

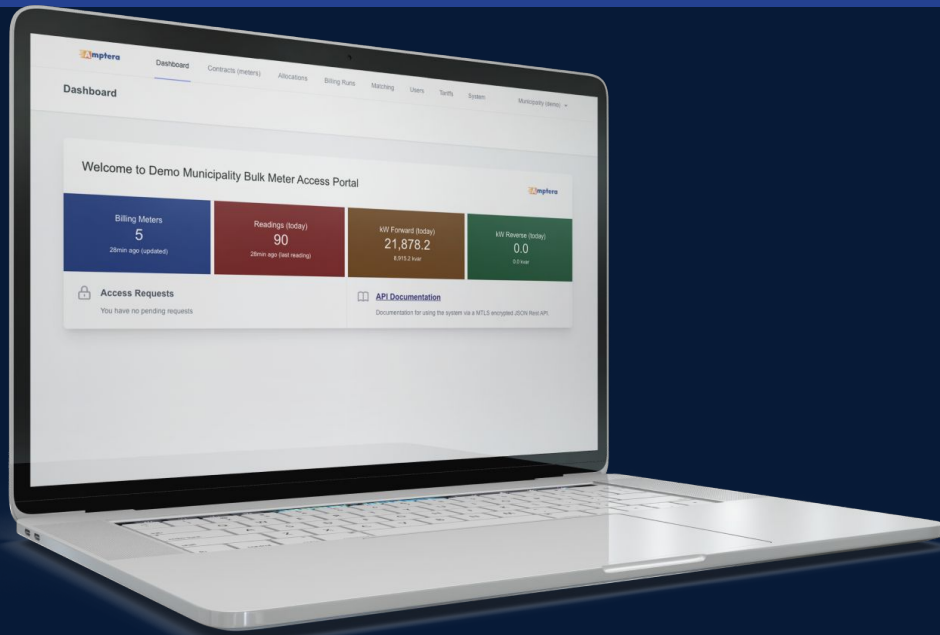


**OPEN**  
access energy

Opening energy access to all

# Making Your Energy Smart

Open Access Energy provides Amptera and all-in-one energy billing solution software free to the public sector.



End-to-end Billing Solution



Increased Revenue



Streamlined Workflows



Free


# Key Benefits

**Automation:** Integrates essential processes for cohesive revenue assurance.

**Accuracy:** Conducts frequent meter readings, securely storing data in the cloud.

**Scalability:** Uses advanced technology for seamless integration with third-party solutions.

**Simplicity:** Provides a user-friendly interface that consolidates data and billing.



[CLICK HERE TO FILTER YOUR RESULTS](#)

NAME	METER #	TARIFF	FEED IN TARIFF	LAST MODIFIED	ACTIONS
<a href="#">Test Meter 1 - Business Park</a>	11111111	3C: Medium voltage at HV/MV substation consumers (Time of Use)		2024-05-22 10:00:01	<a href="#">EDIT METER</a> <a href="#">BILLS</a> <a href="#">DELETE</a>
<a href="#">Test Meter 2 - Resort</a>	11111112	2C: Commercial Flex		2024-05-22 10:00:01	<a href="#">EDIT METER</a> <a href="#">BILLS</a> <a href="#">DELETE</a>
<a href="#">Test Meter 3 - Complex</a>	11111113	3C: Medium voltage at HV/MV substation consumers (Time of Use)		2024-05-22 10:00:01	<a href="#">EDIT METER</a> <a href="#">BILLS</a> <a href="#">DELETE</a>
<a href="#">Test Meter 4 - Business block</a>	11111114	3C: Medium voltage at HV/MV substation consumers (Time of Use)		2024-05-22 10:00:01	<a href="#">EDIT METER</a> <a href="#">BILLS</a> <a href="#">DELETE</a>
<a href="#">Test Meter 5 - Onsite Gen</a>	11111115	3C: Medium voltage at HV/MV substation consumers (Time of Use)		2024-05-22 10:00:02	<a href="#">EDIT METER</a> <a href="#">BILLS</a> <a href="#">DELETE</a>

[REQUEST ACCESS](#) [REVIEW PENDING REQUESTS](#) [CREATE NEW CONTRACT / METER](#)



Through the use of dynamic contracts you are able to setup/integrate any smart meter enabling seamless meter reading, billing and energy wheeling.

