KEQ	Sub-questions	KO Energy monitoring (n=1000) Survey (n=100) Case study (n=5 units or 5-50 individuals for focus groups - a subset of the previous sample)	MH Energy monitoring and survey (n=100) Case study (n=5 not necessarily a sub-set of the previous sample)	Methods and data sources
Theme 1: Reduction in energy hardship				
1. How much of the household energy requirements are met by the renewable energy interventions?	1.1 How much of the household's energy requirements are met by the renewable energy system?	Y	Y	Remote data collection: smart meter data; inverter data; renewable energy type - solar power KO: n=1,000
	1.2 To what extent has there been a reduction in energy costs for targeted households?	Y	Y	Physical quantitative data collection at homes: Energy audit to be coupled with Household Experience Survey (HES) for efficiency. KO: n=100
	1.3 What changes to energy costs have the households experienced since having access to renewable energy?	Y	Y	Qualitative interviews for the case studies (n=5-50) Trends over time for energy usage and costs based on smart meter and inverter data (n=1,000)
	1.4 How could renewable energy schemes reduce energy costs and household support savings?	Y	Y	Qualitative interviews for the case studies (n=5-50) Trends over time for energy usage and costs based on smart meter and inverter data (n=1,000)
Theme 2: Impact on households' health and wellbeing				
2. To what extent has there been an improvement in health and wellbeing outcomes for targeted households?	2.1 How have temperatures and humidity within the house changed because of renewable energy?	N/A Outdoor temperatures will be recorded through NIWA data and triangulated with the responses from HES.	Y	Remote data collection: Household composition, type of building, building inspection survey (n=1,000) Household Experience Survey (n=100)
	2.2 How are any changes in comfort levels, self-assessed physical health, self-assessed mental health and wellbeing due to the installation of the renewable energy systems?	Y	Y	HES (n=100) Qualitative interviews/focus groups for the case studies

	Other relevant sub-questions can include: 2.2.1 Which customer groups benefit the most – retired/elderly, families with children etc. 2.2.2 What support do public housing customers need to benefit from solar energy?			
	2.3 What is the relationship between household characteristics (as defined through composition, house type, energy type) and access to renewable energy?	N/A	Y	Qualitative interviews for the case studies Overall synthesis of the data

Theme 3: Performance of renewable energy technology

3. What is the comparative efficacy of the range of distributed energy solutions?	3.1 What are the impacts of different technological approaches? For example, what are the marginal benefits of technologies that optimise energy use and storage, in addition to generation?	Y	Y	Data comparison of solar energy Vs non-solar for the whole sample; triangulated with household composition, type and modification, i.e. retrofits or newbuilds. Kāinga Ora only uses solar energy. Also the findings of the cost/benefit analysis. The HES survey and the case studies will explore if the households know how to get the most out of the system.
	3.2 How well is the new system technically performing compared to existing energy sources for houses in the pilot? 3.2.1 Is the renewable energy system resulting in improved efficiencies and cheaper electricity?	Y	Y	See above.
	3.3 Which technological approaches for renewable energy hold potential for a wider roll out?	Y	Y	See above.

Theme 4: Equity

4. What is the impact on equity?	4.1 How has the Fund targeted those in energy hardship? *(The findings of the evaluation can be compared against the criteria defined by MBIE)*	N/A	Y	Overall synthesis of qualitative and quantitative data Findings will be compared with General Social Survey and Household Economic Survey
	4.2 To what extent have a wide range of households and regions had access to the Fund?	N/A	Y	Overall synthesis of qualitative and quantitative data

				Findings will be compared with General Social Survey and Household Economic Survey

Theme 5: Value for money				
5. To what extent does the implementation of the renewable energy systems offer value for money?	5.1 Are the renewable energy projects cost-effective? Supplementary: 5.1.1 In what contexts do renewable energy systems provide the most benefit?	Y	Y	Cost Effectiveness Analysis
	5.2 How do the benefits of the solar energy system compare to the costs of installation?	Y	Y	Cost/Benefit Analysis
	5.3 How could the impact of renewable energy schemes reduce energy costs, support savings and improve wellbeing? 5.3.1 How can these be optimized?	Y	Y	Overall synthesis of quantitative and qualitative data
Theme 6: Effectiveness of Fund implementation processes (exclusively for the Māori housing stream)				
6. How well did the different aspects of the engagement and implementation processes work?	6.1 What were the main drivers for applying for this funding?	N/A	Y	Qualitative interviews for the case studies
	6.2 How well did the funding allocation work based on the scheme criteria for the different aspects of the trial?	N/A	Y	Qualitative interviews for the case studies
	6.3 What were the key successes when implementing the renewable energy projects?	N/A	Y	Qualitative interviews for the case studies
	6.4 What challenges were faced when implementing the projects?	N/A	Y	Qualitative interviews for the case studies
Theme 7: Effectiveness for Māori				
7.What have been the impacts for Māori households?	7.1 To what extent have Māori households changes to te taha tinana, te taha hinengaro, te taha wairua and te taha whānau wellbeing due to the installation of the renewable energy systems?	N/A	Y	Qualitative interviews for the case studies HES

	7.2 To what extent has the Fund enabled tangata whenua to harness clean energy in line with kaitiakitanga and rangatiratanga and tikanga Māori? 7.2.1 would fund recipients recommend the installation of renewable energy systems to other whanau?	N/A	Y	Qualitative interviews for the case studies HES