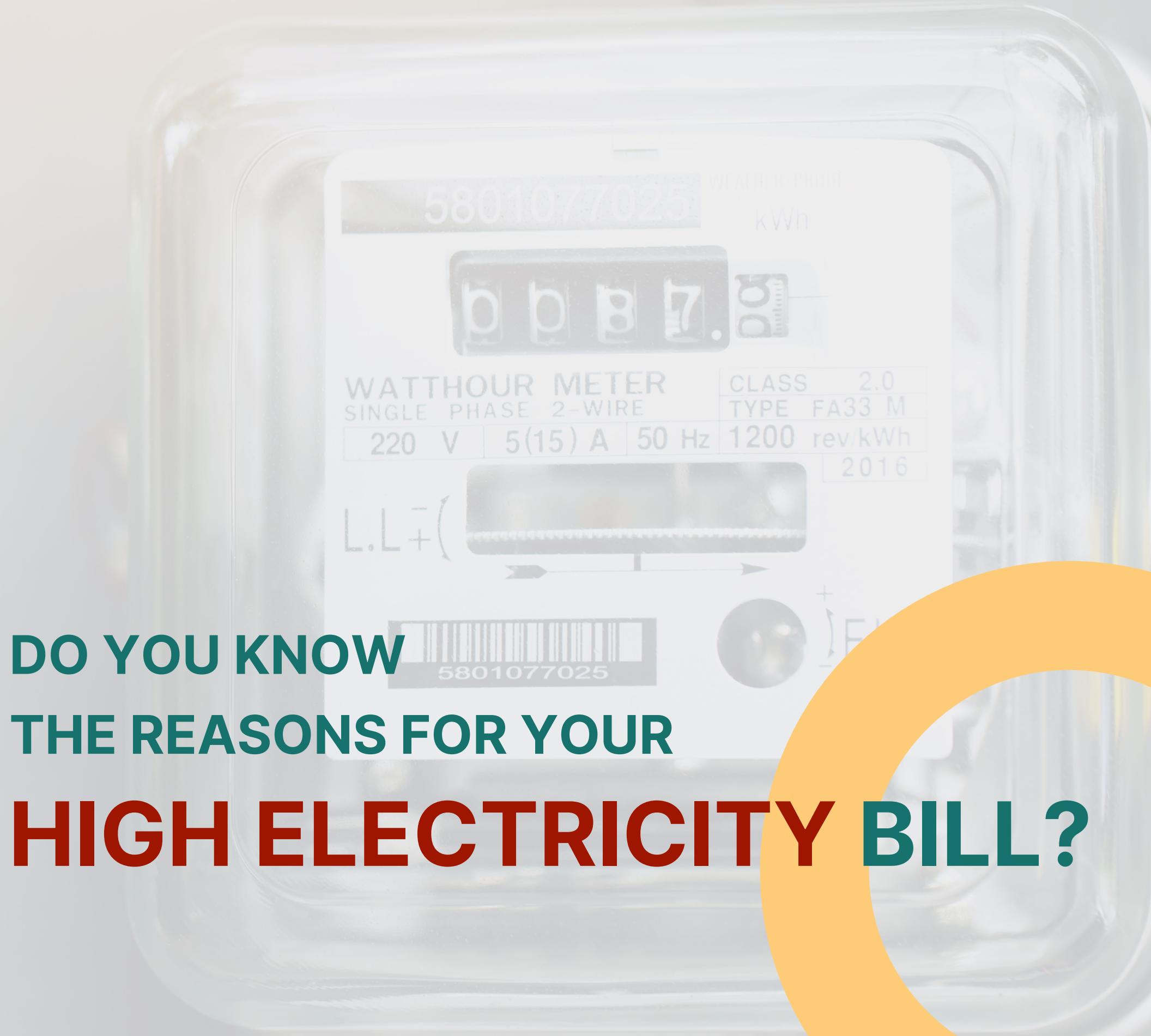
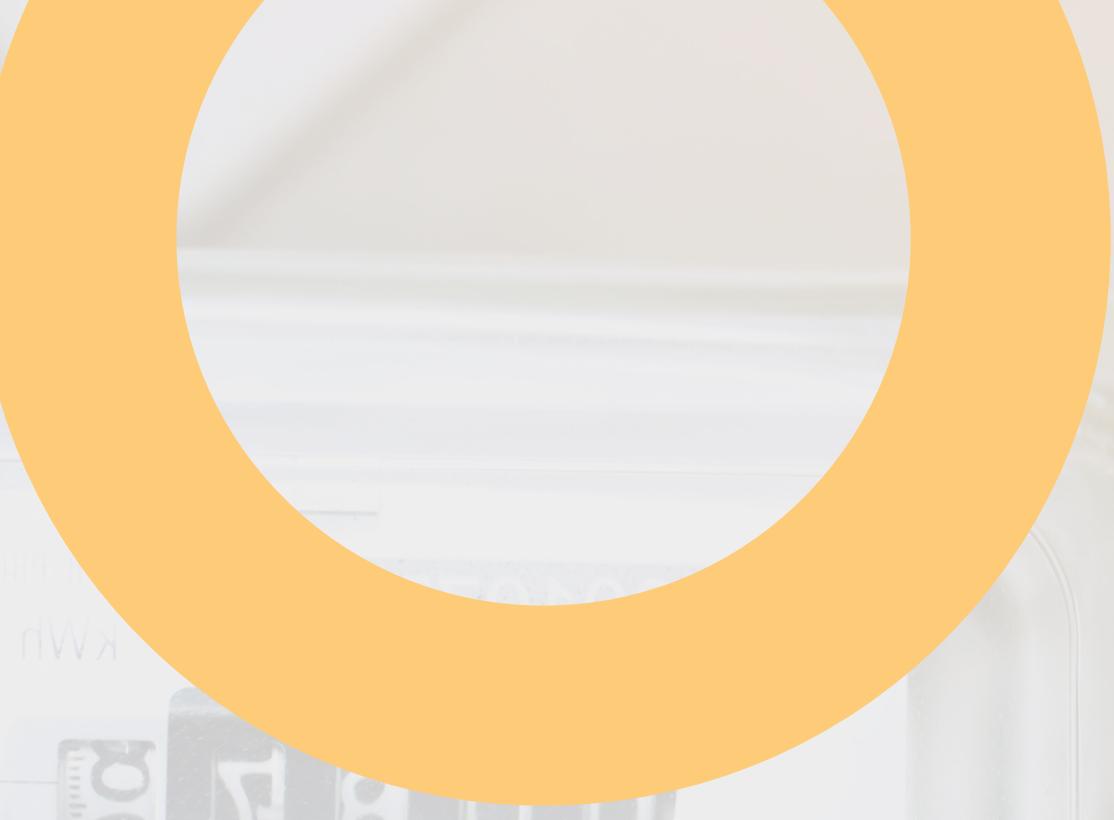




**DO YOU KNOW  
THE REASONS FOR YOUR  
HIGH ELECTRICITY BILL?**





**81% OF CONSUMERS  
DON'T KNOW THE REASONS...**





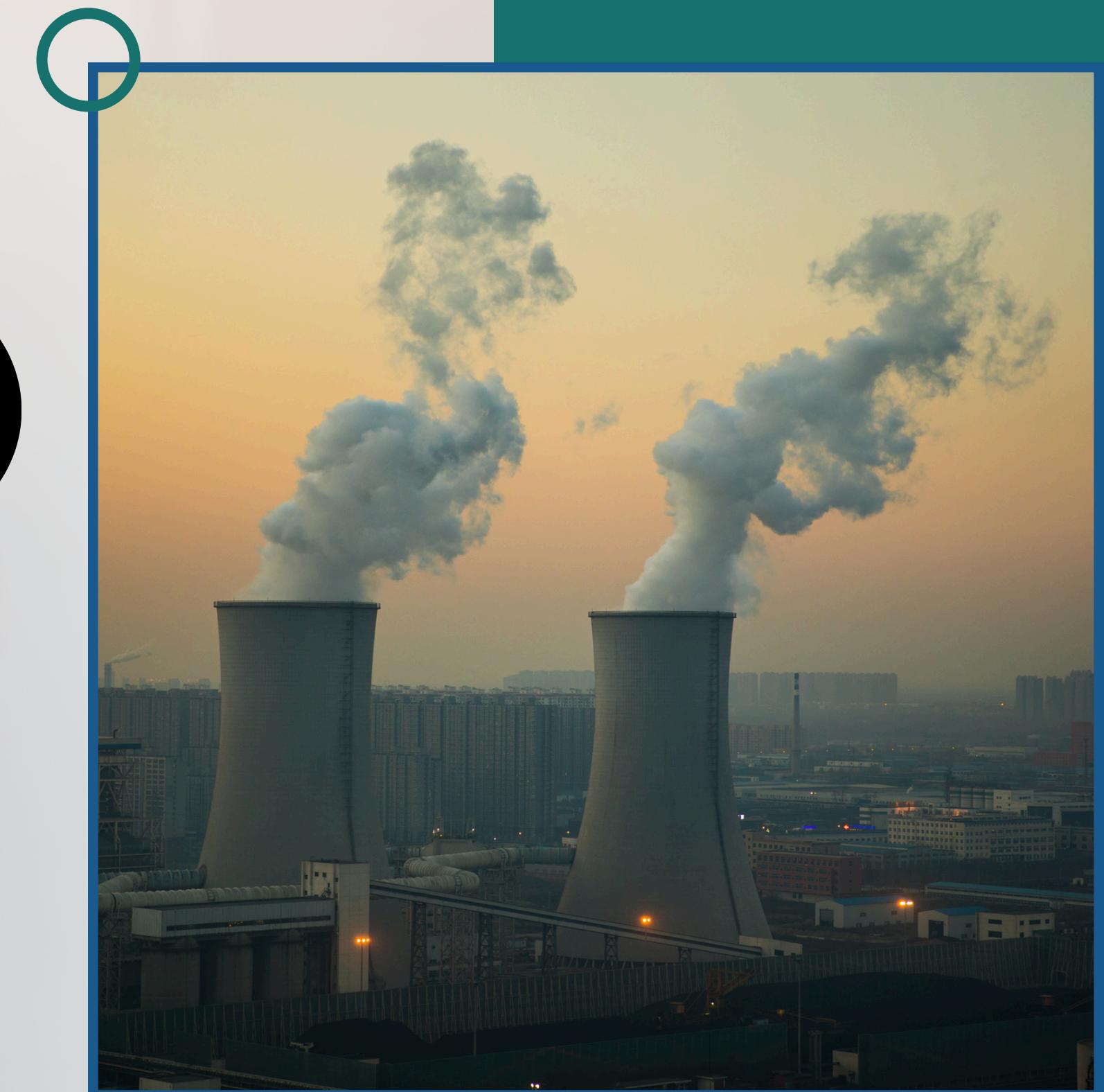
**50% OF THE GLOBAL  
ELECTRICITY PRODUCTION**



**56% OF SRI LANKAN  
ELECTRICITY PRODUCTION**

**HIGH CARBON FOOTPRINT**

*Source: Fernando et al., Renewable energy resources and technologies applicable to Sri Lanka towards a 100% RE future, 2019*



# PROBLEM STATEMENT

- 01 High cost electricity bills
- 02 No detailed breakdown of consumption for both appliance-wise and time-wise
- 03 No affordable tools for mindful power consumption
- 04 High carbon footprint in electricity production due to fossil fuels
- 05 Future energy crisis, if electricity is not saved