# Key Features

- Automated meter reading system
- Meter Data Management system
- Tariff Engine
- Wheeling capabilities
- Billing
- Application Programming Interface
- Cloud based
- State of the art cyber security

### Contract Details

Meter / Contract Name

Test Meter 1 - Business Park

### Meter Details

Meter Number

11111111

IP Address 192.168.1.1 IP Port 5000

Number of allowed linked contracts 1

Tariff 3C: Medium voltage at HV/MV substation consumers (Time of Use) (3.C) ▾

Feed-in Tariff \*\*\* No Tariff \*\*\* ▾

Feed-in Active Start Date 2022/01/01

CANCEL UPDATE

### Custom billing lines

This allows you to add discounts or custom amounts to the bill for this meter.

ADD BILLING LINE

### Meter Variables

Capacity (in Amp) 60

Phase (1 or 3) 1

Network Access (kVA) 24.476210899565

Network Access (kVA) Date 2024-02-17 19:00

Breaker Size

Meter Voltage

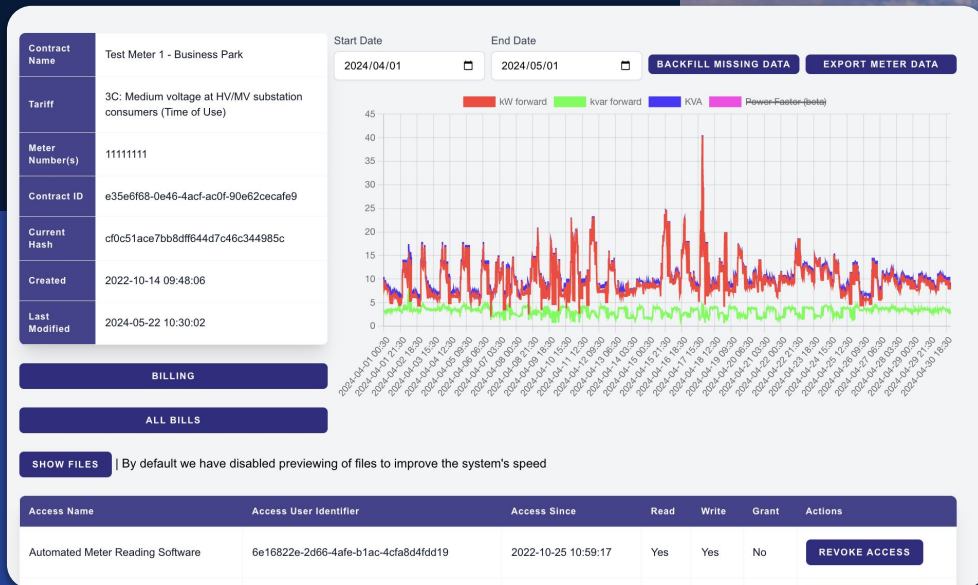
Key Customer



Our meter setup is streamlined and customizable, efficiently pulling data directly from your meter and designed for easy replacement, ensuring continuous operation and data accuracy.

# Automated Meter Reading Systems

- AMRS retrieves the latest data from smart meters and stores it in a cloud-based database for easy access.
- Features accurate interval meter readings.
- Adopts global standards.
- Provides readings at 30-minute intervals.



AMRS continuously looks for missing data from meters. If a meter is not connecting or data is missing, the AMRS (Automated Meter Reading System) will perform a subsequent reading to backfill any gaps in the data.

