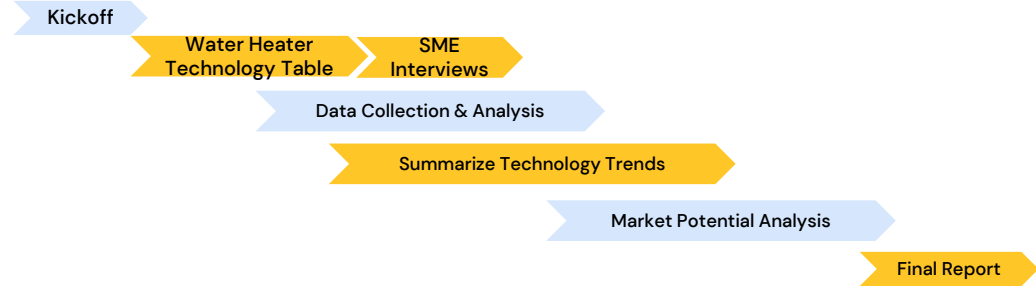


Project Summary

		May 22	Jun 22	Jul 22	Aug 22	Sep 22	Oct 22	Nov 22	Dec 22
Project Name:	Research and Analyze Water Heating Technology Market & Current Trends								
Project ID:	ET22SWG0001								
Description:	Analyze & research natural gas water heating technology adoption trends in existing California investor-owned utilities (IOUs) offered energy efficiency (EE) incentive programs, perform market research to understand technology adoption drivers and barriers, and provide actionable recommendations to improve program success.								



Expected Outcomes	Business Case	Policy Alignment
<ol style="list-style-type: none"> 1. Analysis of research data to better understand the current water heating market, available technologies and impacts on TRC/TSB, and market barriers preventing greater adoption. 2. Quantification of measure-level successes for different water heating technologies within Program Administrator EE programs. 3. Recommendations for Program Administrators to drive higher customer adoption of efficient water heating measures. 	<p>Gas water heating end-use has a high opportunity for energy savings and is applicable across market segments. A high-level review of installed water heating measures from 2017 to 2021 indicated low adoption relative to the potential indicating significant barriers to adoption of efficient water heating measures. However, there are gaps in knowledge of what the barriers are to higher adoption, what the market drivers are for water heating, what are the most promising efficient water heating measures, and how the GET program can prioritize and address barriers to higher adoption.</p>	<ul style="list-style-type: none"> • SB 350 Clean Energy and Pollution Reduction • California Long Term EE Strategic Plan • AB 32 (Global Warming Solutions Act) • SB 1477 (Building Decarbonization)

#	Risk/Issue Description	Status	Owner	Due Date
001	Availability of technology level market data from IOUs and water heater manufacturers	Active	Cristalle Mauleon	Sep 22



ET22SWG0001 Status Update

Task	Status	Impactful Findings
Water Heating Technology Table	Completed	<ul style="list-style-type: none"> ET dominated by gas-fired heat pumps that are 1+ year from commercial availability <ul style="list-style-type: none"> Gas-fired internal combustion engine DX Gas-fired absorption Gas-fired adsorption Gas-fired thermal compression Controls very important in this space and work still being done
Subject Matter Expert Interviews	Completed	<ul style="list-style-type: none"> Highest drivers for ET adoption are <ul style="list-style-type: none"> Lower production cost Independent verification of performance Environmental compliance with regulations Highest barriers for ET adoption are <ul style="list-style-type: none"> Technology cost Lack of awareness of technology by the customers Adverse regulatory environment Uncertainty in performance
Data Collection & Analysis	Completed	<ul style="list-style-type: none"> Looked at statewide CEDARS claim data from 2017-2021 Summarized by measure description
Summarize Technology Trends	Completed	<ul style="list-style-type: none"> Condensing tankless water heaters have seen a large increase in adoption over the last 5 years. Costs still higher for these systems even with incentives indicating other factors are in play in decision making High efficiency boilers and boiler controls are an opportunity for increased adoption Solar thermal water heating is an opportunity for increased adoption
Market Potential Analysis	In Process	Performing market potential for increased adoption on <ul style="list-style-type: none"> Solar thermal water heating systems Boilers – Multifamily High Efficiency Pool Heaters Boiler Controls
Final Report	Expected Q4 2022	None