No optimal electricity utilization



Introducing You,

The Future Energy Partner

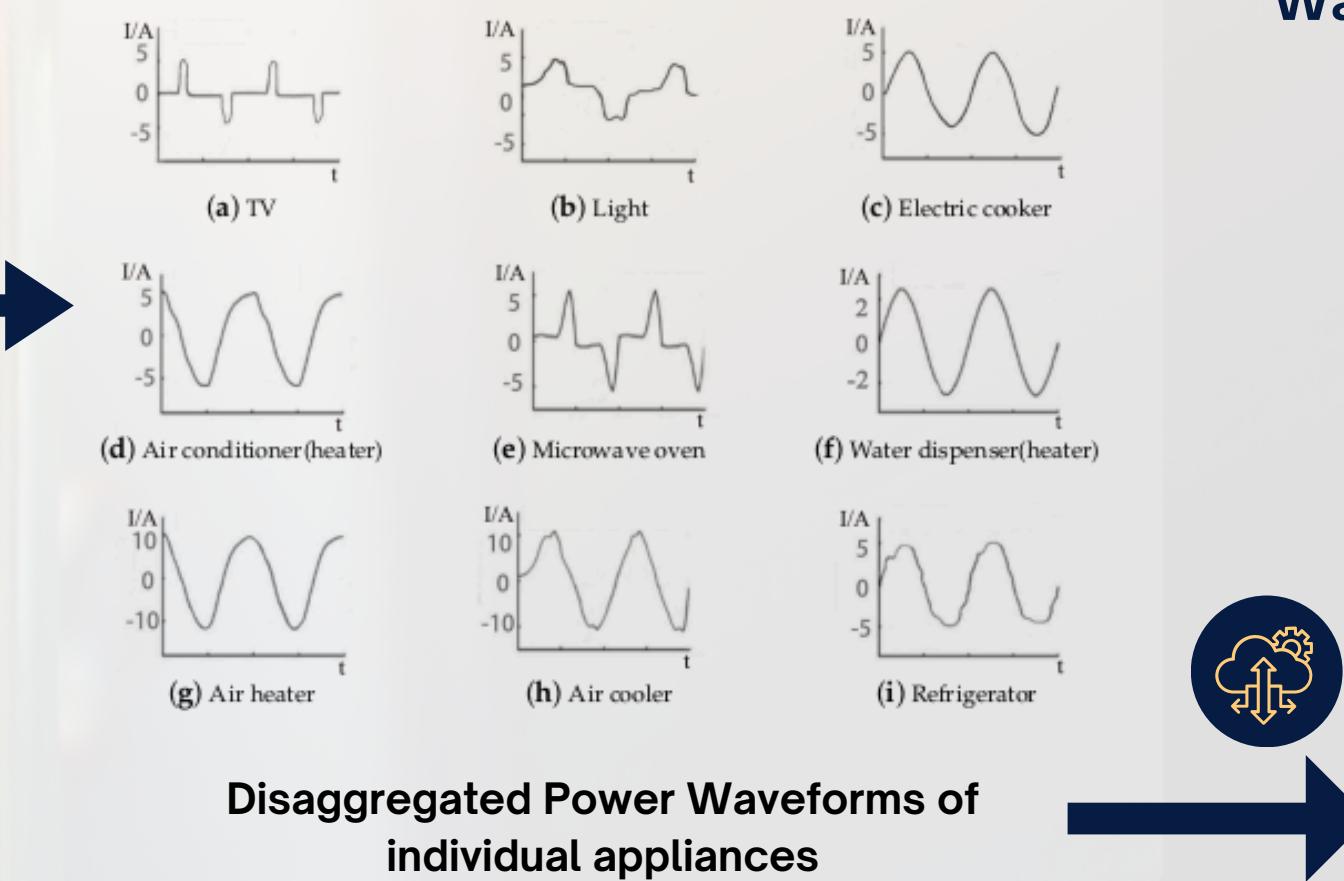
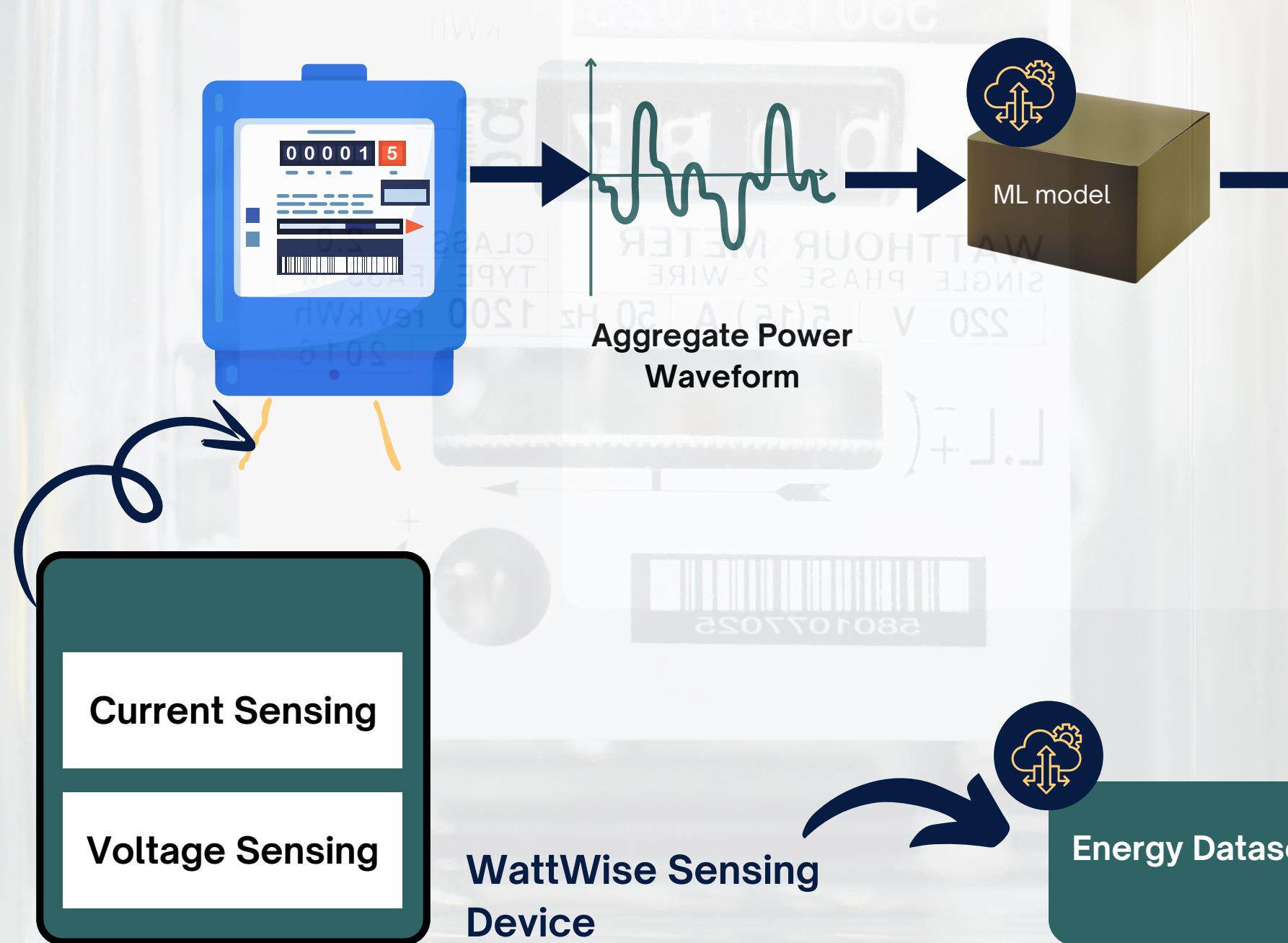


WattWise

Where Efficiency Meets Intelligence



# SOLUTION OVERVIEW



# KEY FEATURES



## Live Updates

- Real-time appliance-wise & overall consumption updates



## Cost Tracker

- Monitor usage patterns
- Get billing details
- Receive alerts during unusual usage



## Gamification & Set Goals

- Set and track personalized energy goals
- Earn rewards for electricity savings

## Energy Insights

- Suggestions to optimize usage
- Notifying preferable usage times to lower carbon footprint
- Predictive insights for appliance health and future bills.
- Notify user on anomalies



# IMPACT WE MAKE

Sustainability

Save your  
electricity bills

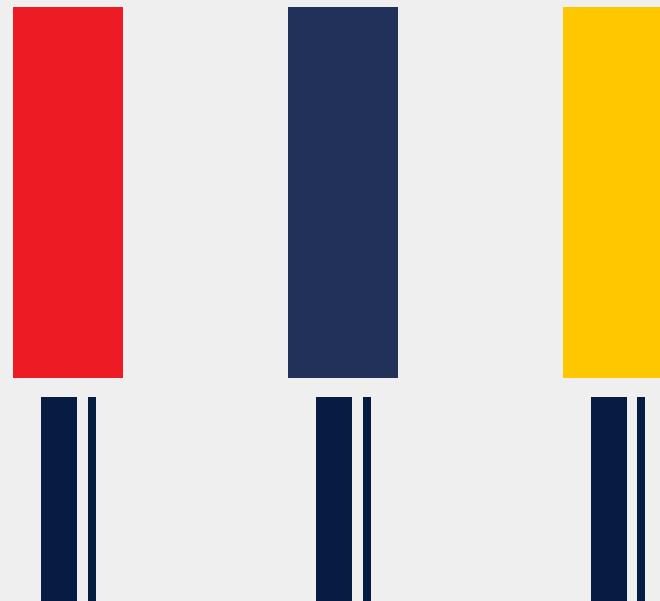
Mindful electricity  
consumption habit  
development

Encouragement to use  
energy efficient  
electric appliances



# FEEDBACK

FROM JUDGES



01

**Value to Customer**

**“SO WHAT?”**

02

**Three-phase implementation**

WattWise will implement its features for both single-phase and three-phase power distribution systems.



