

Lara Cobler Moncunill

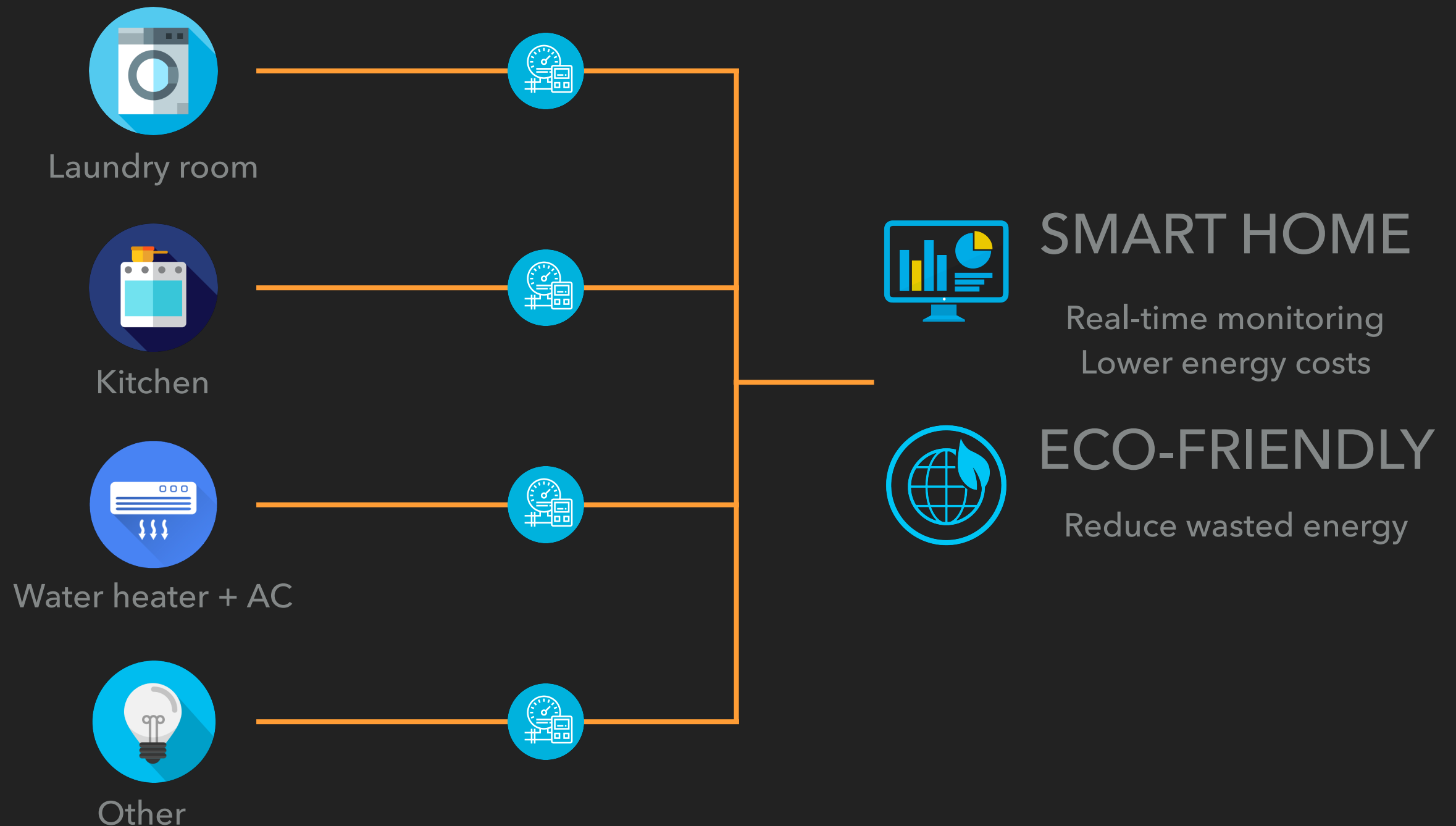
IOT analytics

POWER USAGE ANALYTICS FOR ELECTRICAL SUB-METERING DEVICES

AGENDA

1. Goal
2. Analysis Plan
 1. Analysis Framework
 2. Data Required
 3. Timeline
3. Insights
4. Recommendation

DOES INSTALLING SUB-METERS ADD VALUE TO PROPERTY ?



