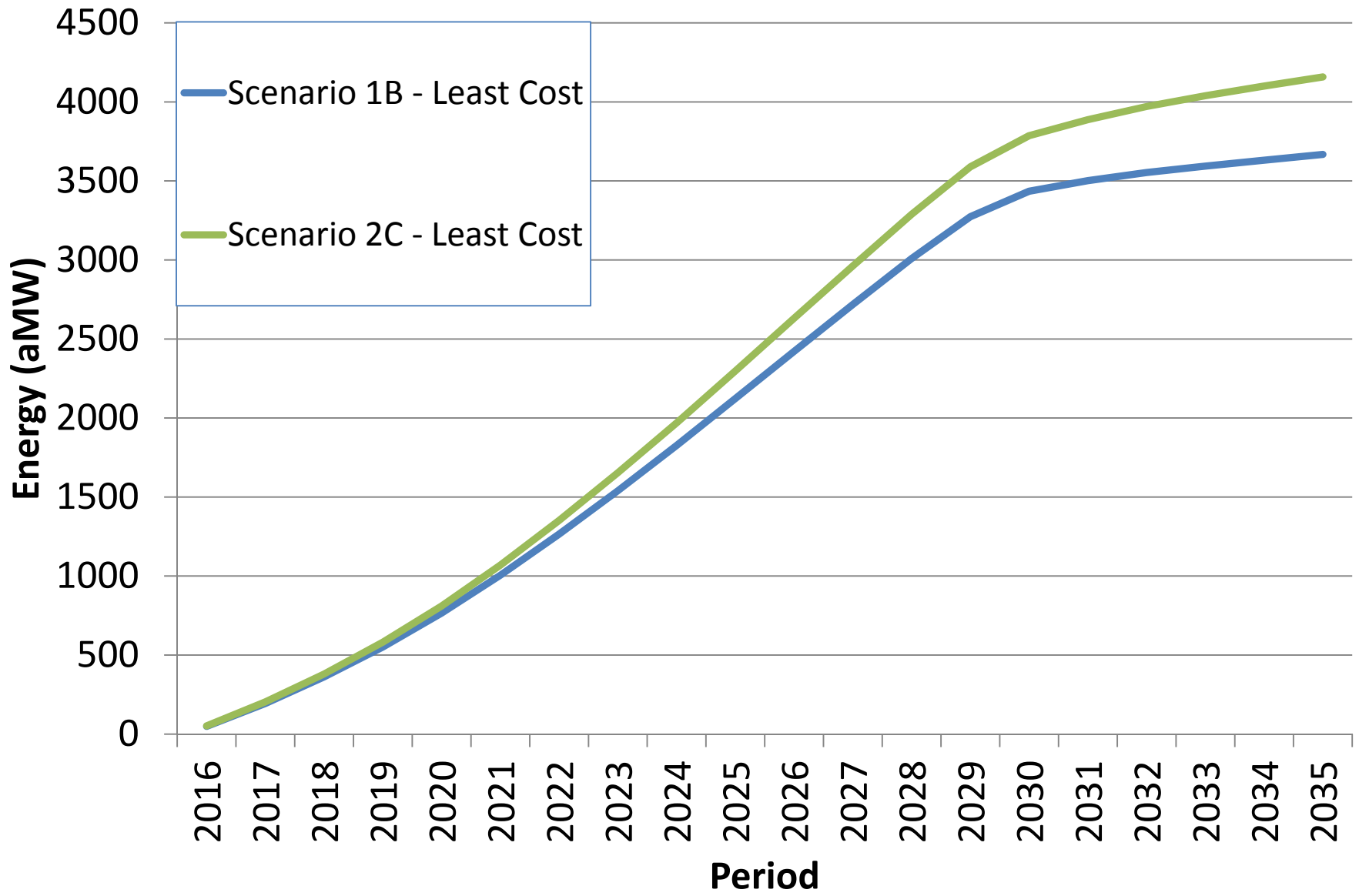
# Cumulative Conservation



# Cumulative Conservation