# Tariff Module



**Robust Tariff Engine:** Expertly manages the complexities of diverse South African tariffs.

**Easy Tariff Loading:** Streamlines the addition of new tariffs.

**Accurate Assignment:** Allows tariffs to be assigned and locked to specific accounts.

**Billing Accuracy:** Ensures precise customer billing.

WEPS Local Authority ( >600km & ≤900km; ≥66kV & ≤132kV )

YEAR 2023/24 2024/25 + **EDIT YEAR** **PUBLIC HOLIDAYS** **DUPLICATE YEAR** **CLEAR CACHE** **EDIT TARIFF**

Name Year Start Date Year End Date Public Holiday Group  
2024/25 2024/07/01 2025/06/30 Group 1 (2024/2025) - Megaflex, A

## kVAr charges

kvarh charge applicable below (power factor value) percentage of kwh discount (percentage)

## Bill lines

#	Description	Qty Unit / Decimals	Type	Calculations	Action
1	Active Energy Charge (Peak)	kWh 2	Active Energy (R/kWh)	<input checked="" type="checkbox"/> Peak <input type="checkbox"/> Standard <input type="checkbox"/> Offpeak Qty Calculation or Value: Qty Calc Variables available to use in Qty Calculation: {qty} {td} {capacity} {phase} {network_access_kva} {network_access_kva_date} {breaker_size} {meter_voltage} {key_customer} Band: Start - End Hide IF: set 'false' 2 show X	
2	Active Energy Charge (Standard)	kWh 4	Active Energy (R/kWh)	<input type="checkbox"/> Peak <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Offpeak Qty Calculation or Value: Qty Calc Variables available to use in Qty Calculation: {qty} {td} {capacity} {phase} {network_access_kva} {network_access_kva_date} {breaker_size} {meter_voltage} {key_customer} Band: Start - End Hide IF: set 'false' 2 show X	
3	Active Energy Charge (Offpeak)	kWh 4	Active Energy (R/kWh)	<input type="checkbox"/> Peak <input type="checkbox"/> Standard <input checked="" type="checkbox"/> Offpeak Qty Calculation or Value: Qty Calc Variables available to use in Qty Calculation: {qty} {td} {capacity} {phase} {network_access_kva} {network_access_kva_date} {breaker_size} {meter_voltage} {key_customer} Band: Start - End Hide IF: set 'false' 2 show X	

Users can load and associate tariffs with customer accounts without frequent reloading. The system supports tariff adjustments and ensures accurate billing by applying these settings seamlessly within the Meter Data Management system



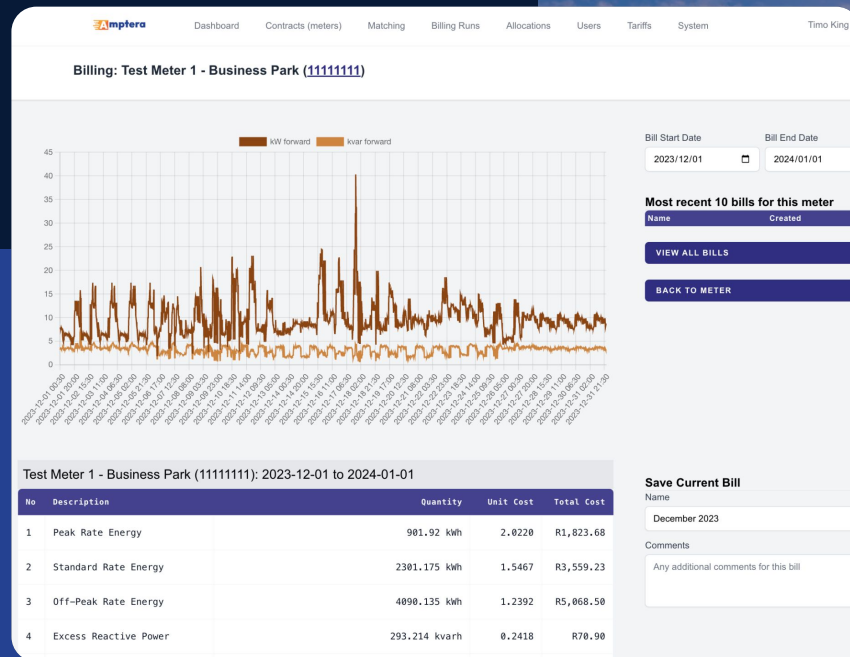
# Billing Module



**Automated Processes:** Streamlines billing operations, reducing manual intervention.

**Rapid Bill Generation:** Cuts down billing time from weeks to just minutes, enabling bills to be created in under two minutes.