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ANALYSIS FRAMEWORK

①

Real-time monitoring through an app

Control energy usage based on real-time energy costs

Detection of transitory malfunctioning of appliances

Detection of hidden habits other householders

②

Uncover trends in behaviour of appliances performance

Flag appliances degradation

Flag increased energy waste

③

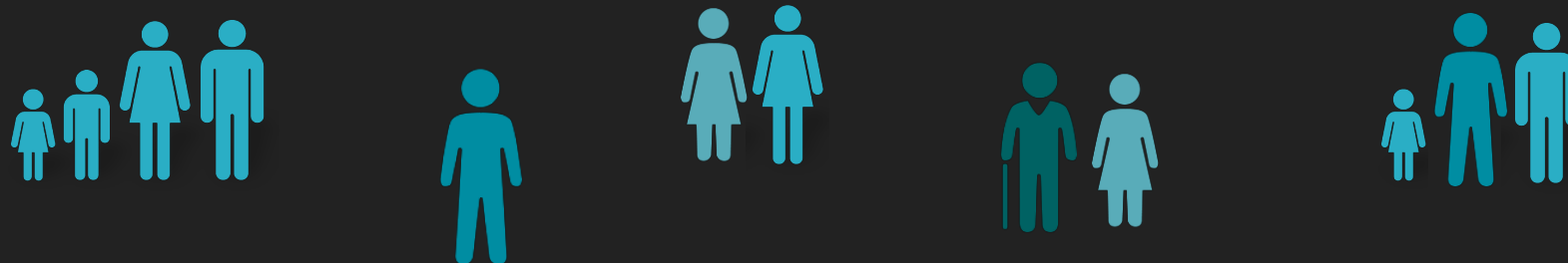
Detect energy theft

DATA REQUIRED

① Pilot apartment



② Similar apartments different type families / residents