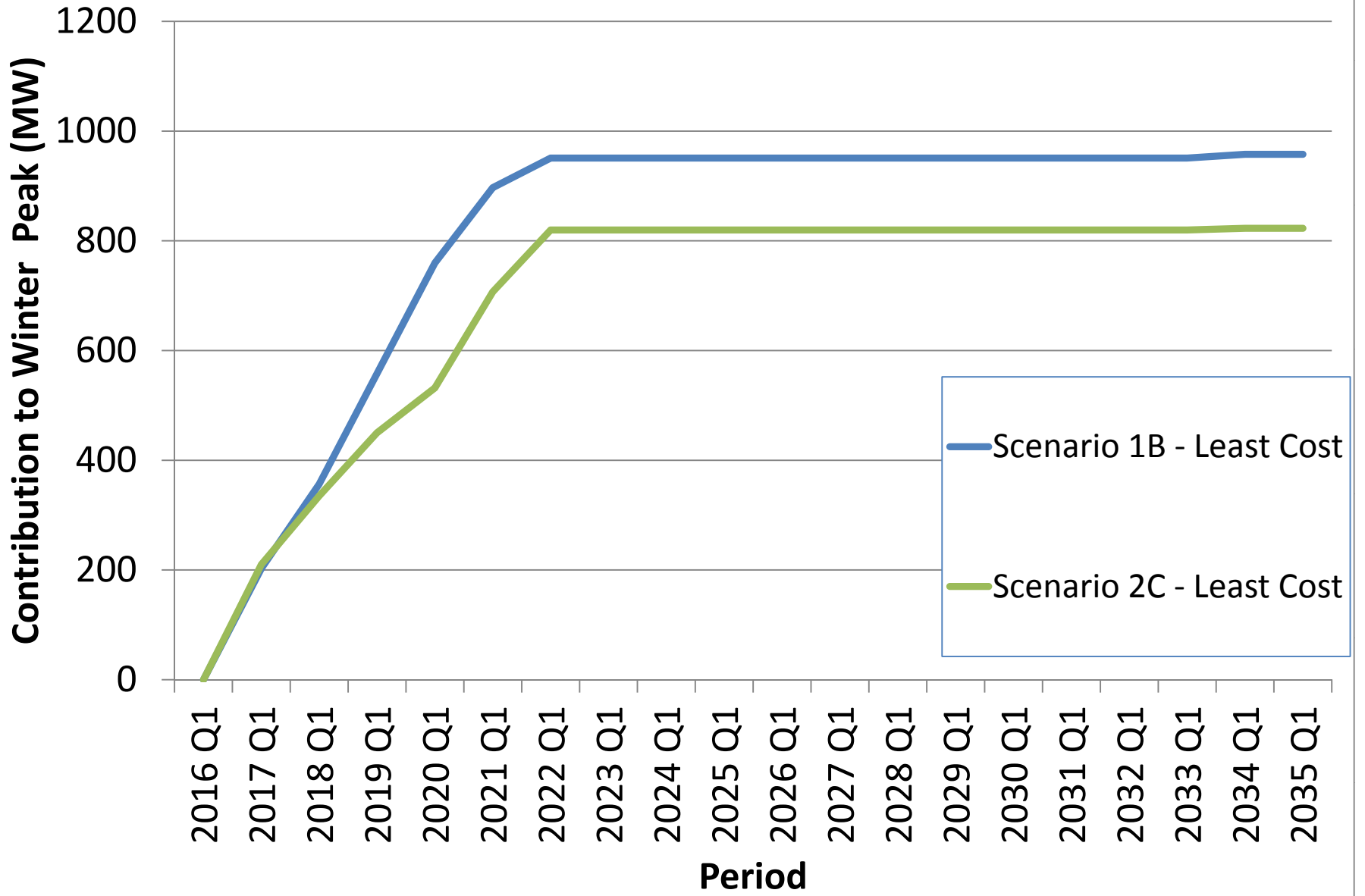


# Cumulative Conservation

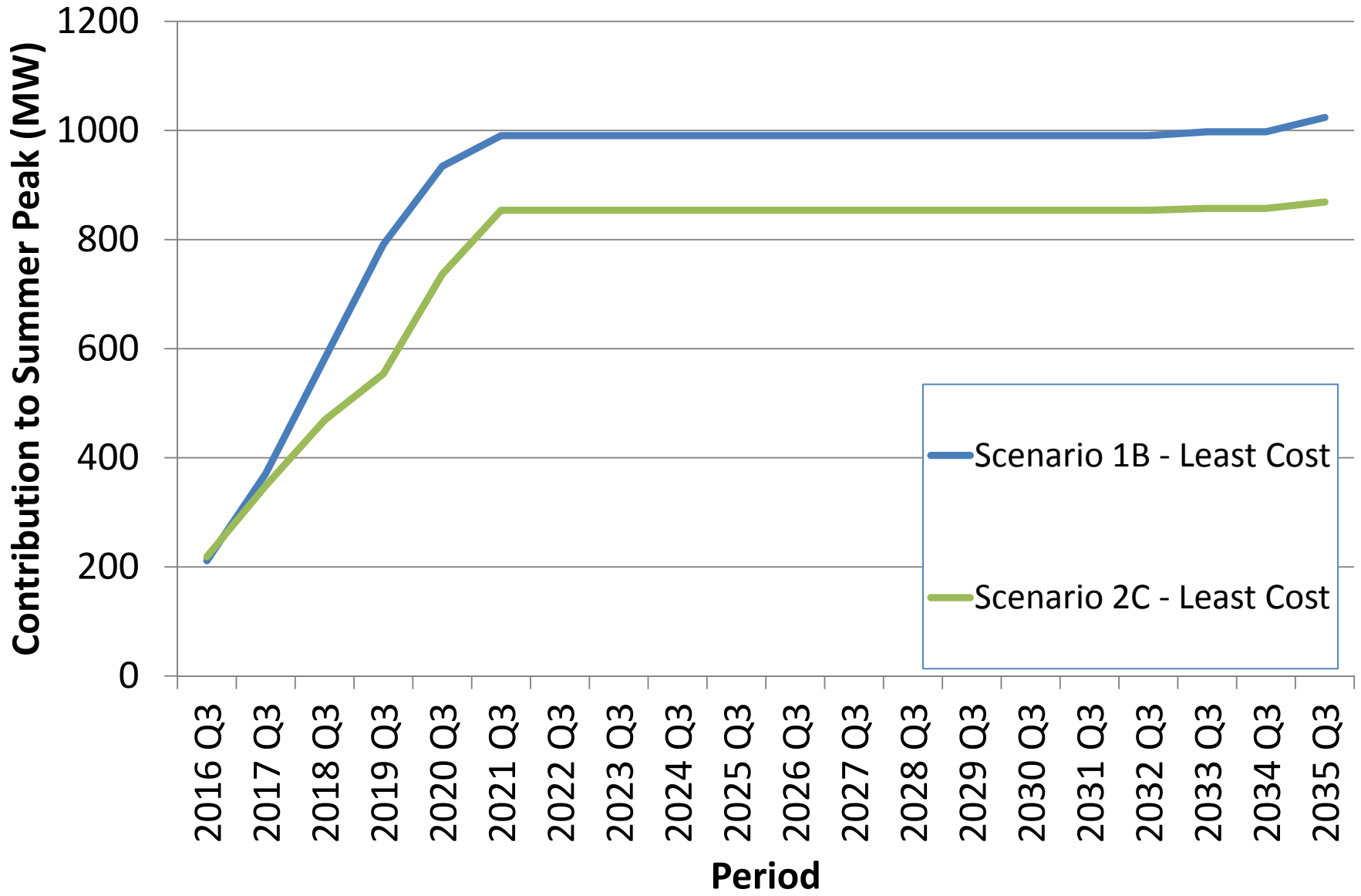




