

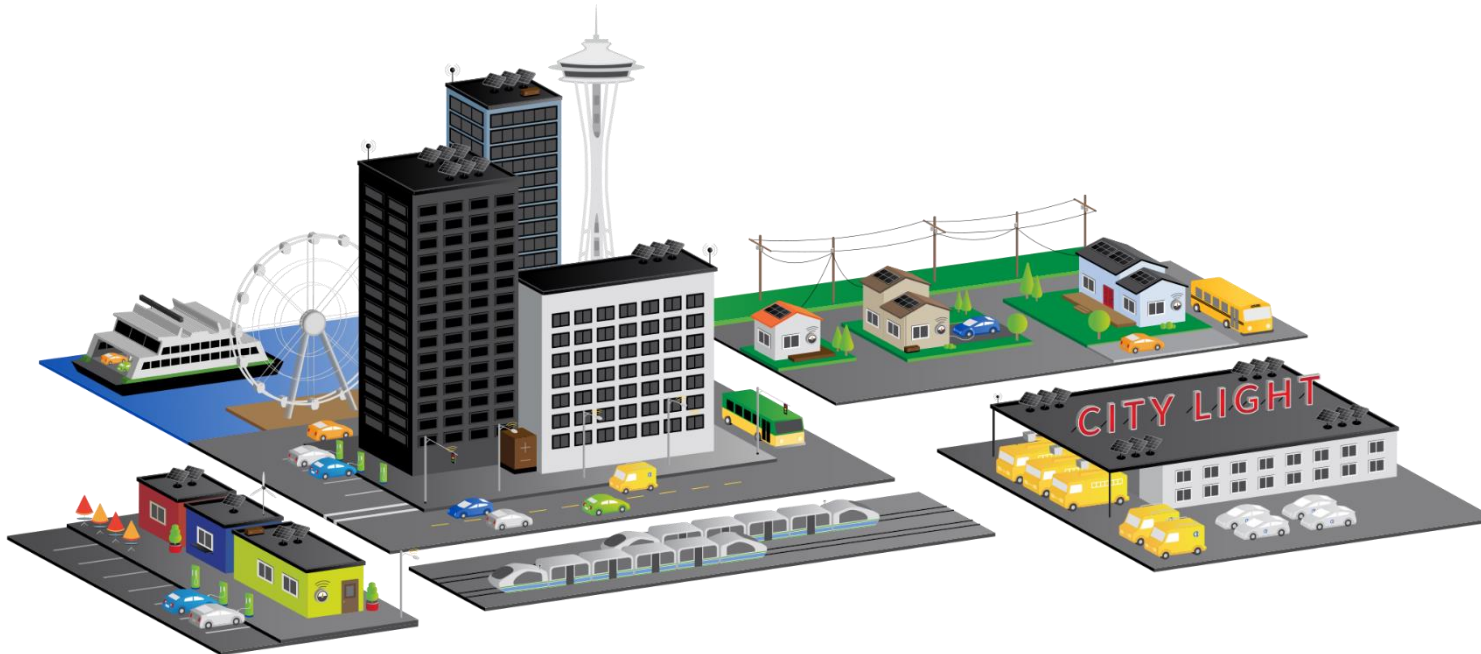
# Seattle City Light: Planning for an Electrified Future

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# 2022 Seattle City Light Electrification Assessment

*What are the high-level impacts of electrification to SCL's service territory?*



# City Light Electrification Assessment: Overview

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- In Scope:

- Electrification scenario analysis
- Analysis of SCL's existing distribution grid load and capacity



- Out of Scope:

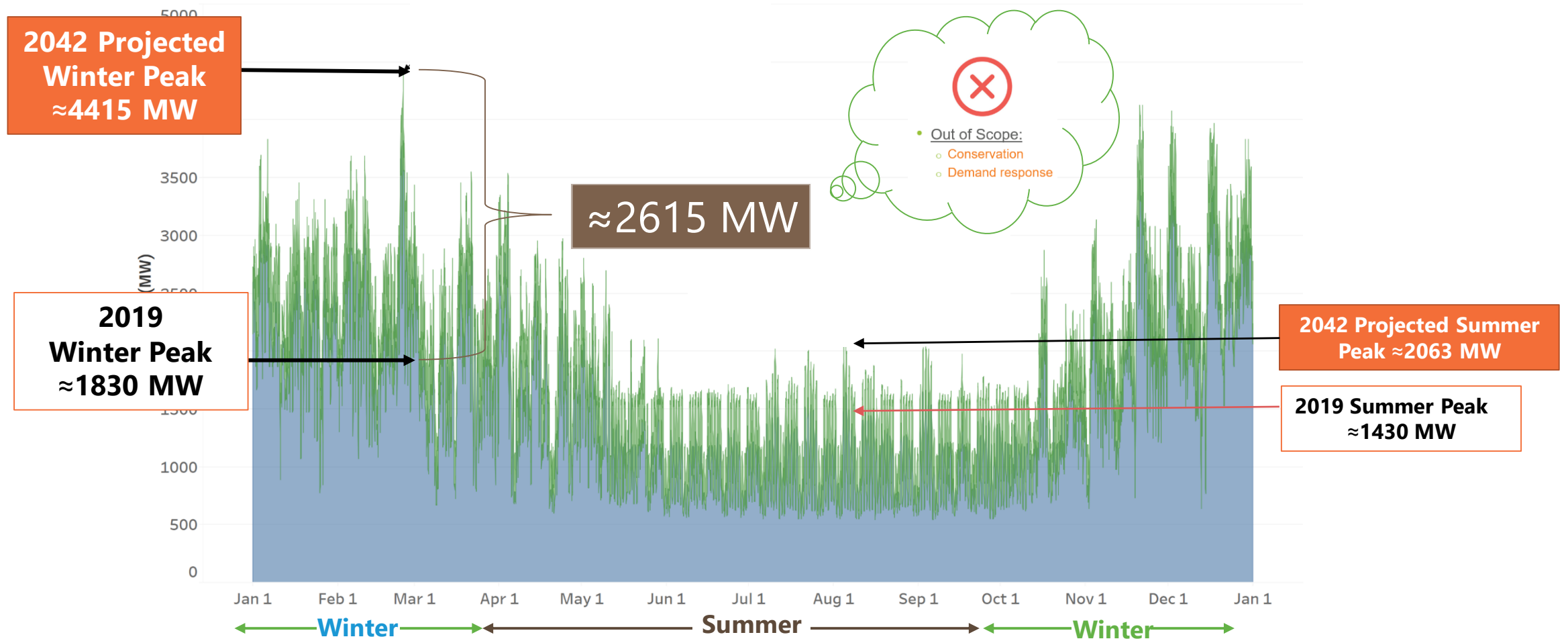
- Conservation
- Demand response
- Transmission analysis
- Bulk energy/resource needs
- Costs and rate impacts

# Electrification Assessment: Scenarios

Scenario Name	Basis	Electric Transportation (electrified vehicle stock in 2030)	Buildings and Industry
<b>01</b> Moderate Market Advancement	<ul style="list-style-type: none"> <li>Baseline trajectory based on external projection/research</li> </ul>	<ul style="list-style-type: none"> <li>Passenger vehicles: 11%</li> <li><b>Transit &amp; school bus: 6-7%</b></li> <li>Light commercial, refuse, short-haul trucks: 3-4%</li> <li><b>Long-haul truck &amp; intercity bus: 0-0.3%</b></li> </ul>	<ul style="list-style-type: none"> <li>Future years driven by market growth, energy efficiency, and customer choice based on relative economics</li> </ul>
<b>02</b> Rapid Market Advancement	<ul style="list-style-type: none"> <li>Aggressive trajectory consistent with the Climate Action Plan (CAP), Drive Clean Seattle, Seattle’s Clean Transportation Electrification Blueprint and ICCT</li> </ul>	<ul style="list-style-type: none"> <li>Passenger vehicles: 30%</li> <li><b>Transit &amp; school bus: 82%</b></li> <li>Light commercial, refuse, short-haul trucks: 27-30%</li> <li><b>Long-haul truck &amp; intercity bus: 0-1%</b></li> </ul>	<ul style="list-style-type: none"> <li>Increased electric adoption above and beyond moderate market advancement to align with 2017 CAP emissions targets</li> </ul>
<b>03</b> Full Adoption of Electrification Technologies [single point estimation]	<ul style="list-style-type: none"> <li>City of Seattle’s Green New Deal and reference scenario that underlines the requirements for full electrification</li> </ul>	<ul style="list-style-type: none"> <li>Passenger vehicles and all MDHD vehicle classes: 100%</li> </ul>	<ul style="list-style-type: none"> <li>Full adoption of available electric technologies by 2030</li> </ul>

Source: EPRI, Seattle City Light Electrification Assessment, Figure 1-1.