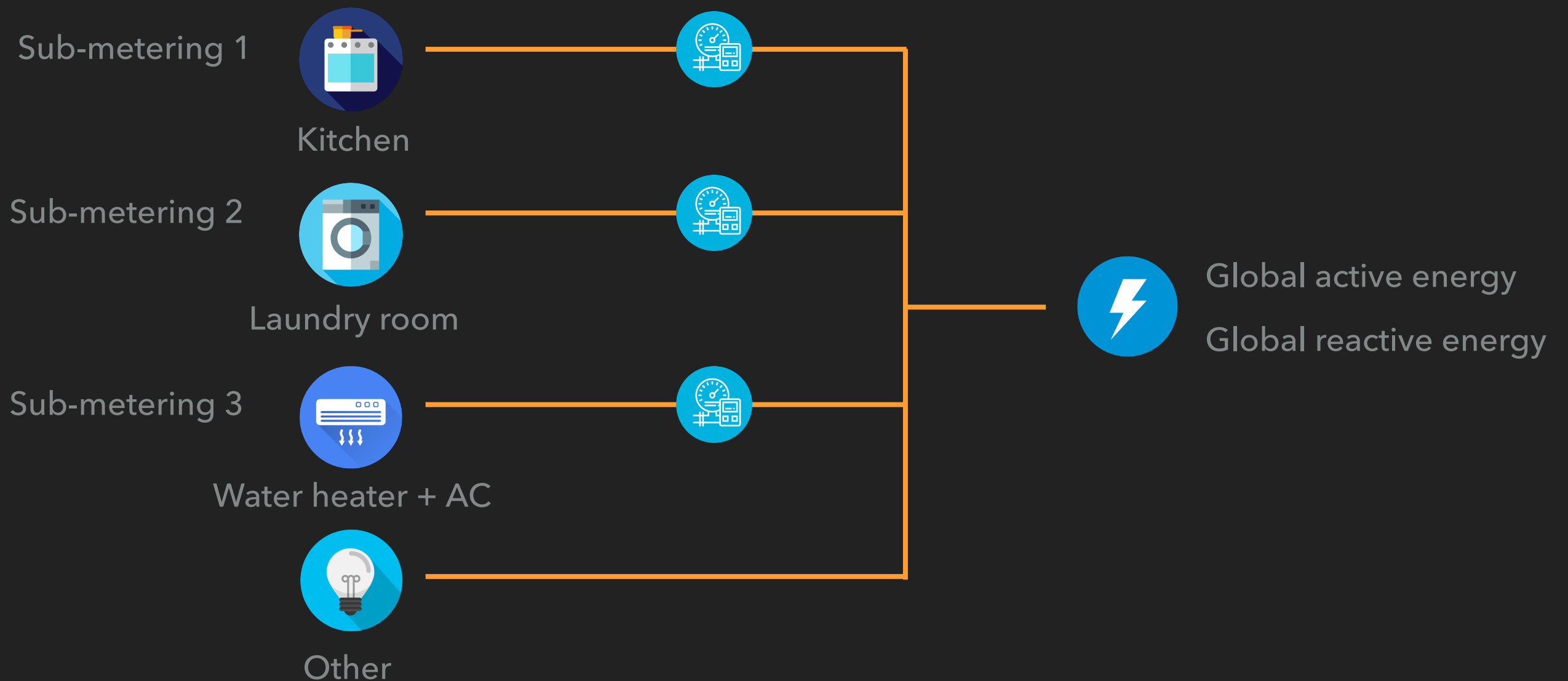
③ Implementation to all apartments



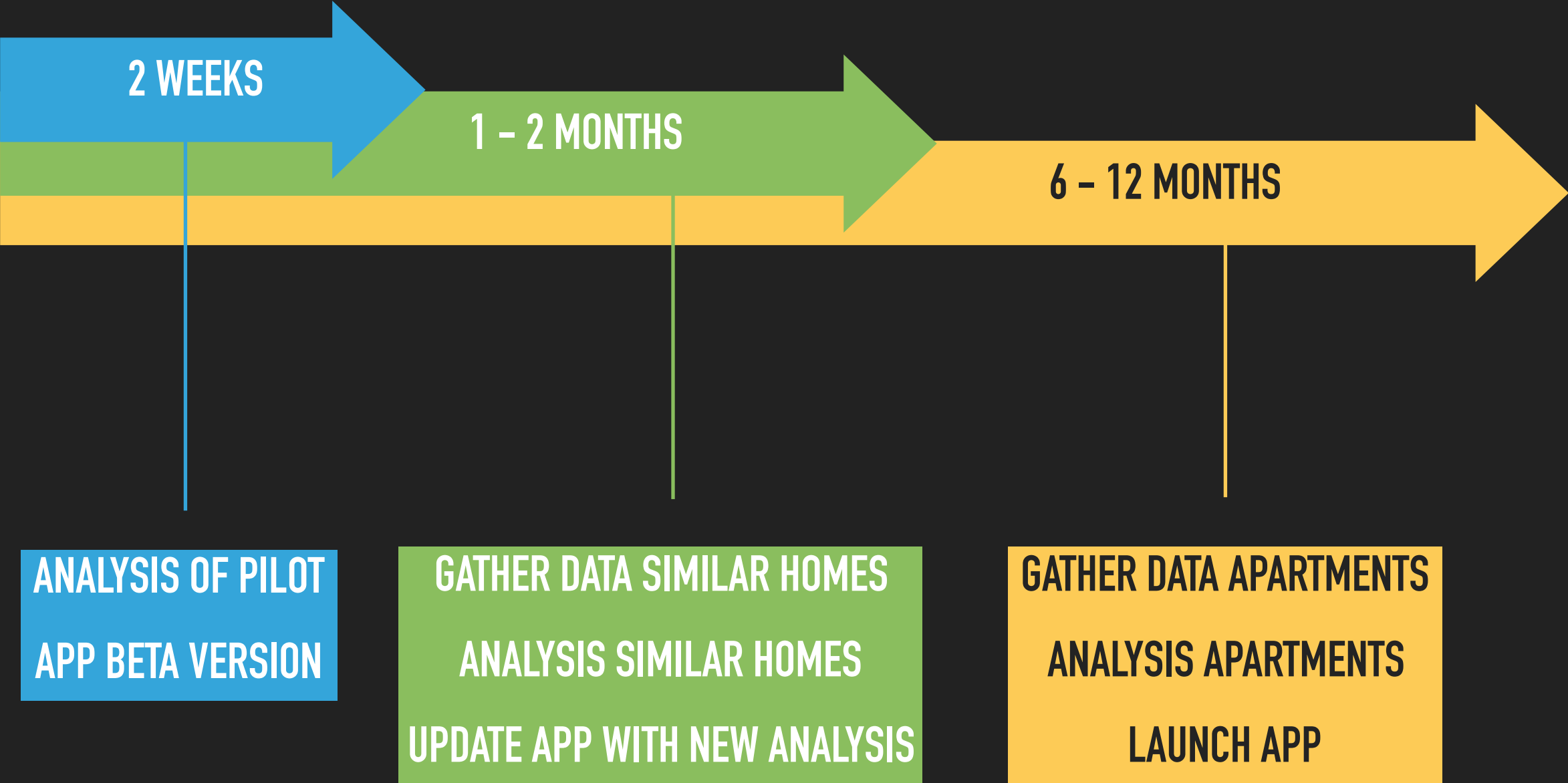
DATA REQUIRED

① Pilot apartment

47 months: December 2006 - November 2010



TIMELINE



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ANALYSIS FRAMEWORK