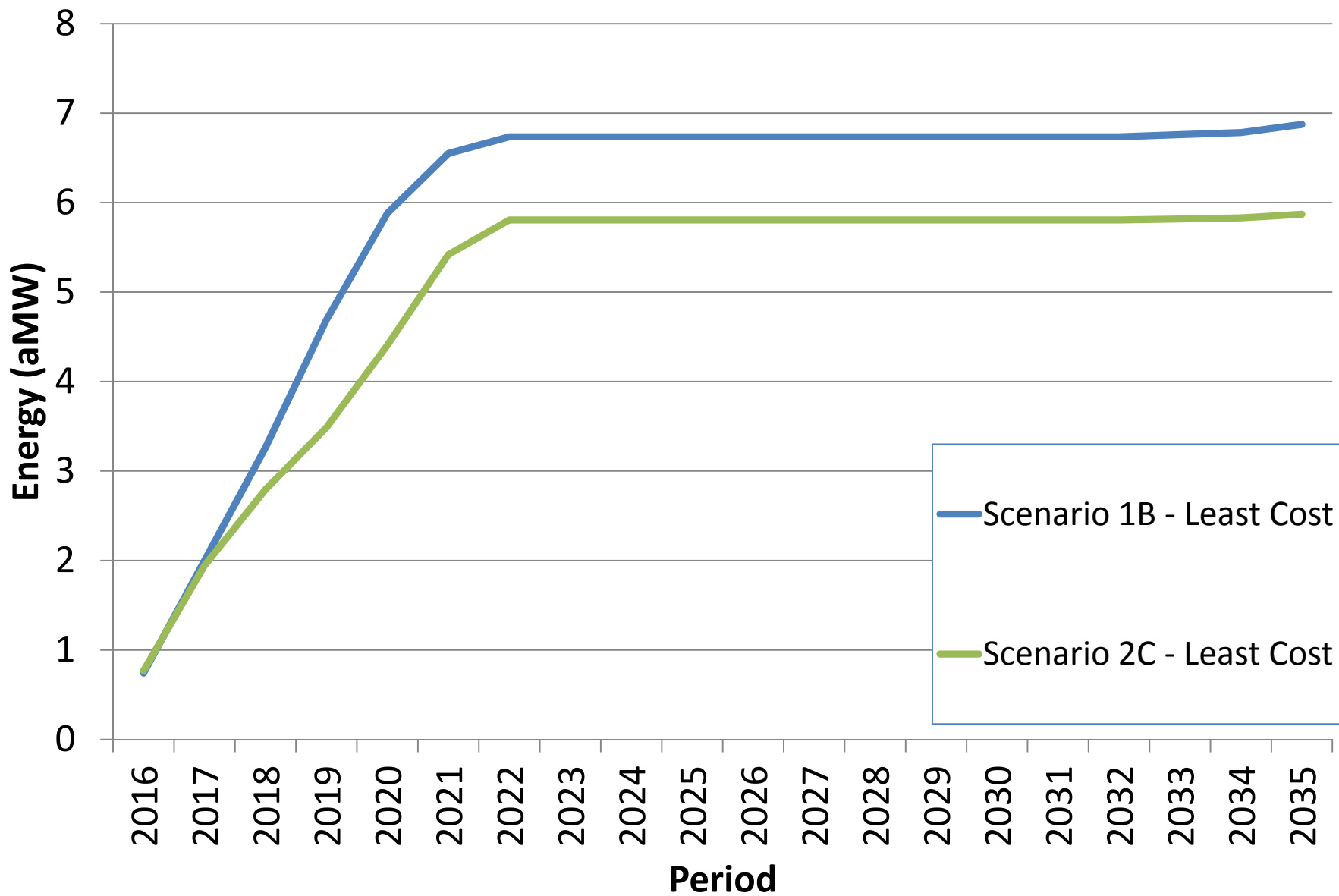
### Cumulative Demand Response