**Flexible Distribution:** Bills can be securely sent via API to any server, enhancing integration and communication flexibility.



Our system generates real-time bills, accessible via a customer portal, consolidates billing for multiple meters under one account, and seamlessly integrates with ERP systems to automate and streamline billing processes.

# Billing Module

Name

Billing Run December 2023

Start Date

2023-12-01 00:00:00

End Date

2024-01-01 00:00:00

Summary

Contracts

5

Bill Saved

0

Saved to drive

0

Pushed to Google Sheet

0

SAVE TO DRIVE (FOR THIS PAGE)

DOWNLOAD ALL BILLS SAVED TO DRIVE

PUSH ALL SAVED TO GOOGLE SHEET

Add / Search Meters

Search Meter

Our advanced billing module streamlines monthly bill generation with a user-friendly interface, rapid automation, and secure API distribution, transforming utility management efficiency.



**Billing Solution:** Enhances revenue assurance and allows customers to configure the system for both active and fixed charges.

**Customer-Specific Bills:** Bills tailored to individual customer needs.

**Real-Time Data:** Real-time view of consumption and customer billing.

**Automatic Tariff Application:** Automatically applies tariffs relevant to each customer.



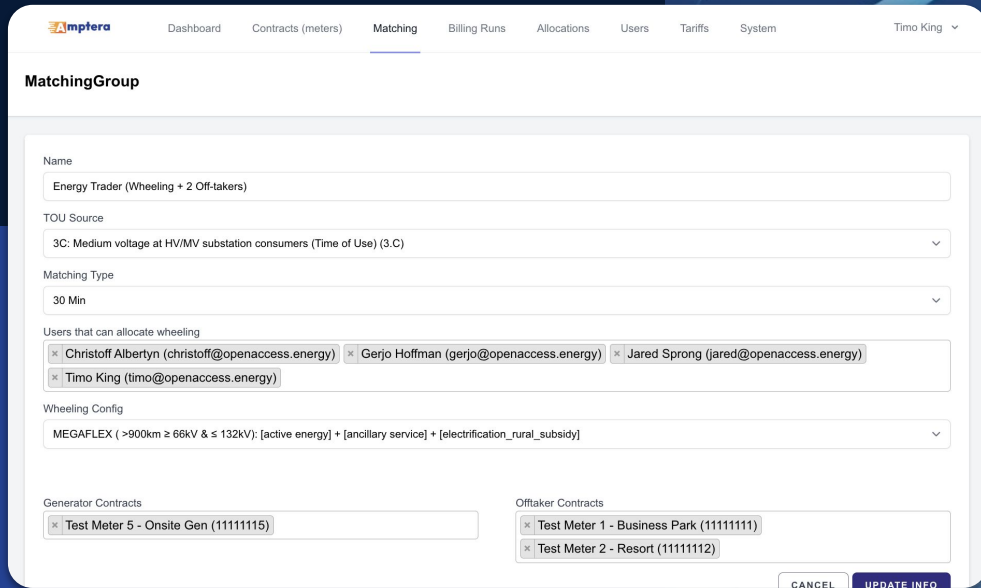
# Wheeling Module

**Wheeling Module:** Supports grid-connected generators in allocating energy to multiple customers.

**Transaction Management:** Enables the management of wheeling transactions.

**Resource Efficiency:** Alleviates the burden on human resources.

**Automated Billing:** Automatically credits energy allocations on customer bills.



The screenshot shows the 'MatchingGroup' configuration page in the Amptera system. The top navigation bar includes 'Dashboard', 'Contracts (meters)', 'Matching' (active), 'Billing Runs', 'Allocations', 'Users', 'Tariffs', 'System', and a user profile 'Timo King'. The 'MatchingGroup' section contains several fields: 'Name' (Energy Trader (Wheeling + 2 Off-takers)), 'TOU Source' (3C: Medium voltage at HV/MV substation consumers (Time of Use) (3.C)), 'Matching Type' (30 Min), 'Users that can allocate wheeling' (a list of three users: Christoff Albertyn, Gerjo Hoffman, and Jared Sprong), 'Wheeling Config' (MEGAFLEX (>900km ≥ 66kV & ≤ 132kV): [active energy] + [ancillary service] + [electrification\_rural\_subsidy]), 'Generator Contracts' (Test Meter 5 - Onsite Gen (11111115)), and 'Offtaker Contracts' (Test Meter 1 - Business Park (11111111) and Test Meter 2 - Resort (11111112)). At the bottom right are 'CANCEL' and 'UPDATE INFO' buttons.