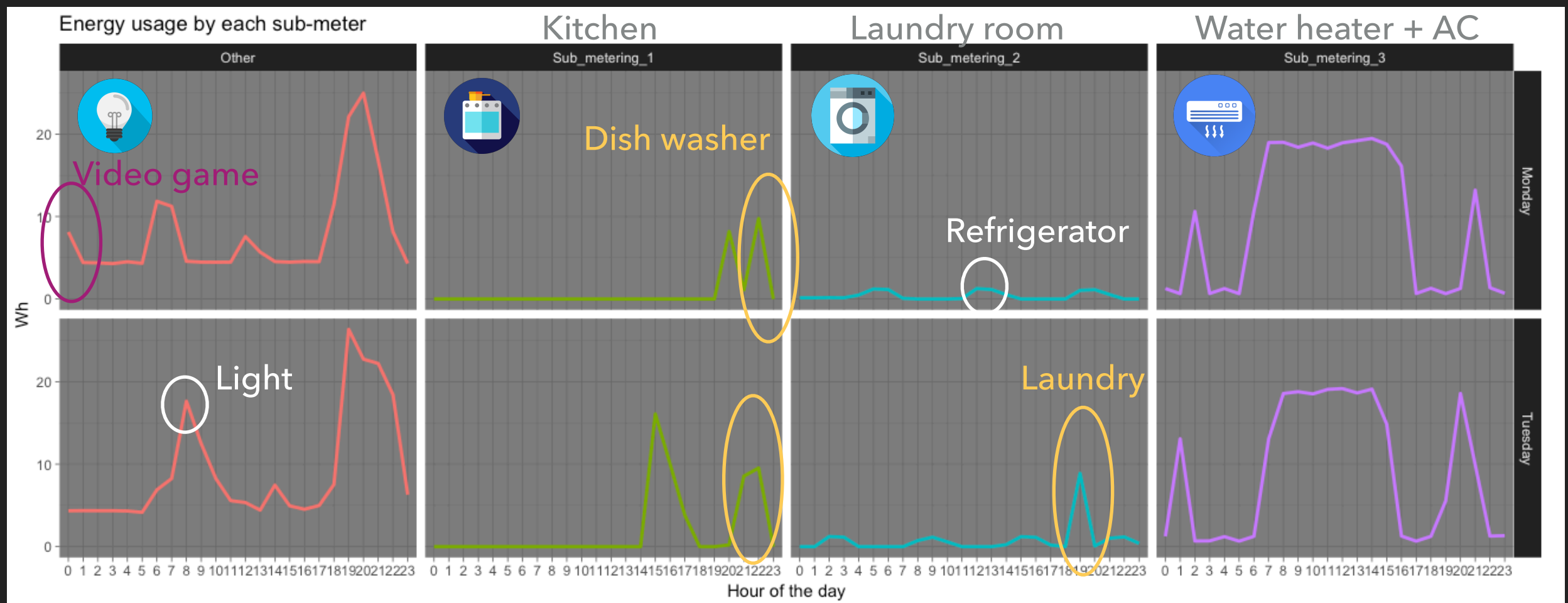
1

Real-time monitoring through an app

Control energy usage based on real-time energy costs

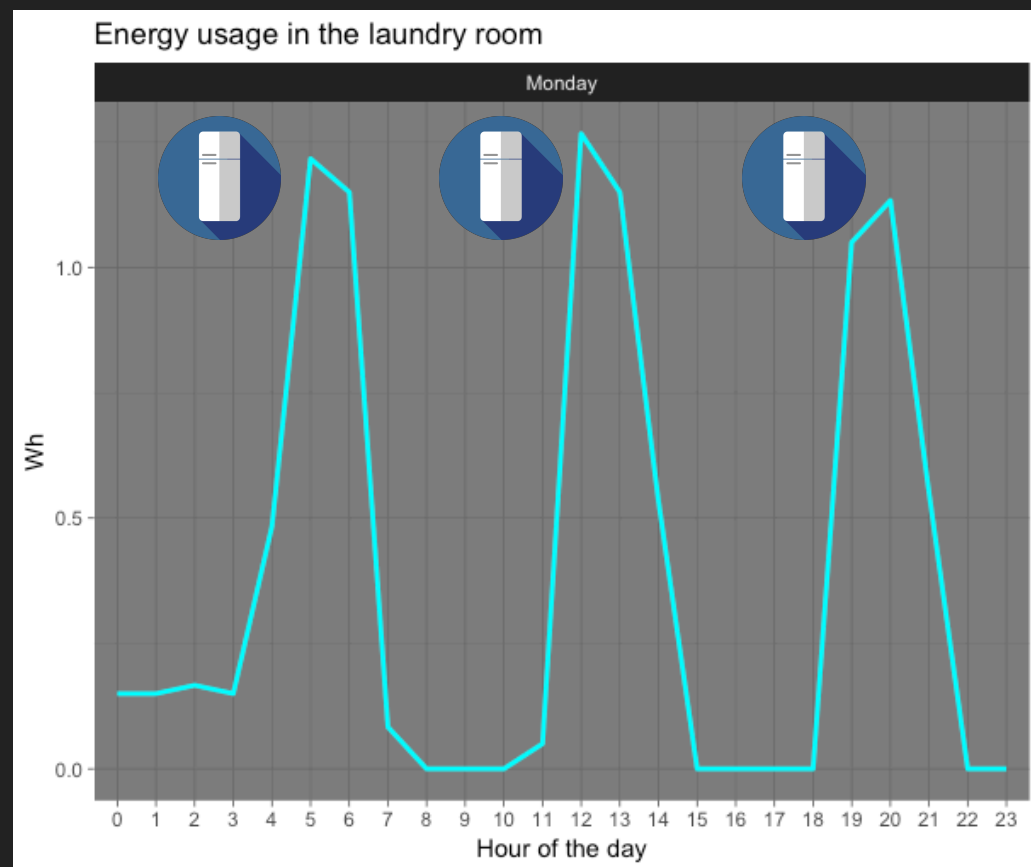
Detection of transitory malfunctioning of appliances