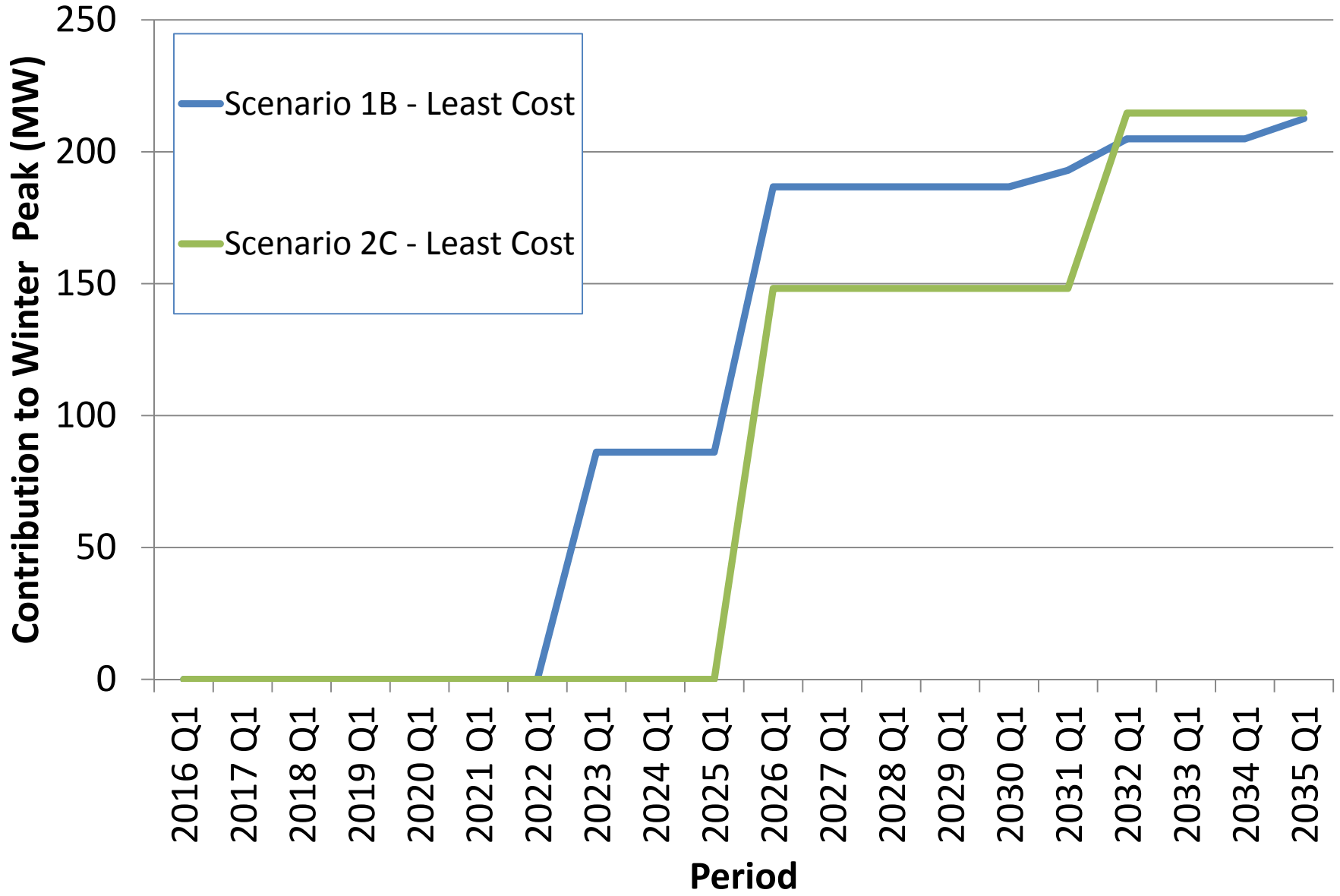
# Cumulative Demand Response



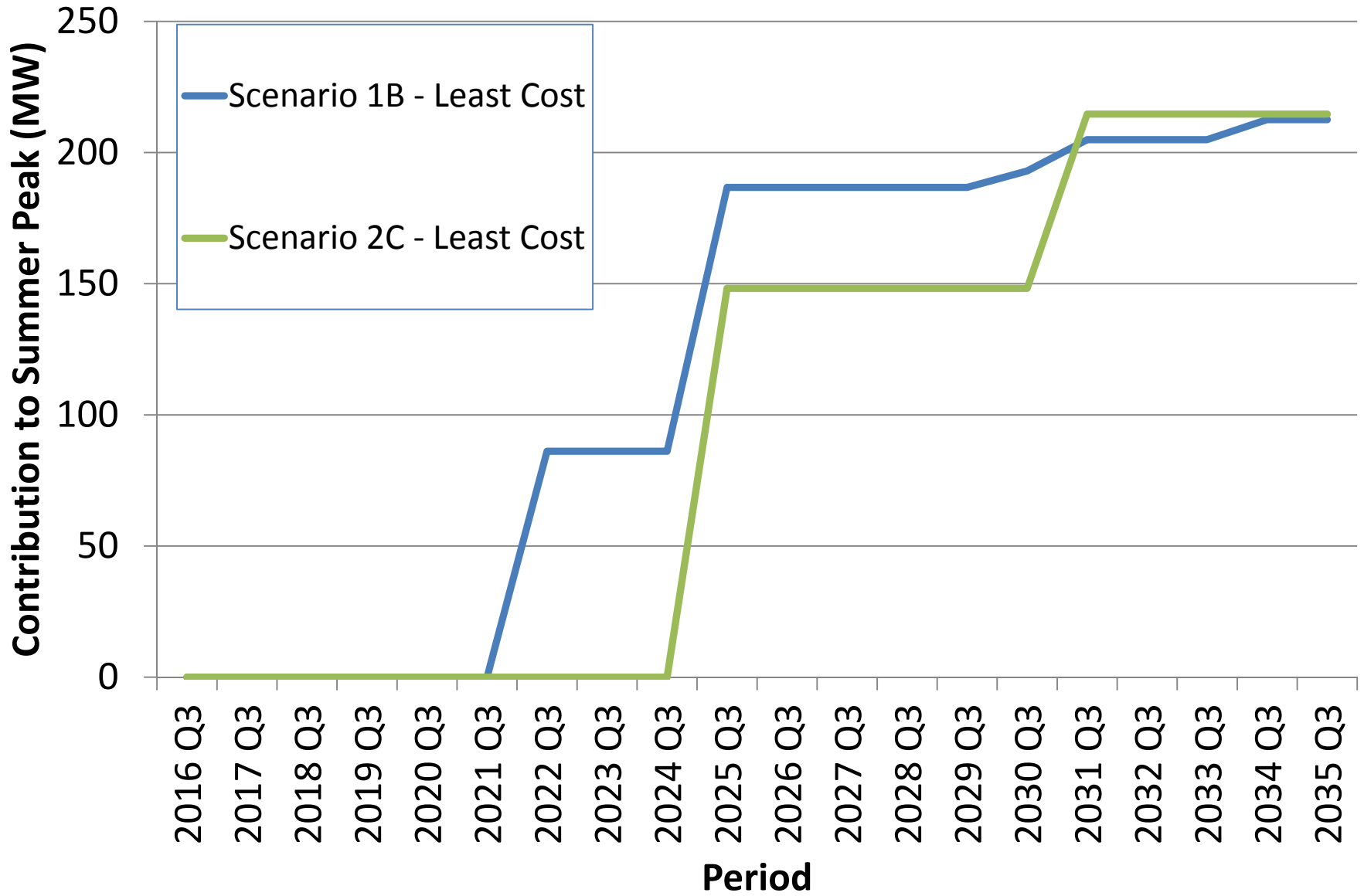