# BUSINESS MODEL

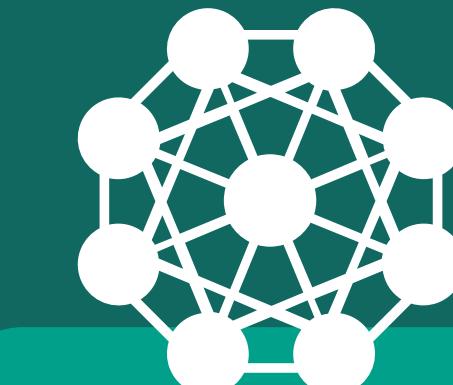
Value Proposition, Key Partners & Key Resources



Platform



Utility Service Providers  
Smart Energy Monitoring  
Device Manufacturers



Machine Learning models  
Datasets

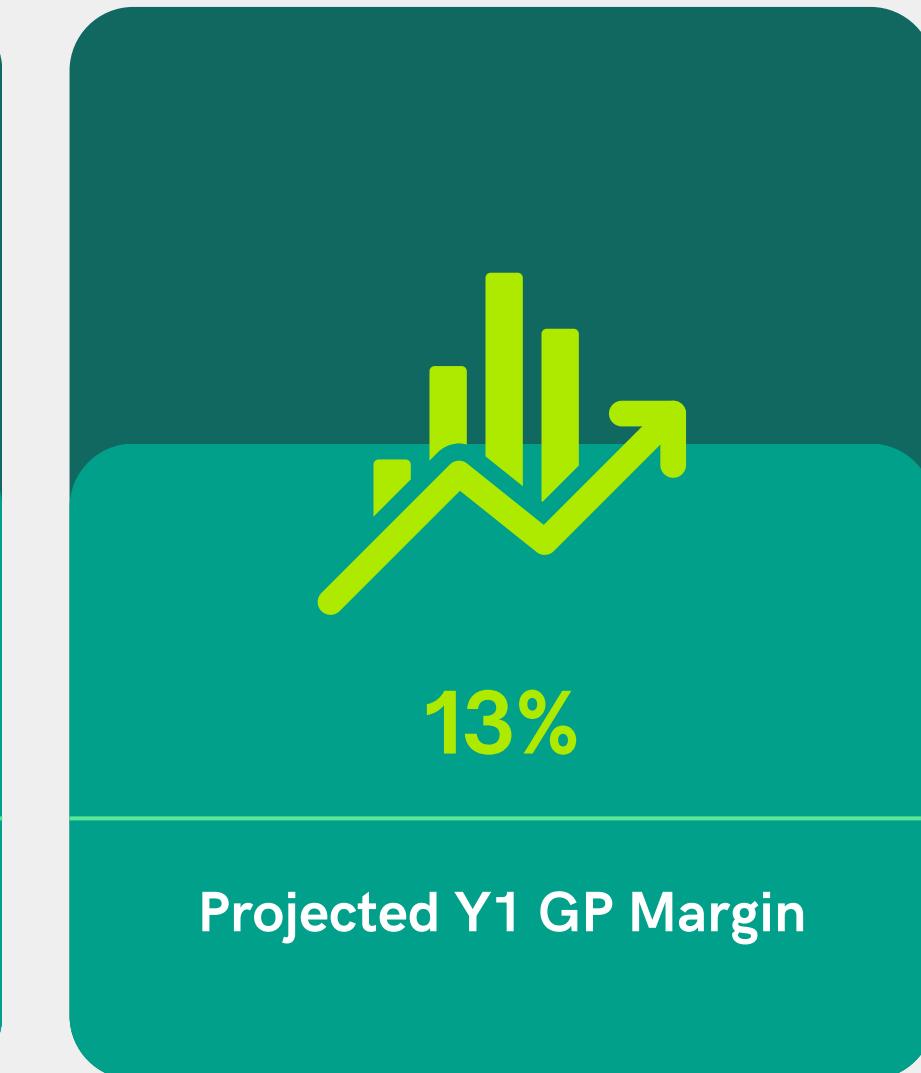


# BUSINESS MODEL

Revenue Streams, Cost Structure & Financial Projections



**LKR  
4999**



**Subscription Tiers**  
FREE | Standard @ LKR 299/mo | Premium @ LKR 499/mo



# BUSINESS MODEL

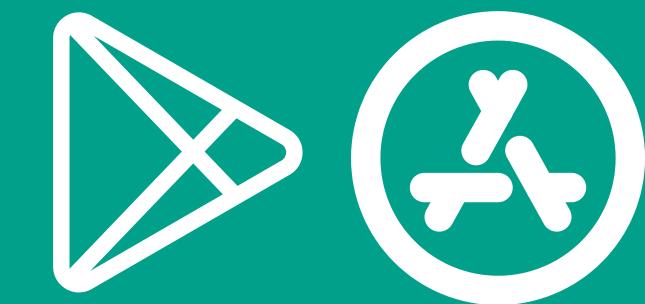
## Channels & Go To Market Strategy



Major Electronic Retailers



Workshops & Events  
Print Media



WattWise website  
Social Media  
Playstore & Appstore

# SWOT ANALYSIS



Untapped local market

Affordability &  
Skilled Team

S

O

Current  
Economic  
Situation

W

T

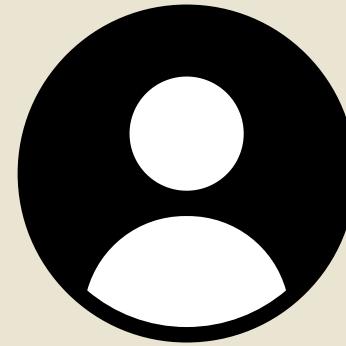
Lack of local  
data



# TESTIMONIALS



As a small retail business owner, I was shocked by my 25,000 LKR bill last month; having a device that breaks down consumption would be useful, and I am willing to purchase it and pay the subscription fee if it helps save energy.



**Mrs. Mali Perera**

Small Retail Business Owner



I find WattWise to be a remarkable initiative. Its promising prototype, with an intuitive user interface and robust underlying technology, is exactly what Sri Lanka needs to empower households with effective tools for managing their energy consumption.

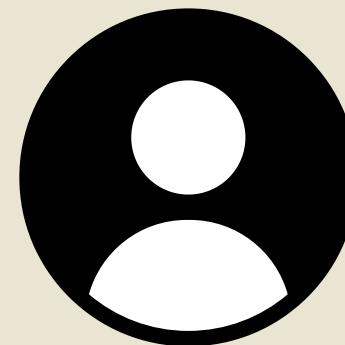


**Dr. V. Logeeshan**

Senior Lecturer,  
Department of Electrical Engineering,  
Faculty of Engineering,  
University of Moratuwa

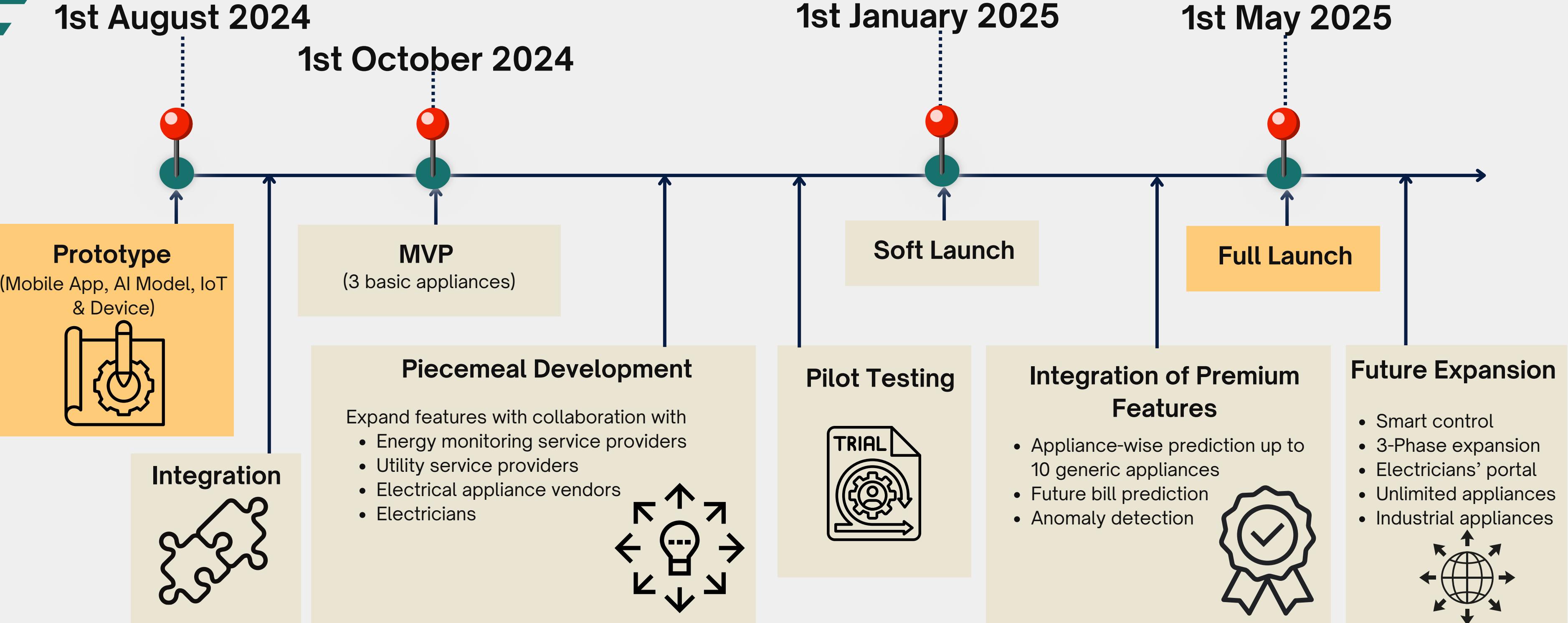


My electricity bill is around 8,000 LKR, and I don't mind spending 10,000 LKR for a device that breaks down my consumption, as it would help me save on bills in the long run.



**Anonymous**

# ROADMAP



# OUR TEAM



Saeedha Nazar



Dulini Himeka



Nuthya Prathibhani



Leon Fernando

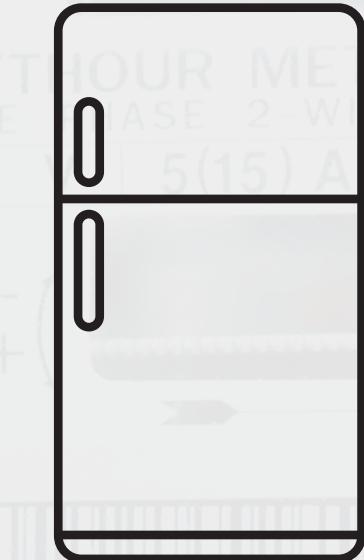
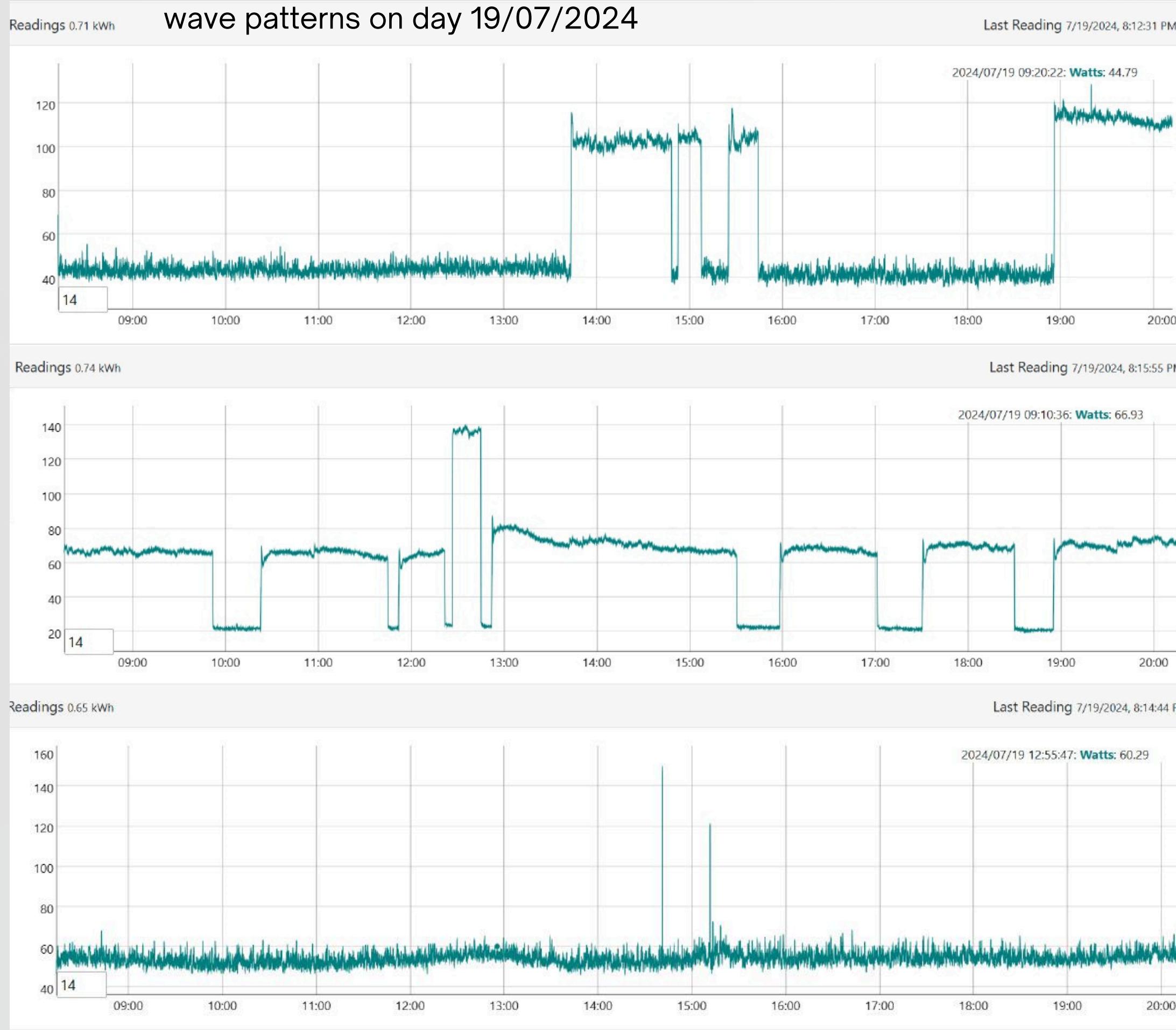