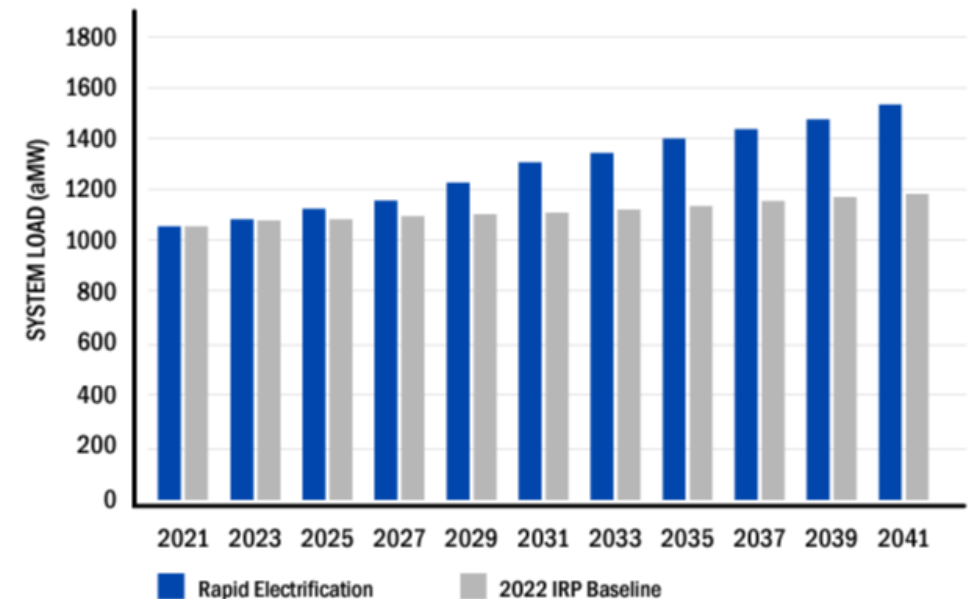
# Electrification Assessment: 2042 Yearly Load Rapid Market Advancement Scenario



Source: EPRI, Seattle City Light Electrification Assessment, Figure 6-2.

# Electrification Assessment in City Light's 2022 IRP (aMW)

- Baseline scenario includes some electrification, overall average load growth of 0.5% per year.
- Rapid Electrification Scenario served as “bookend” scenario.
  - 32% higher than baseline scenario.
  - Used as stress test for baseline resource, transmission, and policy needs.
- IRP identified regional energy programs, markets, and transmission planning as important for meeting changing needs.

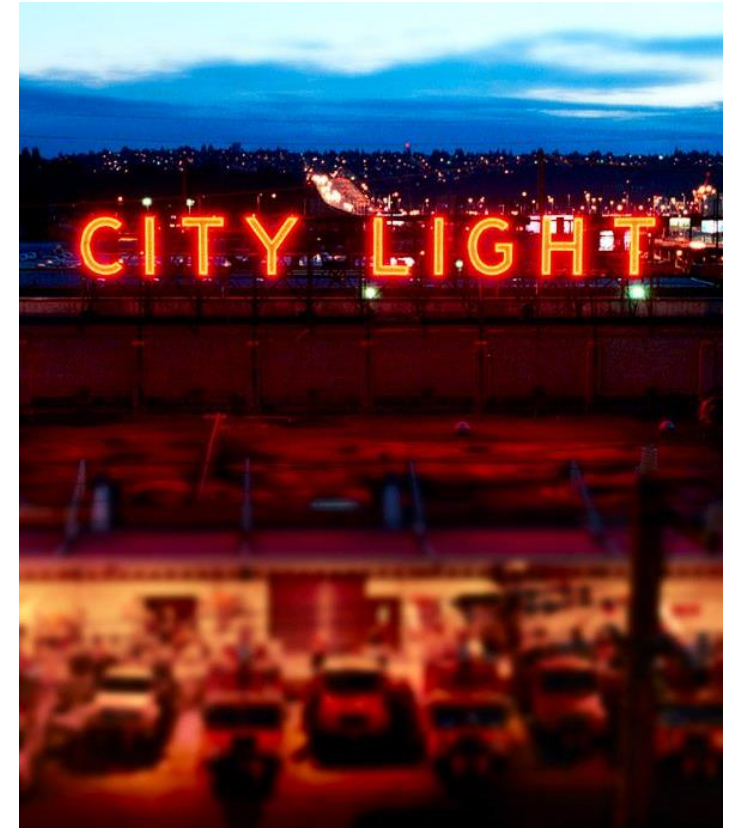




# What's Next?

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- Electrification Assessment shaped our next questions.
- Continue to refine analysis to inform:
  - SCL planning processes,
  - Policy and program decisions, and
  - New tools to meet changing circumstances.
- Continued engagement from across the utility on how electrification will impact our work.



# THANK YOU

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**Seattle City Light**