### Cumulative Demand Response



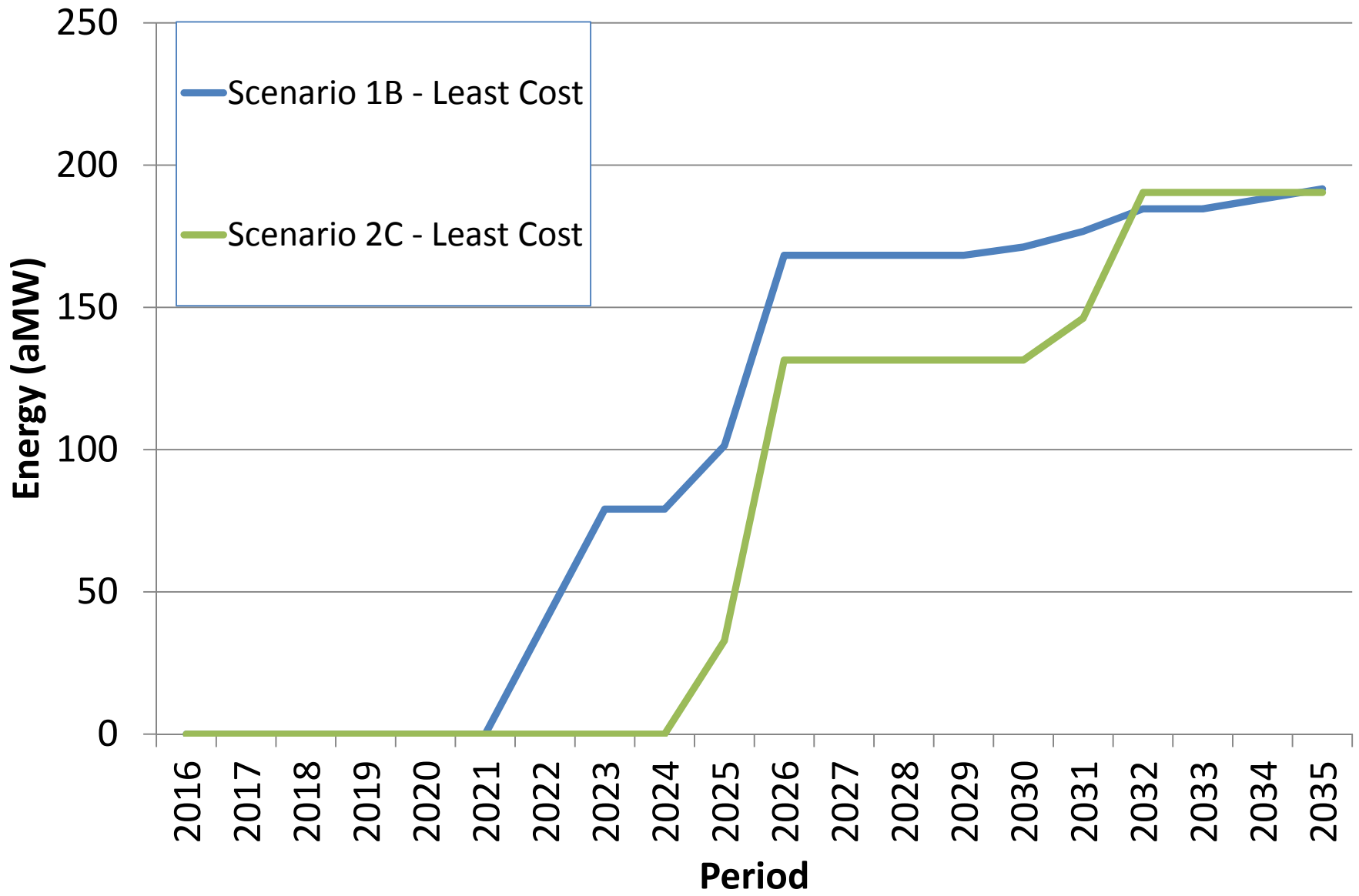