Nimesh Fonseka



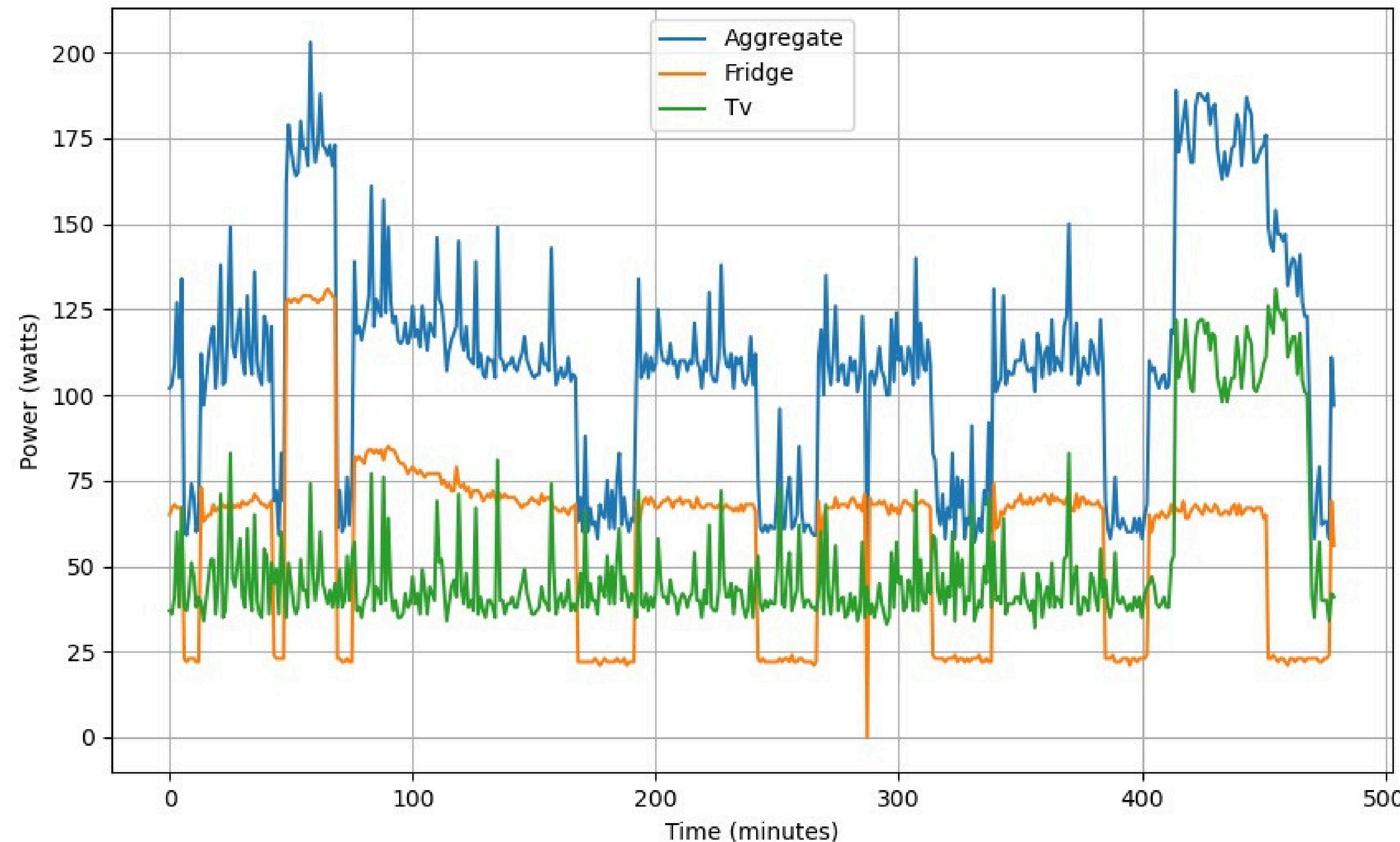
Demo

# Data Collection for 1 Month

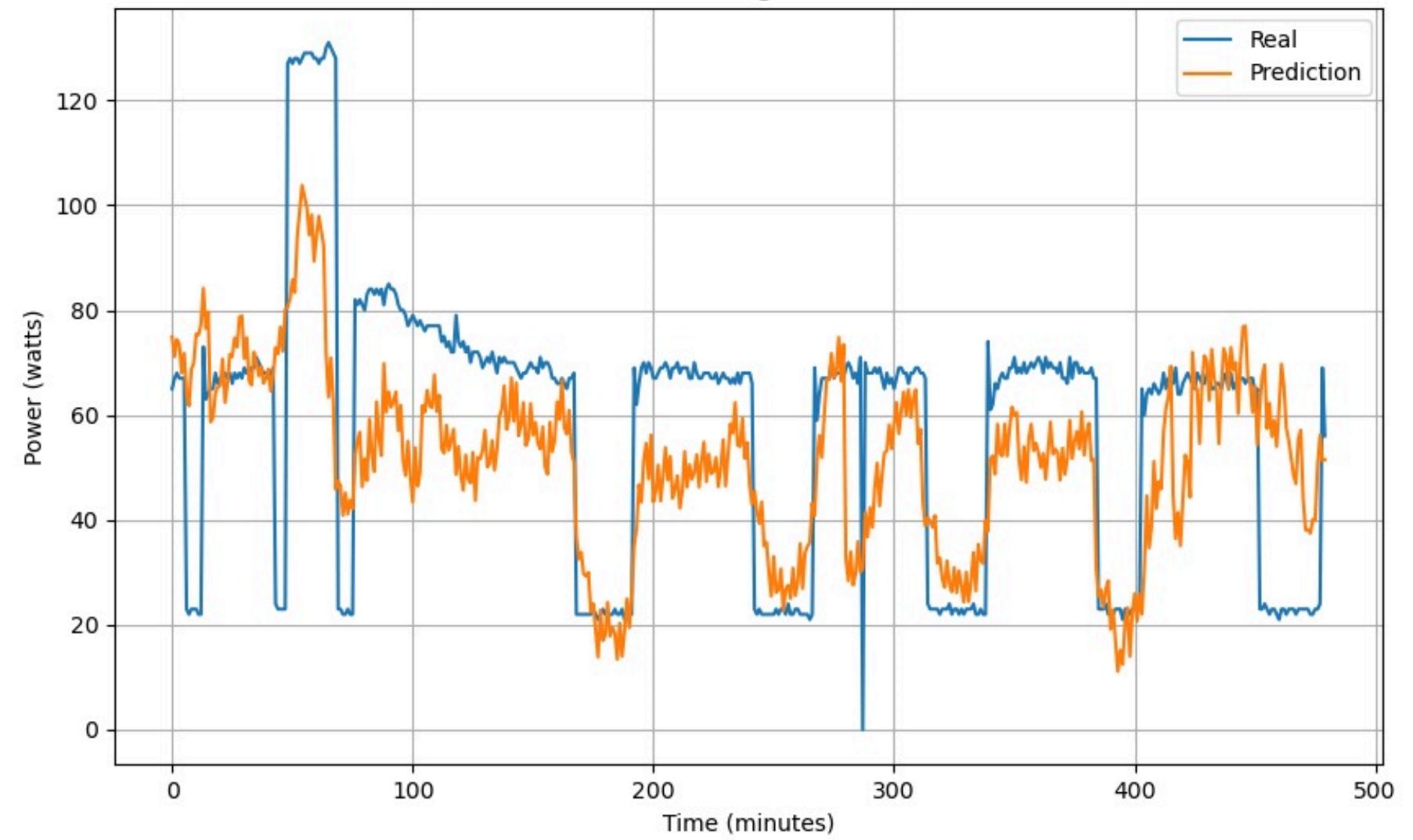


very less usage instances( no enough training data)