Detection of hidden habits other householders

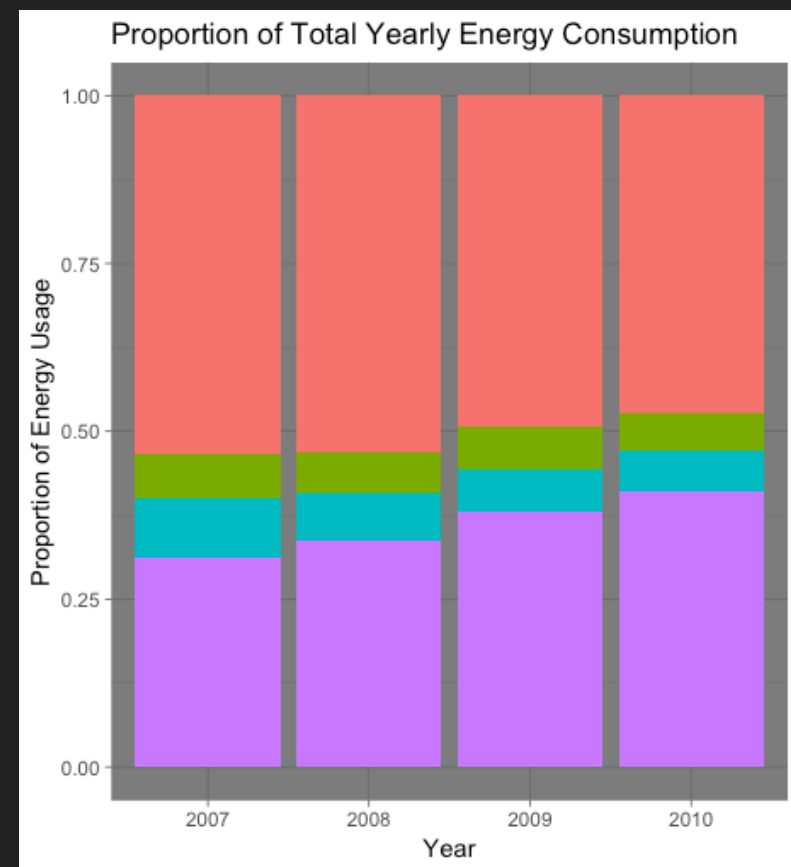


ANALYSIS FRAMEWORK

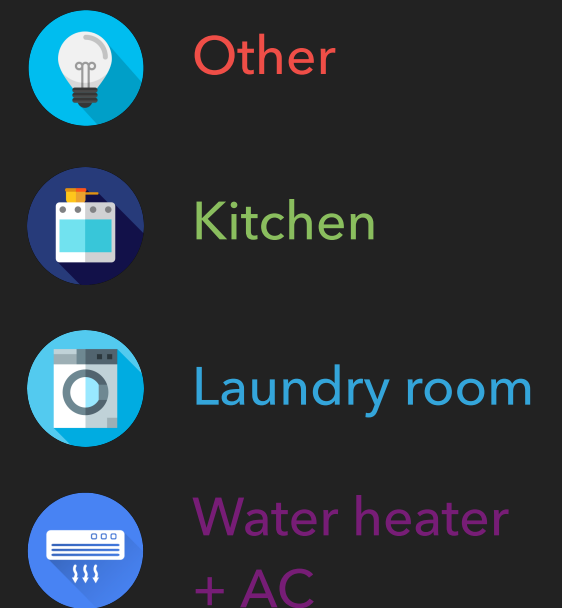
- ② Uncover trends in behaviour of appliances performance
 - Flag appliances degradation
 - Flag increased energy waste