### Cumulative Thermal Generation



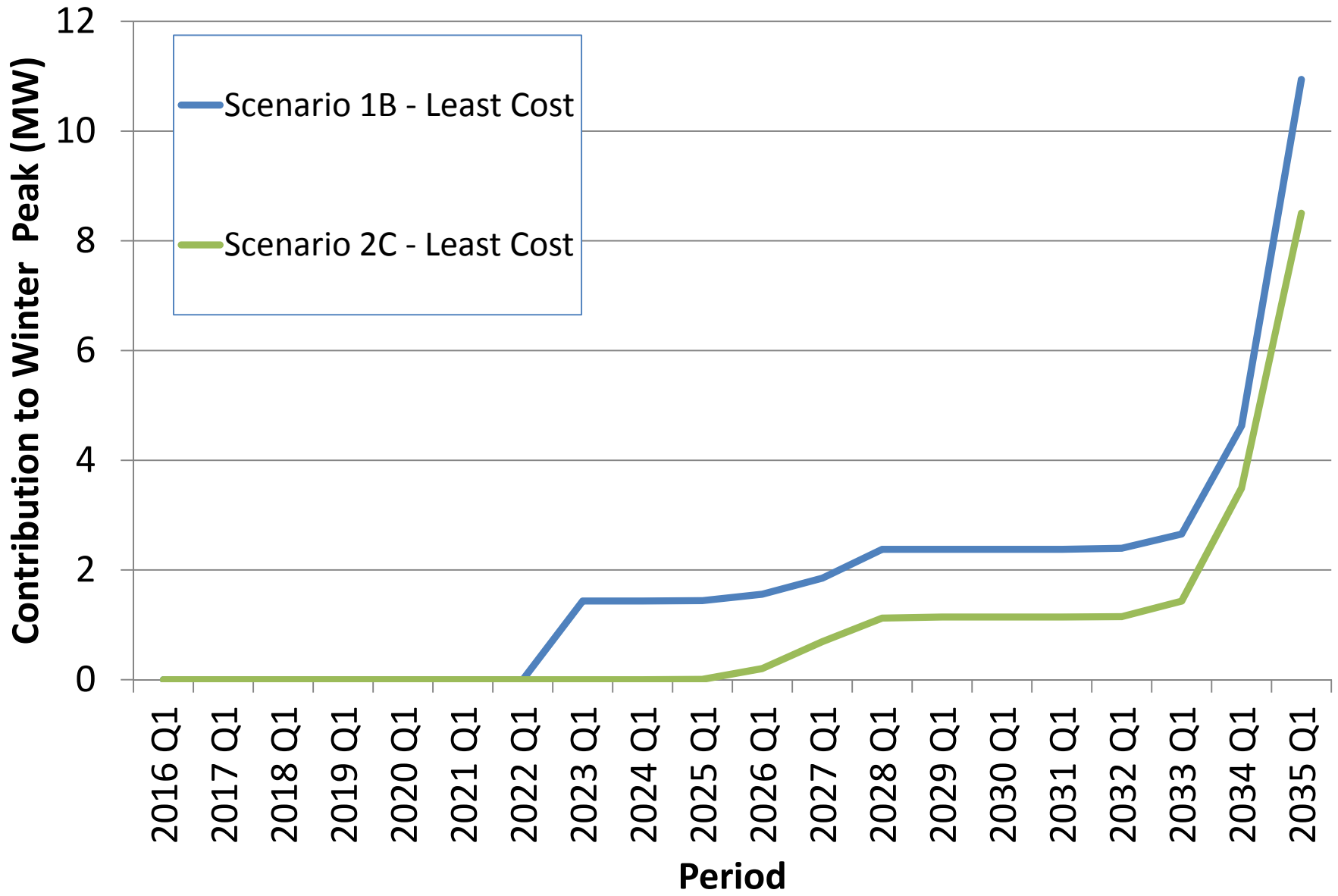
# Cumulative Thermal Generation