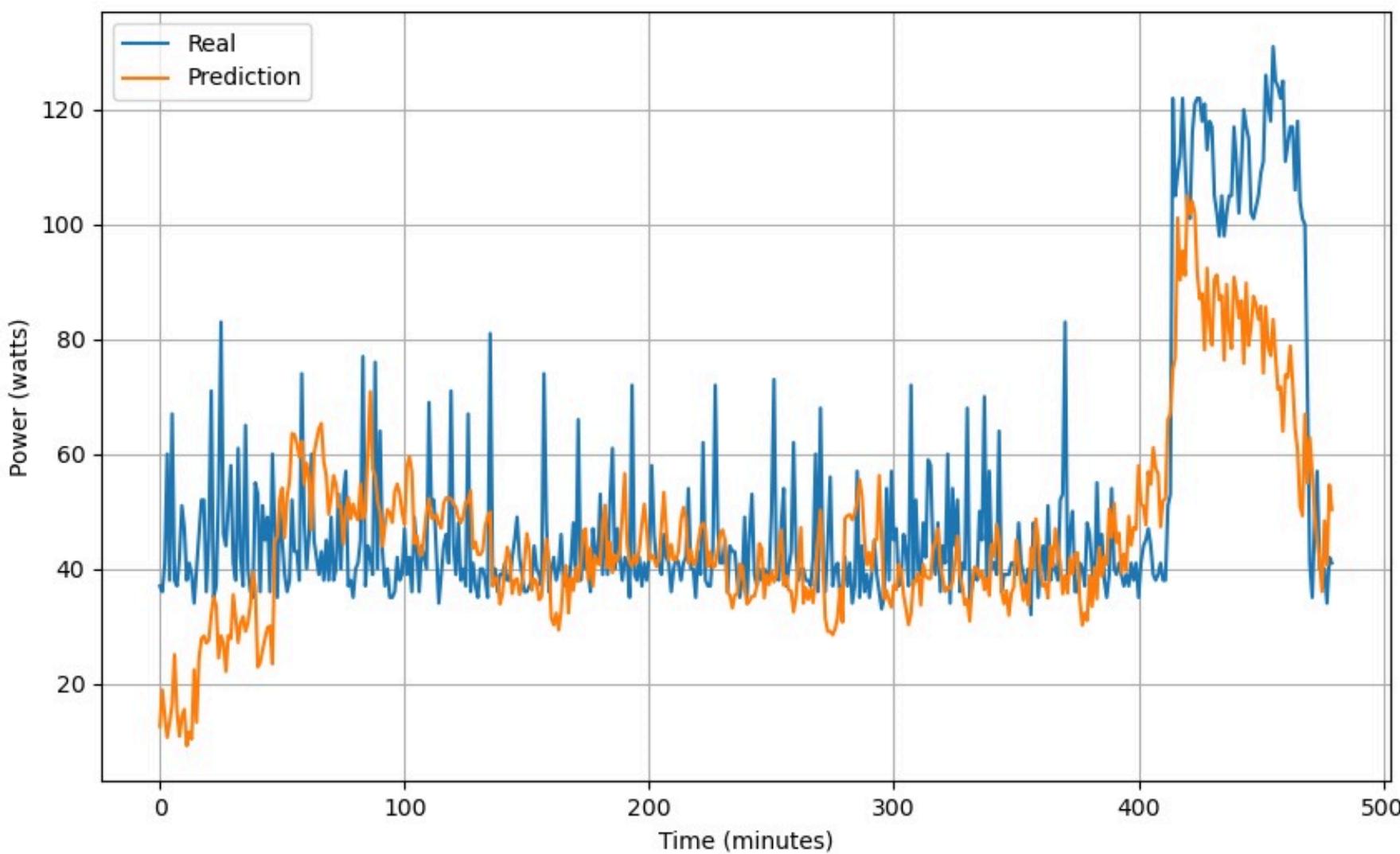
# Disaggregation

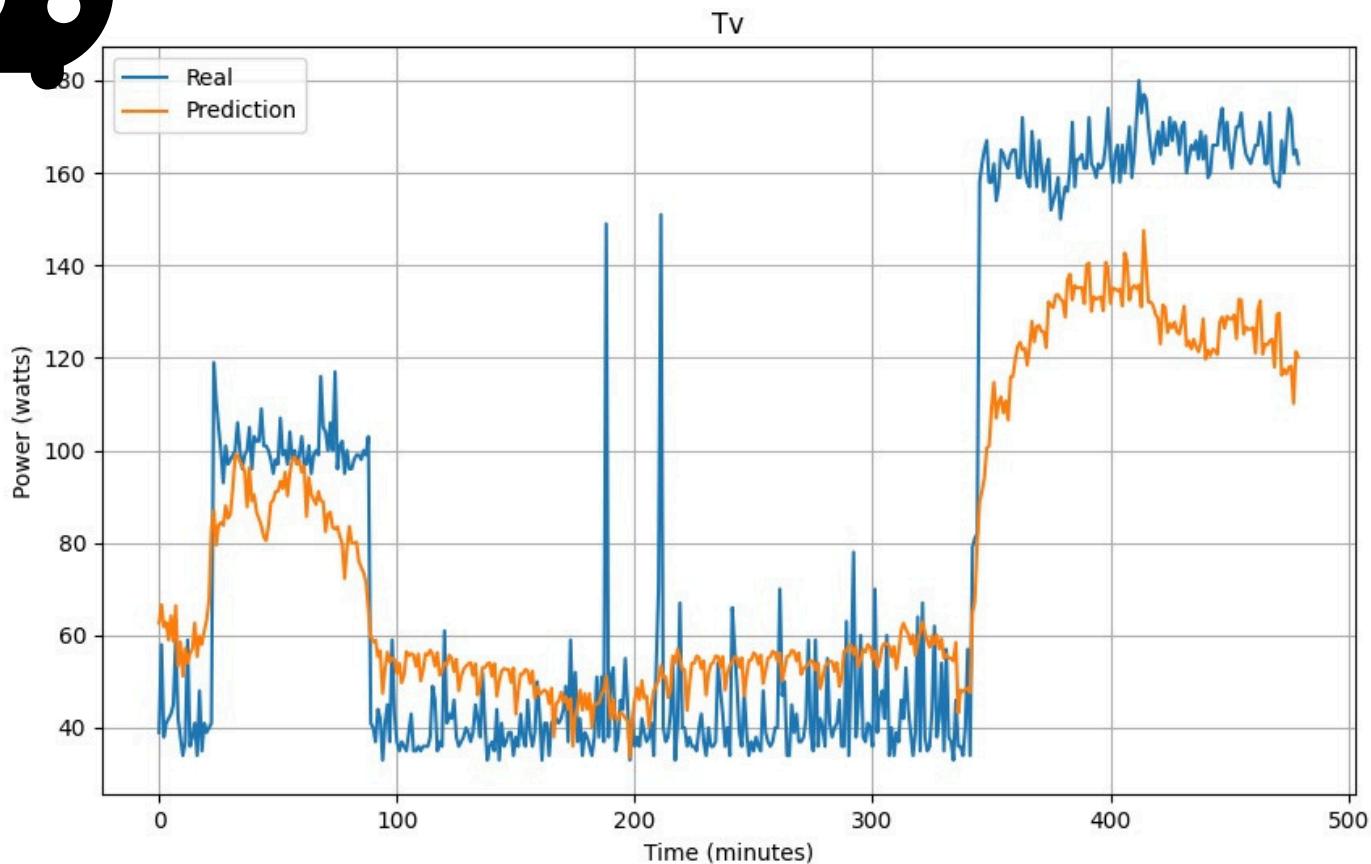
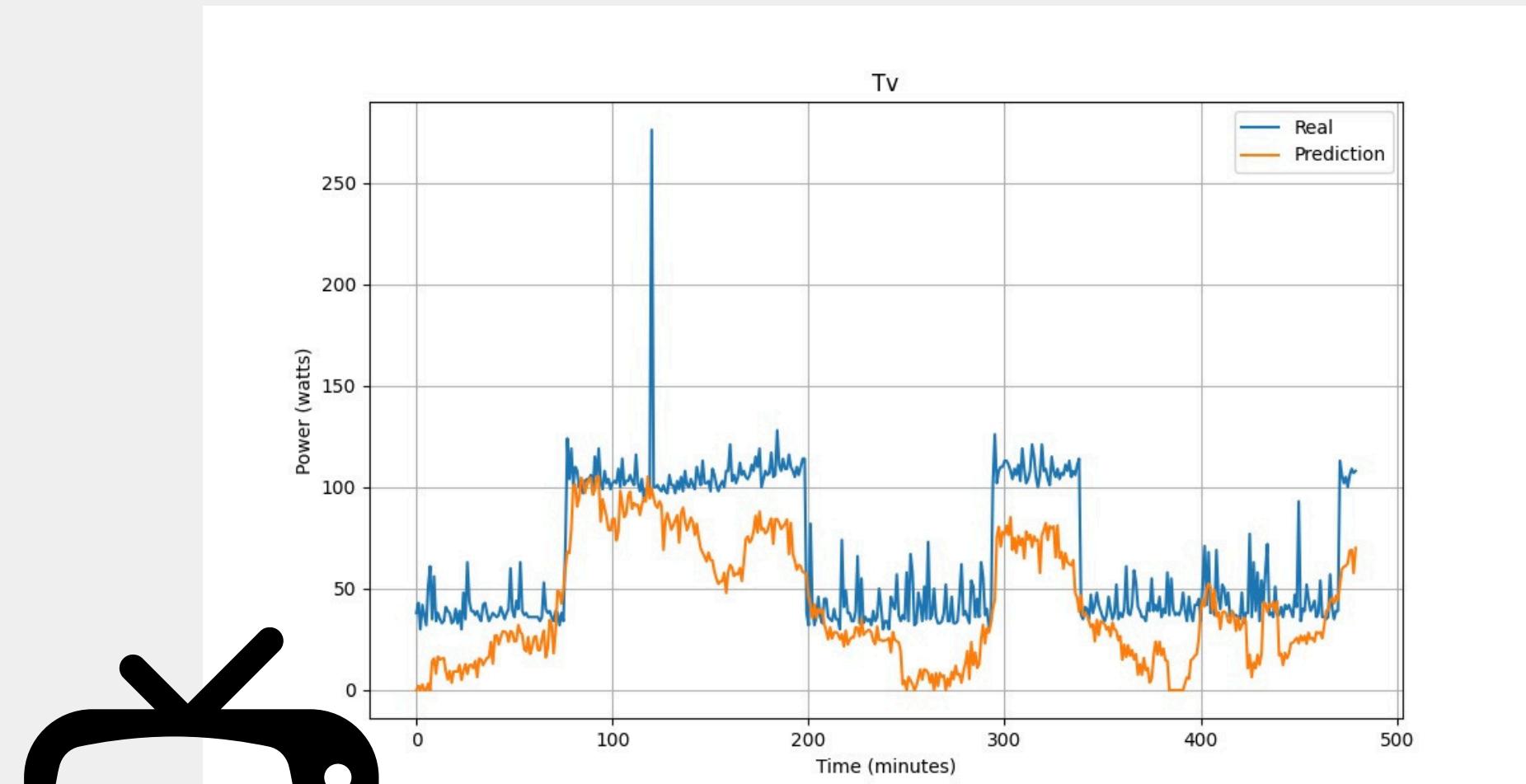
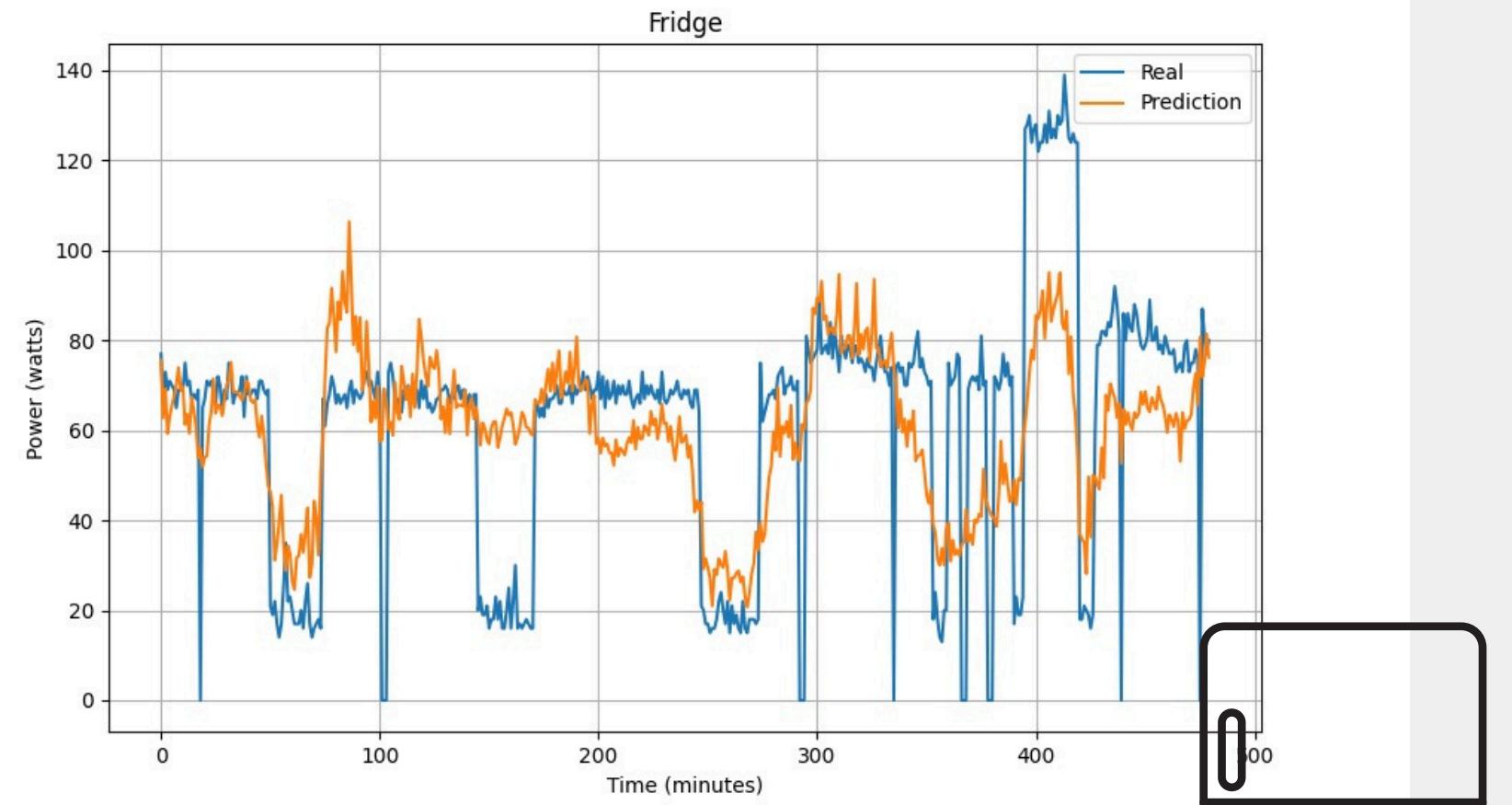