Utilities and municipalities can link accounts to streamline wheeling transactions, enabling efficient energy allocation and distribution. Wheeling credits, based on 30-minute matches or end-of-month totals, are automatically applied to bills according to the tariff.

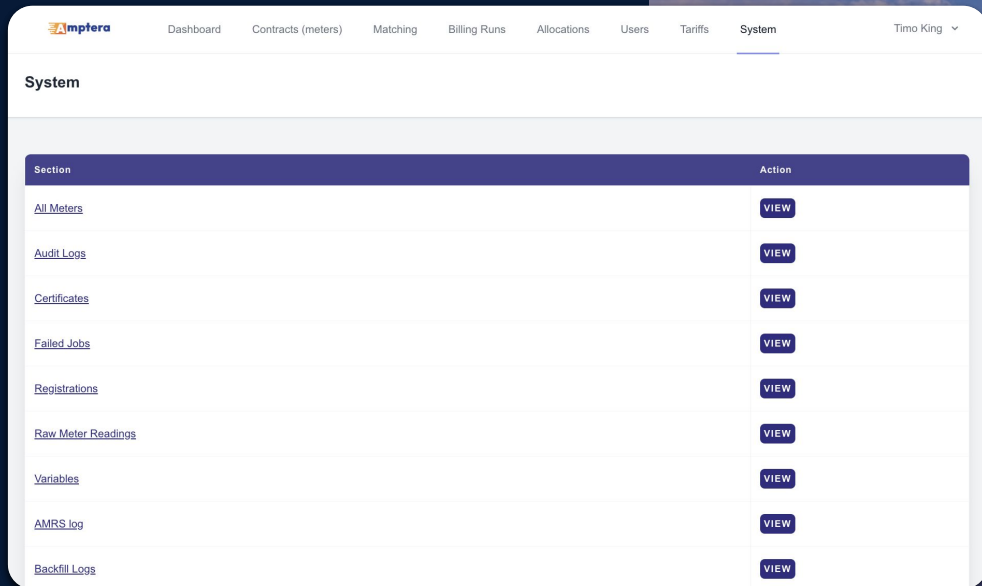
# Application Programming Interface (API)

**Communication:** APIs enable data sharing within and across organizations, enhancing application interoperability.

**Security:** Provide secure, authorized access to meter data.

**Compliance:** Manage smart meter data and wheeling credits, adhering to NRS 049 Part 5-2 standards.

**Integration:** Facilitate seamless third-party integration for smooth data exchange and efficient credit allocation.



The screenshot displays the Amptera System interface. At the top, a navigation bar includes links for Dashboard, Contracts (meters), Matching, Billing Runs, Allocations, Users, Tariffs, and System (which is currently selected). The user's name, Timo King, is shown in the top right corner. Below the navigation bar, the title "System" is centered. A table with two columns, "Section" and "Action", lists various system components. Each section has a corresponding "VIEW" button in the Action column.

Section	Action
<a href="#">All Meters</a>	<a href="#">VIEW</a>
<a href="#">Audit Logs</a>	<a href="#">VIEW</a>
<a href="#">Certificates</a>	<a href="#">VIEW</a>
<a href="#">Failed Jobs</a>	<a href="#">VIEW</a>
<a href="#">Registrations</a>	<a href="#">VIEW</a>
<a href="#">Raw Meter Readings</a>	<a href="#">VIEW</a>
<a href="#">Variables</a>	<a href="#">VIEW</a>
<a href="#">AMRS log</a>	<a href="#">VIEW</a>
<a href="#">Backfill Logs</a>	<a href="#">VIEW</a>



Our APIs ensure secure, compliant data sharing and seamless integration, streamlining communication.