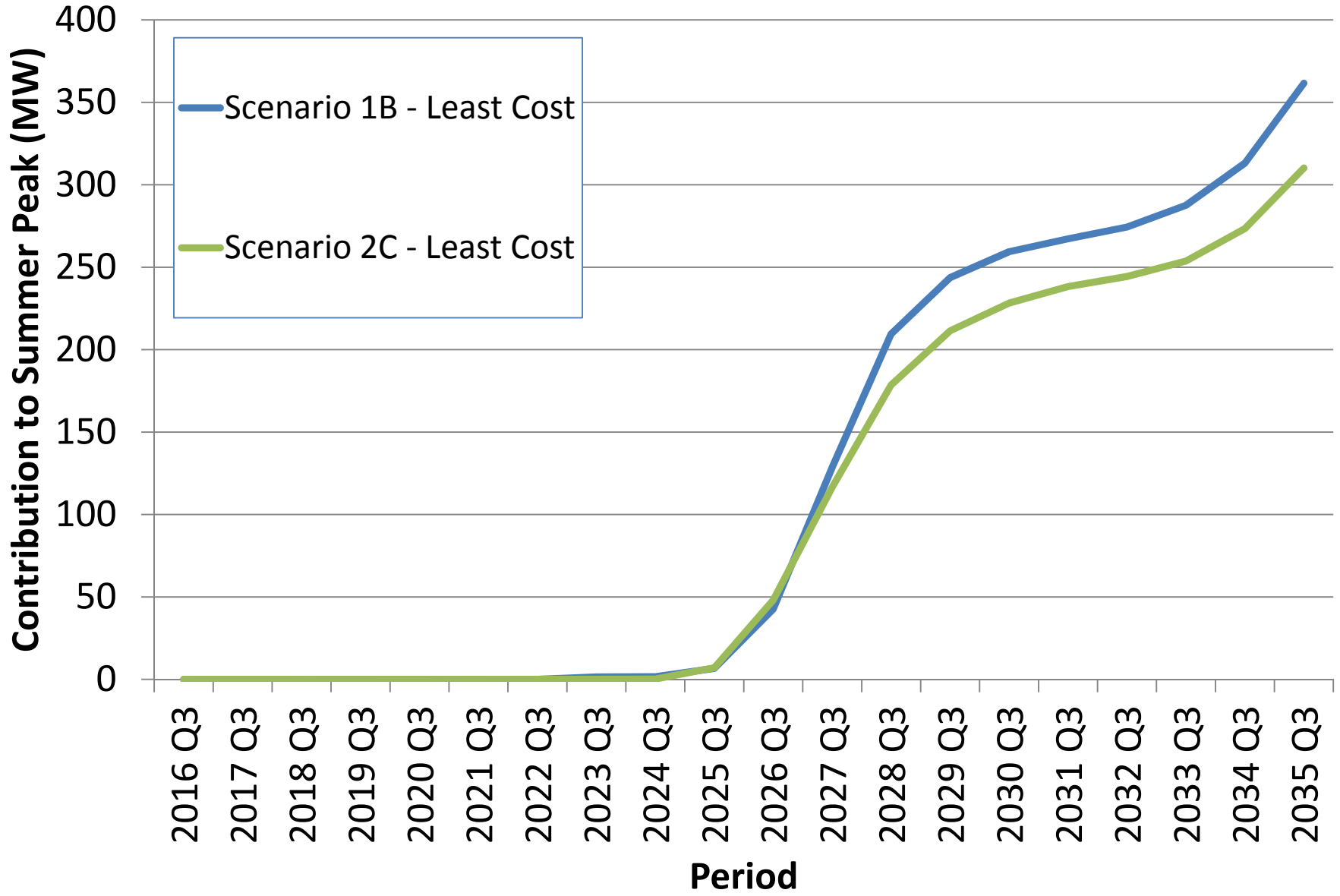
# Cumulative Thermal Generation



### Cumulative Renewable Generation



### Cumulative Renewable Generation





### Cumulative Renewable Generation