Change in the frequency may indicate refrigerator malfunctioning

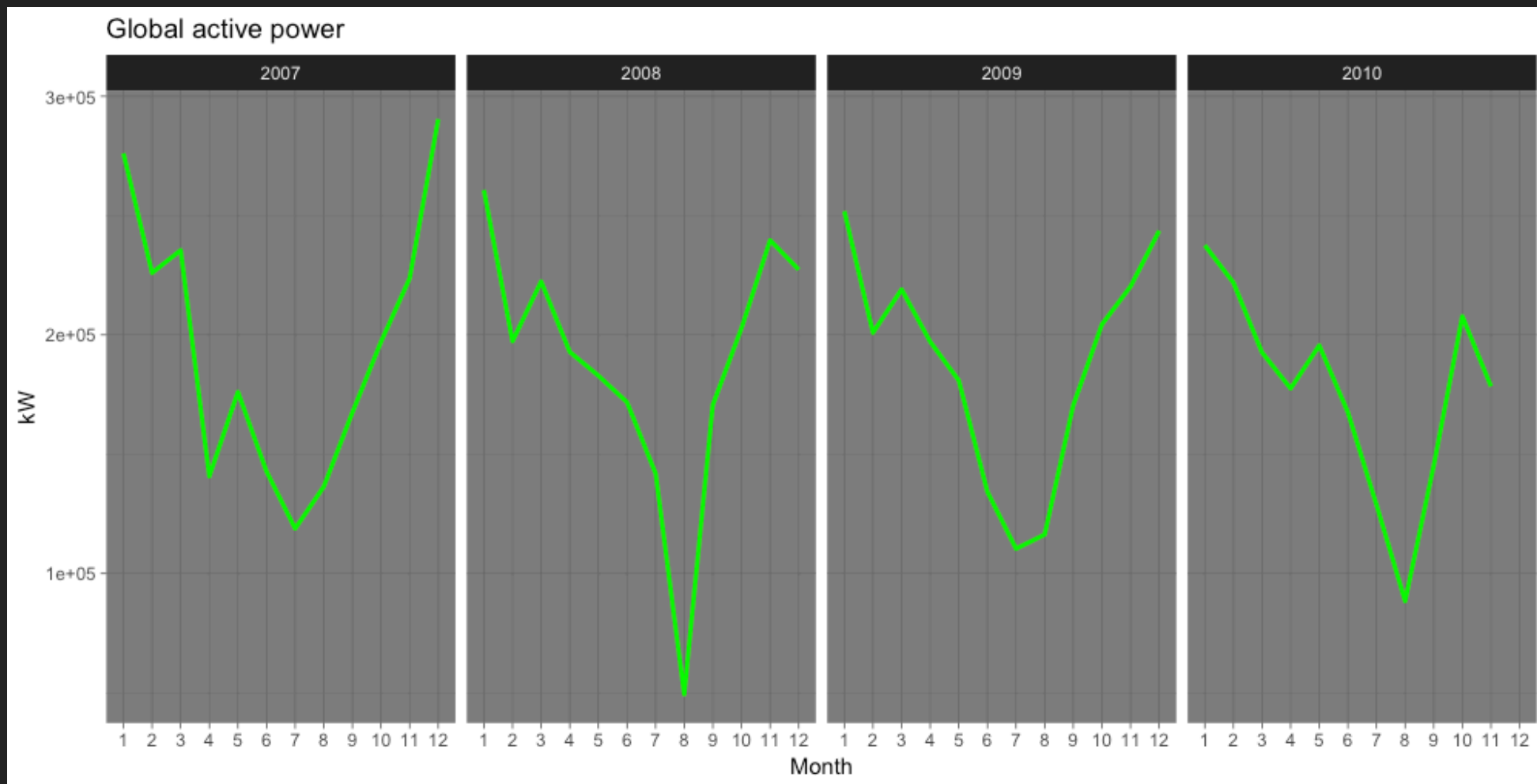


Increase in the energy consumed yearly may indicate water heater/AC malfunctioning



ANALYSIS FRAMEWORK

③ Detect energy theft



Change in the energy usage pattern may indicate energy theft

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PROVIDE HOMEOWNERS WITH ANALYTICS ON THEIR POWER USAGE



INCREASES THE PROPERTY VALUE

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