Fridge

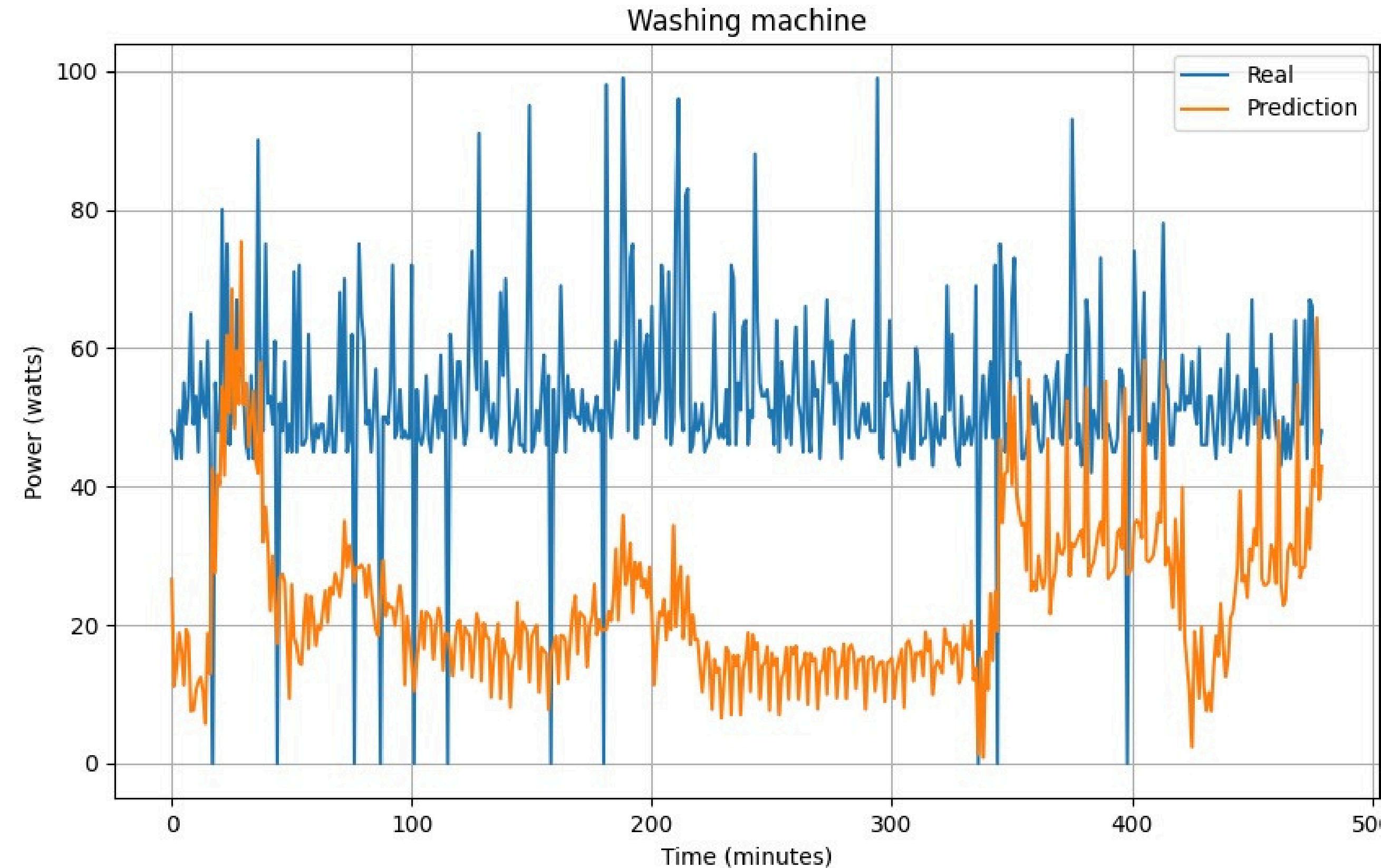


Tv





# Predicted Disaggregation of the Washing Machine



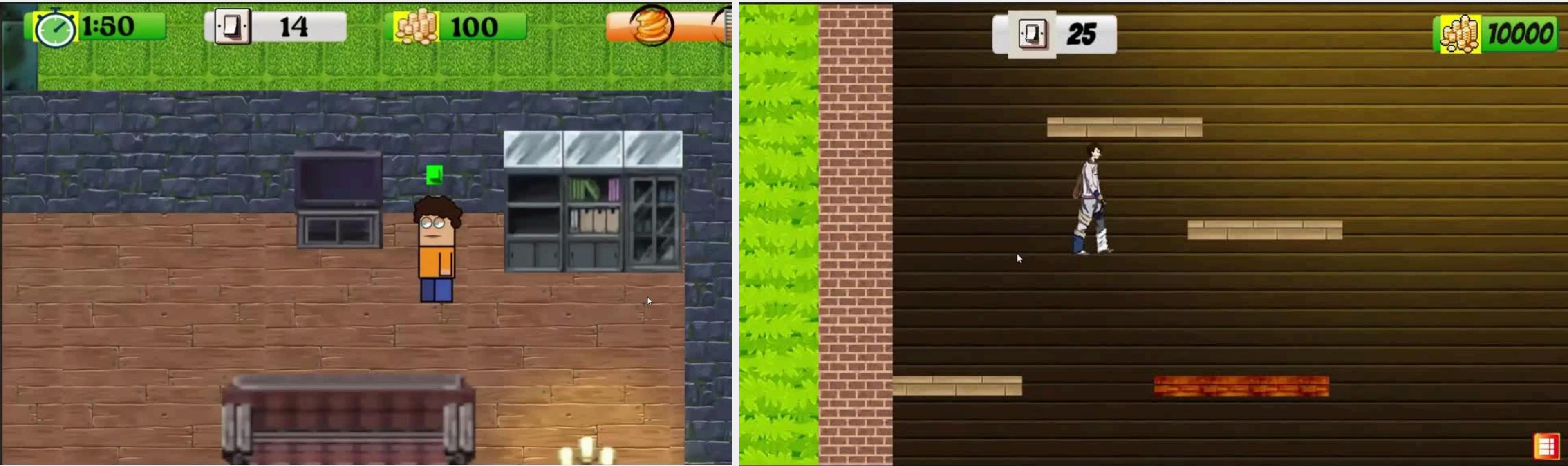
```
fridge
mse: 440.27799999999996
rmse: 20.875999999999998
mae: 16.408
sae: -0.062
nde: 0.37808
energy_precision: 0.89086
energy_recall: 0.82806
accuracy: 0.81666
f1: 0.8764799999999999
precision: 0.8478999999999999
recall: 0.9245599999999999
```

```
tv
mse: 434.654
rmse: 20.55
mae: 15.752
sae: -0.048
nde: 0.40152
energy_precision: 0.8722
energy_recall: 0.8230600000000001
accuracy: 0.8341799999999999
f1: 0.57828
precision: 0.5788800000000001
recall: 0.6405000000000001
```

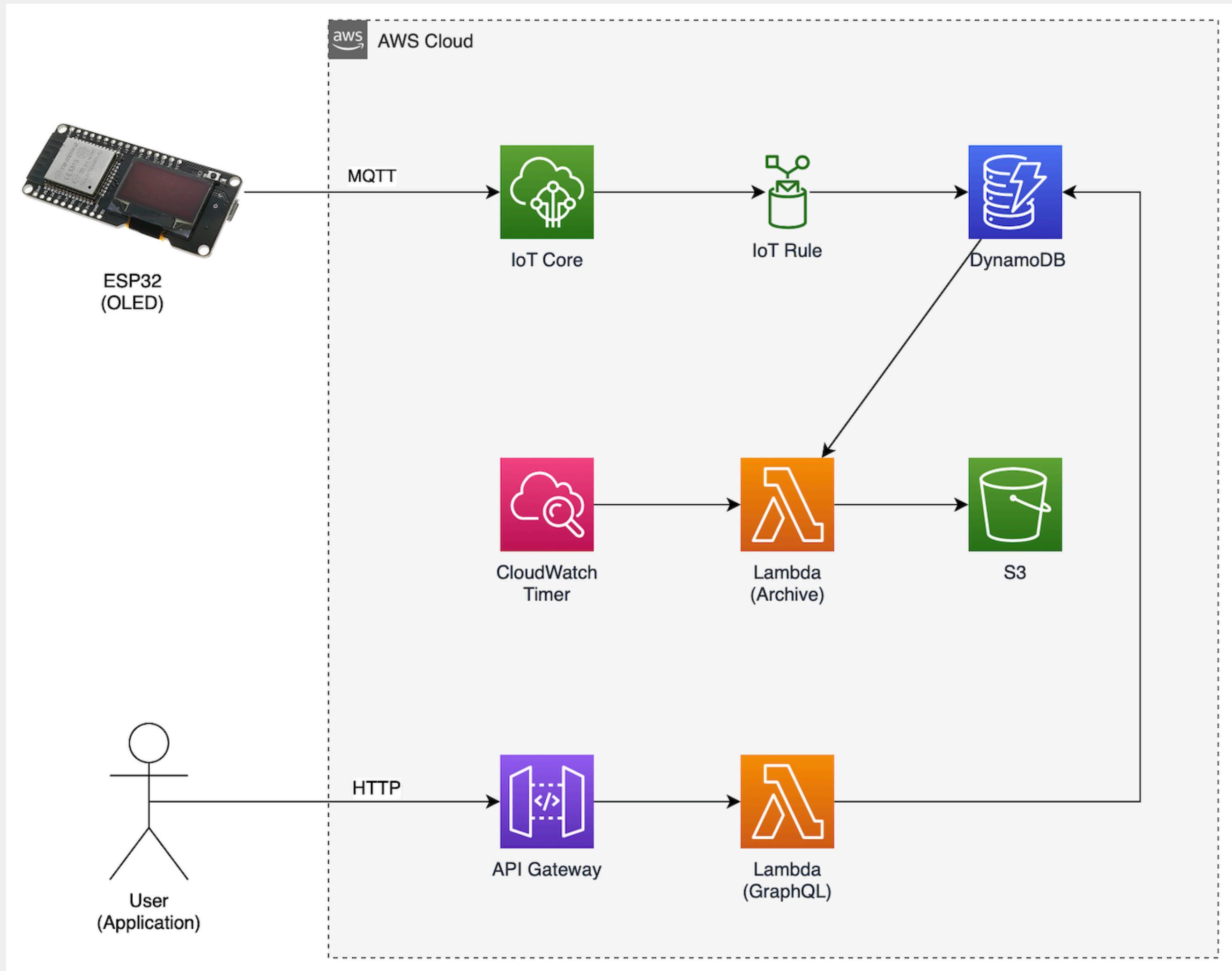
## Next Plans:

- Cloud deployment
- Real time data inferencing
- Improving data collection for 10 appliances

# WattWise Game

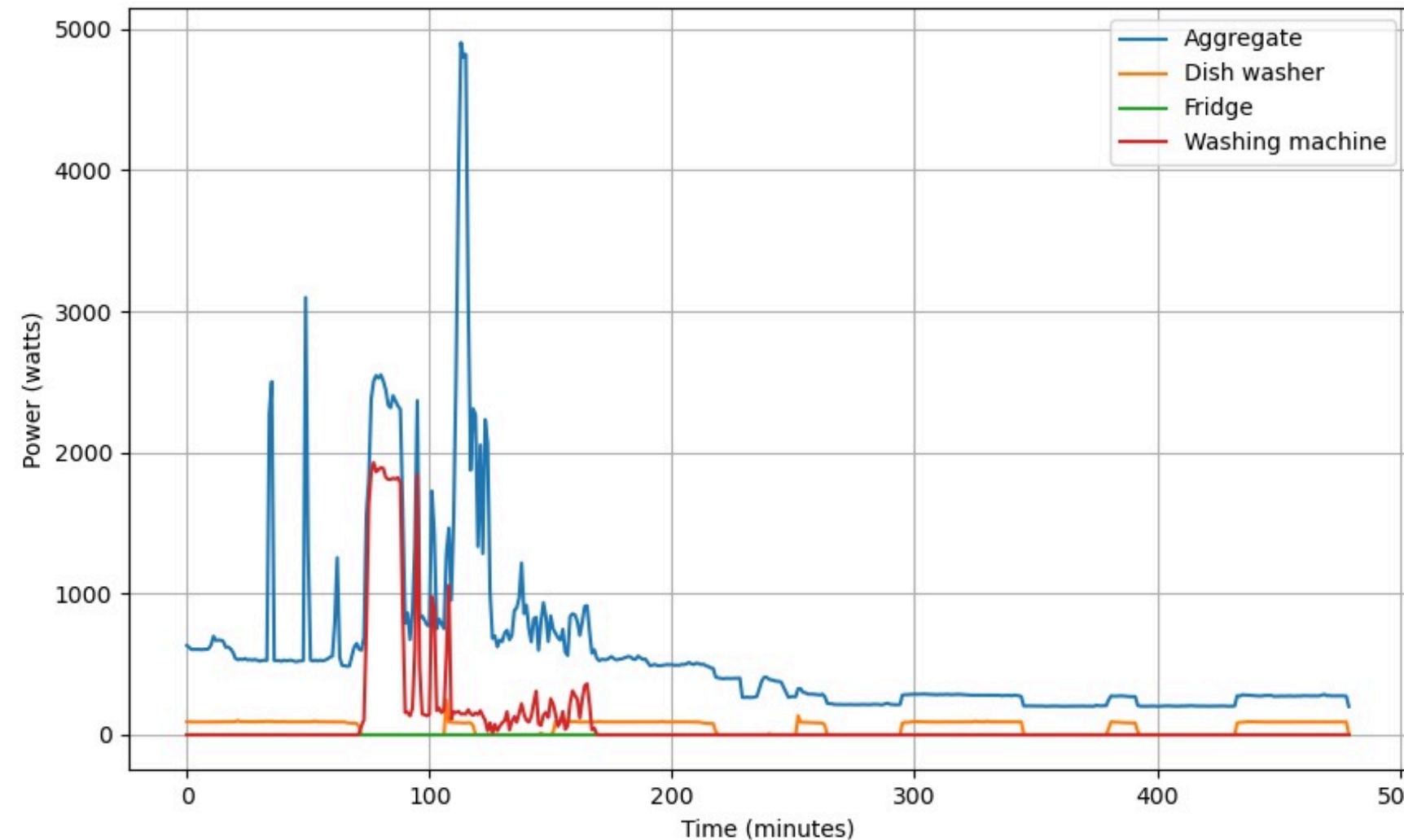


# Q&A

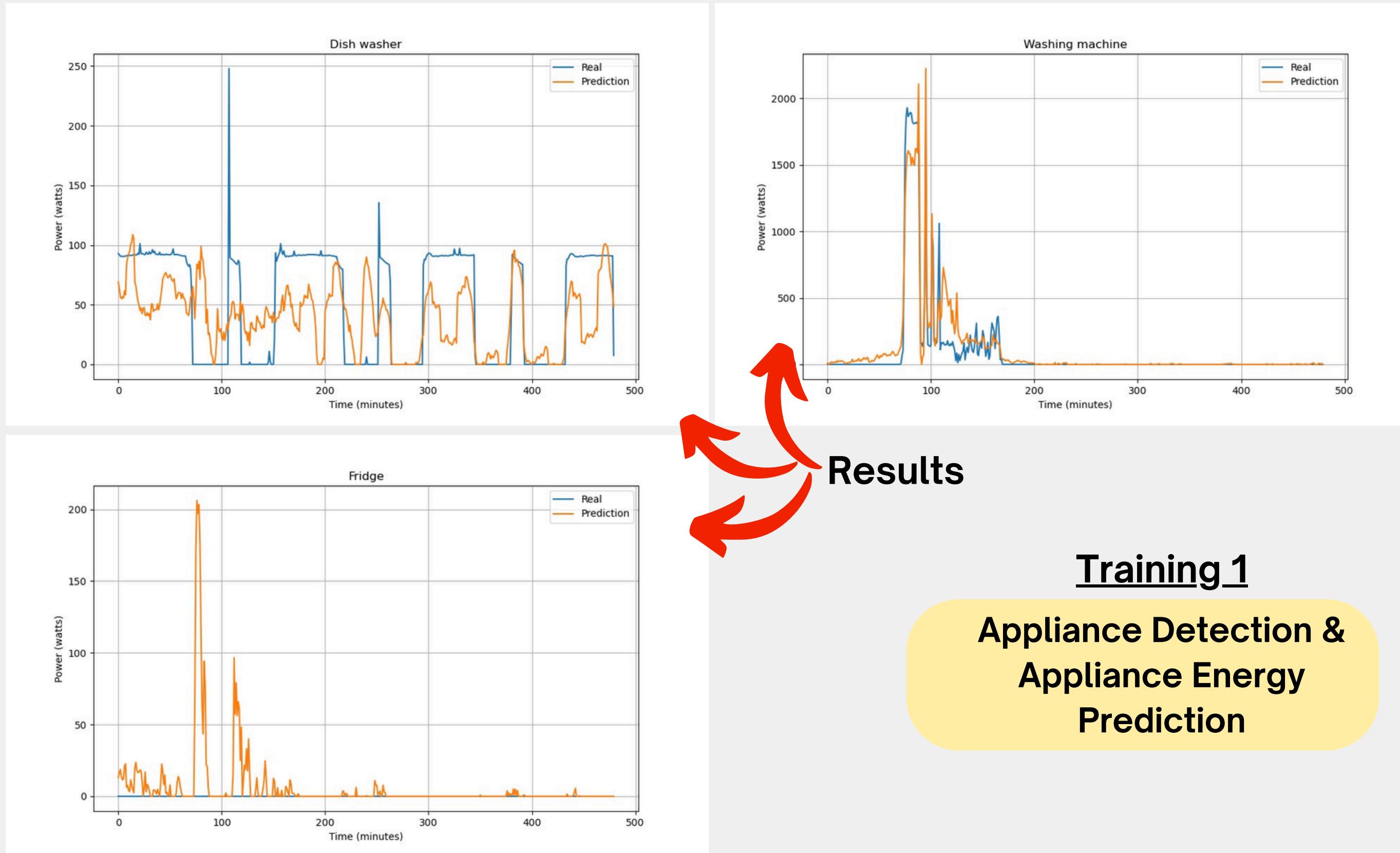


# Results from the UK-Dale Dataset

## Appliance Detection & Appliance Energy Prediction



# Results from the UK-Dale Dataset



# Results from the UK-Dale Dataset

```
Train size: 0.8
Validation size: 0.1
Number of models: 5
Batch size: 32
Learning rate: 0.0001
Dropout: 0.1
Epochs: 300
Patience: 30
Time per model (seconds): 9423.554
=====
regression
```

```
washing_machine
mse: 6166.454
rmse: 78.45599999999999
mae: 20.918
sae: 0.182
nde: 0.34962
energy_precision: 0.7028
energy_recall: 0.83134
accuracy: 0.9809599999999999
f1: 0.69108
precision: 0.6313799999999999
recall: 0.76498
```

```
dish_washer
mse: 1414.236
rmse: 37.598
mae: 28.116000000000003
sae: -0.036
nde: 0.71418
energy_precision: 0.68292
energy_recall: 0.65956
accuracy: 0.71828
f1: 0.7614
precision: 0.63112
recall: 0.9598800000000001
```

## Training\_1

Appliance Detection &  
Appliance Energy  
Prediction

## Results



```
fridge
mse: 6268.519999999995
rmse: 79.148
mae: 11.858
sae: 0.358
nde: 0.45612
energy_precision: 0.60714
energy_recall: 0.8222799999999999
accuracy: 0.9905200000000001
f1: 0.5906
precision: 0.42342
recall: 0.9868600000000001
```

## **Market Evaluation – Energy Management, Sri Lanka**

Below are all estimated figures.