# Meter Data Management System

- MDMS is software for long-term storage and management of smart meter data.
- It collects and centralises all smart meter data.
- Enables sharing of meter data with third parties.
- Performs data cleaning and processing.

Amptera

Dashboard Contracts (meters) Matching Billing Runs Allocations Users Tariffs **System** Time King ▾

RAW Meter Readings

[CLICK HERE TO FILTER YOUR RESULTS](#)

ID	SERIAL NUMBER	TIMESTAMP	kW+	kW-	kvar+	kvar-	total kW+	total kW-	EDIS	SOURCE
8763625	11111115	2024-05-22 11:00:00	4325.64100	0.00000	2447.82100	0.00000			2155872256	<a href="#">140124</a>
8763624	11111114	2024-05-22 11:00:00	23.17000		4.86000				2155872256	<a href="#">140123</a>
8763623	11111113	2024-05-22 11:00:00	8.65000		0.47000				2155872256	<a href="#">140122</a>
8763622	11111112	2024-05-22 11:00:00	18.00000		4.00000				2155872256	<a href="#">140121</a>
8763621	11111111	2024-05-22 11:00:00	8.80000		3.92000				2155872256	<a href="#">140120</a>
8763620	11111115	2024-05-22 10:30:00	4181.86900	0.00000	2414.76900	0.00000			2155872256	<a href="#">140119</a>
8763619	11111114	2024-05-22 10:30:00	22.80000		5.78000				2155872256	<a href="#">140118</a>
8763618	11111113	2024-05-22 10:30:00	8.40000		0.54000				2155872256	<a href="#">140117</a>
8763617	11111112	2024-05-22 10:30:00	18.00000		5.00000				2155872256	<a href="#">140116</a>
8763616	11111111	2024-05-22 10:30:00	9.10000		3.97000				2155872256	<a href="#">140115</a>
8763615	11111115	2024-05-22 10:00:00	5027.45300	0.00000	2379.87100	0.00000			2155872256	<a href="#">140114</a>
8763614	11111114	2024-05-22 10:00:00	21.44000		6.96000				2155872256	<a href="#">140113</a>
8763613	11111113	2024-05-22 10:00:00	8.48000		0.79000				2155872256	<a href="#">140112</a>
8763612	11111112	2024-05-22 10:00:00	16.00000		4.00000				2155872256	<a href="#">140111</a>
8763611	11111111	2024-05-22 10:00:00	10.06000		3.85000				2155872256	<a href="#">140110</a>
8763610	11111115	2024-05-22 09:30:00	4965.20400	0.00000	2326.59000	0.00000			2155872256	<a href="#">140109</a>
8763609	11111114	2024-05-22 09:30:00	20.80000		6.47000				2155872256	<a href="#">140108</a>
8763608	11111113	2024-05-22 09:30:00	7.92000		0.58000				2155872256	<a href="#">140107</a>



The MDMS captures, stores, processes, and securely shares smart meter data from various DLMS meters, complying with NRS 049 Part 5-2 guidelines and ensuring accurate billing information.

# Cloud Based Solution



- Uses advanced cloud technology for seamless performance and scalability.
- Provides flexibility and scalability for energy management needs.
- Ensures secure and backed-up data.

**Amptera** Dashboard Contracts (meters) **Matching** Billing Runs Allocations Users Tariffs System Timo King ▾

**Matching**

**Matching: Energy Trader (Wheeling + 2 Off-takers) Overview**

Name	Type	First Reading	Last Reading	Actual Reading Count	Expected Reading Count	Data Completeness
<a href="#">Test Meter 5 - Onsite Gen</a>	Generator	2022-05-03 09:30:00	2024-05-22 11:00:00	35677	36003	99.1%
<a href="#">Test Meter 1 - Business Park</a>	Offtaker	2021-09-01 00:30:00	2024-05-22 11:30:00	47232	47734	98.9%
<a href="#">Test Meter 2 - Resort</a>	Offtaker	2021-11-29 10:30:00	2024-05-22 11:00:00	42855	43441	98.7%