Source: <https://www.statista.com/outlook/cmo/smart-home/energy-management/sri-lanka>

Number of active household users as of 2024 = 266.2k

Average revenue per user per year  $\approx$  LKR 7,000

Current market size (SAM) = LKR 1,881.5 mn

Household penetration will be at 2%, hence,

Serviceable Obtainable Market @ 2% = LKR 37.63 mn

Figures extracted from our financial projections:

Number of active household users by year-end = 15000 (5.6% penetration)

Total revenue = LKR 97.2 mn (well within the SAM, but above the SOM)

Average revenue per user per year = LKR 6,480 (realistic compared to 7,000)

# Projected Income Statement

Description	May-2025	Jun-2025	Jul-2025	Aug-2025	Sep-2025	Oct-2025	Nov-2025	Dec-2025	Jan-2026	Feb-2026	Mar-2026	Apr-2026	FY 2024/25
<strong>Revenue</strong>													
Product Sales (LKR 4,999 pu)	99,980	399,920	749,850	1,499,700	2,499,500	3,999,200	5,498,900	7,498,500	9,498,100	11,997,600	14,497,100	17,496,500	75,734,850
Subscription Income													-
- STANDARD	2,990	14,950	37,375	80,730	153,985	272,090	435,045	657,800	938,860	1,294,670	1,723,735	2,242,500	7,854,730
- PREMIUM	499	2,495	5,988	13,473	25,449	45,409	72,355	109,780	156,686	302,667	402,624	524,250	1,661,675
Advertising	30,000	90,000	190,000	270,000	430,000	500,000	580,000	700,000	810,000	1,740,000	1,980,000	2,300,000	9,620,000
Electrician fee commission	3,200	12,800	24,000	48,000	80,000	128,000	176,000	240,000	304,000	384,000	464,000	560,000	2,424,000
<strong>Total Revenue</strong>	<strong>136,669</strong>	<strong>520,165</strong>	<strong>1,007,213</strong>	<strong>1,911,903</strong>	<strong>3,188,934</strong>	<strong>4,944,699</strong>	<strong>6,762,300</strong>	<strong>9,206,080</strong>	<strong>11,707,646</strong>	<strong>15,718,937</strong>	<strong>19,067,459</strong>	<strong>23,123,250</strong>	<strong>97,295,255</strong>
<strong>Direct Cost</strong>													
Manufacturing cost	80,000	320,000	576,000	1,140,000	1,856,000	2,880,000	3,960,000	5,196,000	6,460,000	8,160,000	9,860,000	11,356,000	51,844,000
Server costs	10,100	50,500	125,700	272,700	519,600	919,100	1,469,000	2,222,000	3,171,400	4,373,300	5,822,100	7,575,000	26,530,500
Tech team salaries	200,000	200,000	300,000	500,000	500,000	500,000	600,000	600,000	600,000	800,000	800,000	800,000	6,400,000
<strong>Total Direct Cost</strong>	<strong>290,100</strong>	<strong>570,500</strong>	<strong>1,001,700</strong>	<strong>1,912,700</strong>	<strong>2,875,600</strong>	<strong>4,299,100</strong>	<strong>6,029,000</strong>	<strong>8,018,000</strong>	<strong>10,231,400</strong>	<strong>13,333,300</strong>	<strong>16,482,100</strong>	<strong>19,731,000</strong>	<strong>84,774,500</strong>
<strong>Gross Profit</strong>	<strong>(153,431)</strong>	<strong>(50,335)</strong>	<strong>5,513</strong>	<strong>(797)</strong>	<strong>313,334</strong>	<strong>645,599</strong>	<strong>733,300</strong>	<strong>1,188,080</strong>	<strong>1,476,246</strong>	<strong>2,385,637</strong>	<strong>2,585,359</strong>	<strong>3,392,250</strong>	<strong>12,520,755</strong>
<strong>GP Margin</strong>	-112%	-10%	1%	0%	10%	13%	11%	13%	13%	15%	14%	15%	13%

# Projected Income Statement – continued

Projected Income Statement – continued													
Administrative Expenses													
Sales & Marketing Staff salaries	120,000	120,000	220,000	220,000	320,000	320,000	500,000	500,000	620,000	620,000	680,000	680,000	4,920,000
Admin staff salaries	60,000	60,000	140,000	140,000	180,000	180,000	280,000	280,000	340,000	340,000	380,000	380,000	2,760,000
Rent	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	1,800,000
Utilities	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	720,000
Travel	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	360,000
Other operational expenses	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	720,000
	<b>480,000</b>	<b>480,000</b>	<b>660,000</b>	<b>660,000</b>	<b>800,000</b>	<b>800,000</b>	<b>1,080,000</b>	<b>1,080,000</b>	<b>1,260,000</b>	<b>1,260,000</b>	<b>1,360,000</b>	<b>1,360,000</b>	<b>11,280,000</b>
<b>Marketing and Promotional</b>	100,000	100,000	150,000	150,000	200,000	200,000	200,000	200,000	250,000	250,000	250,000	250,000	2,300,000
<b>Total Operational Expenses</b>	<b>580,000</b>	<b>580,000</b>	<b>810,000</b>	<b>810,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,280,000</b>	<b>1,280,000</b>	<b>1,510,000</b>	<b>1,510,000</b>	<b>1,610,000</b>	<b>1,610,000</b>	<b>13,580,000</b>
<b>Other Income</b>													
Interest Income													
<b>EBITDA</b>	<b>(733,431)</b>	<b>(630,335)</b>	<b>(804,487)</b>	<b>(810,797)</b>	<b>(686,666)</b>	<b>(354,401)</b>	<b>(546,700)</b>	<b>(91,920)</b>	<b>(33,754)</b>	<b>875,637</b>	<b>975,359</b>	<b>1,782,250</b>	<b>(1,059,245)</b>
<b>Depreciation/Amortization</b>													
Depreciation	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	240,000
Amortization	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	300,000
	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	540,000
<b>EBT</b>	<b>(778,431)</b>	<b>(675,335)</b>	<b>(849,487)</b>	<b>(855,797)</b>	<b>(731,666)</b>	<b>(399,401)</b>	<b>(591,700)</b>	<b>(136,920)</b>	<b>(78,754)</b>	<b>830,637</b>	<b>930,359</b>	<b>1,737,250</b>	<b>(1,599,245)</b>
<b>Income Tax</b>													
<b>Net Profit</b>	<b>(778,431)</b>	<b>(675,335)</b>	<b>(849,487)</b>	<b>(855,797)</b>	<b>(731,666)</b>	<b>(399,401)</b>	<b>(591,700)</b>	<b>(136,920)</b>	<b>(78,754)</b>	<b>830,637</b>	<b>930,359</b>	<b>1,737,250</b>	<b>(1,599,245)</b>
<b>NP Margin</b>	-570%	-130%	-84%	-45%	-22.9%	-8.1%	-8.7%	-1.5%	-0.7%	5.3%	4.9%	7.5%	-1.64%

# Projected Cashflow Statement

Description	May-2025	Jun-2025	Jul-2025	Aug-2025	Sep-2025	Oct-2025	Nov-2025	Dec-2025	Jan-2026	Feb-2026	Mar-2026	Apr-2026	FY 2024/25
Opening Cash Balance		5,266,569	4,636,234	3,831,747	3,020,950	2,334,284	1,979,883	1,433,183	1,341,263	1,307,509	2,183,146	3,158,505	
<b>Cash Inflows</b>													
Product Sales (LKR 4,999 pu)	99,980	399,920	749,850	1,499,700	2,499,500	3,999,200	5,498,900	7,498,500	9,498,100	11,997,600	14,497,100	17,496,500	75,734,850
Subscription Income													
- STANDARD	2,990	14,950	37,375	80,730	153,985	272,090	435,045	657,800	938,860	1,294,670	1,723,735	2,242,500	7,854,730
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Advertising	30,000	90,000	190,000	270,000	430,000	500,000	580,000	700,000	810,000	1,740,000	1,980,000	2,300,000	
Electrician fee commission	3,200	12,800	24,000	48,000	80,000	128,000	176,000	240,000	304,000	384,000	464,000	560,000	2,424,000
<b>Total Cash Inflows</b>	<b>136,669</b>	<b>520,165</b>	<b>1,007,213</b>	<b>1,911,903</b>	<b>3,188,934</b>	<b>4,944,699</b>	<b>6,762,300</b>	<b>9,206,080</b>	<b>11,707,646</b>	<b>15,718,937</b>	<b>19,067,459</b>	<b>23,123,250</b>	<b>97,295,255</b>
<b>Cash Outflows</b>													
Direct Cost	290,100	570,500	1,001,700	1,912,700	2,875,600	4,299,100	6,029,000	8,018,000	10,231,400	13,333,300	16,482,100	19,731,000	84,774,500
Administrative Expenses	480,000	480,000	660,000	660,000	800,000	800,000	1,080,000	1,080,000	1,260,000	1,260,000	1,360,000	1,360,000	11,280,000
Marketing and Promotional	100,000	100,000	150,000	150,000	200,000	200,000	200,000	200,000	250,000	250,000	250,000	250,000	2,300,000
<b>Total Cash Outflows</b>	<b>870,100</b>	<b>1,150,500</b>	<b>1,811,700</b>	<b>2,722,700</b>	<b>3,875,600</b>	<b>5,299,100</b>	<b>7,309,000</b>	<b>9,298,000</b>	<b>11,741,400</b>	<b>14,843,300</b>	<b>18,092,100</b>	<b>21,341,000</b>	<b>98,354,500</b>
<b>Cash Surplus/(Deficit) from Operations</b>	<b>(733,431)</b>	<b>(630,335)</b>	<b>(804,487)</b>	<b>(810,797)</b>	<b>(686,666)</b>	<b>(354,401)</b>	<b>(546,700)</b>	<b>(91,920)</b>	<b>(33,754)</b>	<b>875,637</b>	<b>975,359</b>	<b>1,782,250</b>	<b>(1,059,245)</b>
Investment	6,000,000												6,000,000
<b>Closing Cash Balance</b>	<b>5,266,569</b>	<b>4,636,234</b>	<b>3,831,747</b>	<b>3,020,950</b>	<b>2,334,284</b>	<b>1,979,883</b>	<b>1,433,183</b>	<b>1,341,263</b>	<b>1,307,509</b>	<b>2,183,146</b>	<b>3,158,505</b>	<b>4,940,755</b>	<b>4,940,755</b>

# Projected Breakeven Analysis

	May-2025	Jun-2025	Jul-2025	Aug-2025	Sep-2025	Oct-2025	Nov-2025	Dec-2025	Jan-2026	Feb-2026	Mar-2026	Apr-2026	FY 2024/25
Cumulative units sold	20	100	250	550	1050	1850	2950	4450	6350	8750	11650	15150	
Fixed Costs	790,100	830,500	1,235,700	1,582,700	2,019,600	2,419,100	3,349,000	4,102,000	5,281,400	6,683,300	8,232,100	9,985,000	46,510,500
Contribution	19,980	79,920	173,850	359,700	643,500	1,119,200	1,538,900	2,302,500	3,038,100	3,837,600	4,637,100	6,140,500	23,890,850
Other revenue	36,689	120,245	257,363	412,203	689,434	945,499	1,263,400	1,707,580	2,209,546	3,721,337	4,570,359	5,626,750	21,560,405
Margin	(733,431)	(630,335)	(804,487)	(810,797)	(686,666)	(354,401)	(546,700)	(91,920)	(33,754)	875,637	975,359	1,782,250	(1,059,245)
Margin %	-92.83%	-75.90%	-65.10%	-51.23%	-34.00%	-14.65%	-16.32%	-2.24%	-0.64%	13.10%	11.85%	17.85%	-2.28%