Start Date

End Date

2024/04/01

2024/05/01

CANCEL

MATCH

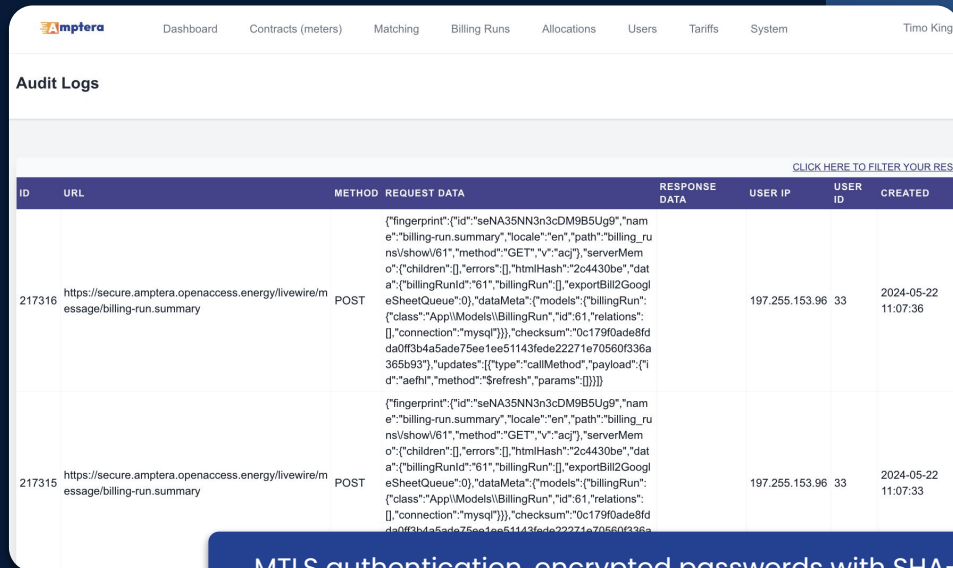
**Matching Summary**

SUMMARY LINE DESCRIPTION	PEAK (kWh)	STANDARD (kWh)	OFFPEAK (kWh)
Generators Total (TOU)	1324.130265	3466.01247	21452.443705
Generators Total (30min)	267.763035	618.27761	2965.77738
Generators Lost Total (30min)	1056.36723	2847.73486	18486.666325
Offtakers Total (TOU)	3907.26	9147.725	15116.58

SAVE MATCHING

Our scalable cloud-hosted system ensures flexibility, scalability, accessibility, cost management, SOC2 compliance, and secure access, with hosting in Belgium for GDPR and POPIA compliance, and establishes municipal APNs for seamless meter reading access.

# Security



The screenshot displays the Amptera Audit Logs interface. At the top, there is a navigation bar with links: Dashboard, Contracts (meters), Matching, Billing Runs, Allocations, Users, Tariffs, System, and Timo King. Below the navigation bar, the title "Audit Logs" is visible. A link "CLICK HERE TO FILTER YOUR RESULTS" is present. The main content is a table with the following columns: ID, URL, METHOD, REQUEST DATA, RESPONSE DATA, USER IP, USER ID, and CREATED. Two log entries are visible:

ID	URL	METHOD	REQUEST DATA	RESPONSE DATA	USER IP	USER ID	CREATED
217316	https://secure.amptera.openaccess.energy/livewire/message/billing-run.summary	POST	{\"fingerprint\": {\"id\": \"seNA35NN3n3cDM9B5Ug9\", \"name\": \"billing-run.summary\", \"locale\": \"en\", \"path\": \"billing_runs/show/61\", \"method\": \"GET\", \"v\": \"acj\", \"serverMemo\": {\"children\": [], \"errors\": [], \"htmlHash\": \"2c4430be\", \"data\": {\"billingRunId\": \"61\", \"billingRun\": [], \"exportBill2GoogleSheetQueue\": 0}, \"dataMeta\": {\"models\": {\"billingRun\": {\"class\": \"App\\Models\\BillingRun\", \"id\": \"61\", \"relations\": [], \"connection\": \"mysql\"}}}, \"checksum\": \"0c179f0ade8fda0f3b4a5ade7ee1ee51143fede22271e70560f336a365b93\"}, \"updates\": [{\"type\": \"callMethod\", \"payload\": {\"id\": \"aefh\", \"method\": \"\$refresh\", \"params\": []}}]}		197.255.153.96	33	2024-05-22 11:07:36
217315	https://secure.amptera.openaccess.energy/livewire/message/billing-run.summary	POST	{\"fingerprint\": {\"id\": \"seNA35NN3n3cDM9B5Ug9\", \"name\": \"billing-run.summary\", \"locale\": \"en\", \"path\": \"billing_runs/show/61\", \"method\": \"GET\", \"v\": \"acj\", \"serverMemo\": {\"children\": [], \"errors\": [], \"htmlHash\": \"2c4430be\", \"data\": {\"billingRunId\": \"61\", \"billingRun\": [], \"exportBill2GoogleSheetQueue\": 0}, \"dataMeta\": {\"models\": {\"billingRun\": {\"class\": \"App\\Models\\BillingRun\", \"id\": \"61\", \"relations\": [], \"connection\": \"mysql\"}}}, \"checksum\": \"0c179f0ade8fda0f3b4a5ade7ee1ee51143fede22271e70560f336a365b93\"}, \"updates\": [{\"type\": \"callMethod\", \"payload\": {\"id\": \"aefh\", \"method\": \"\$refresh\", \"params\": []}}]}		197.255.153.96	33	2024-05-22 11:07:35

MTLS authentication, encrypted passwords with SHA-256, key-only SSH logins, and non-exposed database ports ensure security as per NRS 049 Part 5-2.



- Effective cybersecurity measures protect against data theft and loss.
- Safeguards all types of sensitive information.
- Data sharing complies with NRS standards.
- Security measures adhere to global standards.

# Fully Operational



Amptera has been fully operational in George for nearly two years, creating monthly bills for over 500 Large Power Users (LPU) and ensuring revenue assurance while relieving pressure on human resources.

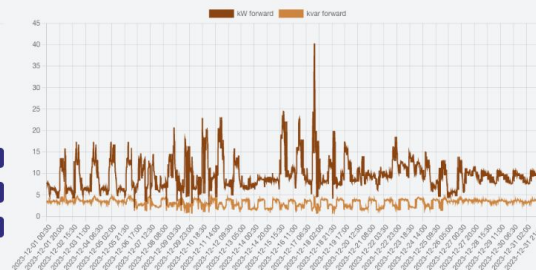
## Bill Details

Site: Test Meter 1 - Business Park  
Meter Numbers: 11111111  
Name: December 2023  
Dates: 2023-12-01 00:00:00 - 2024-01-01 00:00:00

PRINT BILL

EMAIL BILL

BACK TO BILLING



No	Description	Quantity	Unit Cost	Total Cost
1	Peak Rate Energy	901.92 kWh	2.022	R1,823.68
2	Standard Rate Energy	2301.175 kWh	1.5467	R3,559.23
3	Off-Peak Rate Energy	4090.135 kWh	1.2392	R5,068.50
4	Excess Reactive Power	293.214 kvarh	0.2418	R70.90
5	Maximum Demand	24.64323236688 kVA	88.04	R2,169.59
6	Access Charge (Network Capacity Charge)	24.64323236688 kVA	63.58	R1,566.82
7	Basic Charge (Service Charge)	1 R/month	5595.34	R5,595.34
8	Wheeled Energy Peak	250 kWh	-1.8835	R-470.88
9	Wheeled Energy Std	650 kWh	-1.3415	R-871.98
10	Wheeled Energy Off	999 kWh	-0.904	R-903.10
11	SUB TOTAL			R17,608.10
12	VAT	15 %		R2,641.22
13	TOTAL			R20,249.32

Cost per kWh (excl VAT)	R2.41 R/kWh
Total kWh	7293.23
Time and date of Max Demand	2023-12-15 20:30





Open Access Team | [hello@openaccess.energy](mailto:hello@openaccess.energy)

Opening energy access to all