
zooz
Enabling
Ultra-Fast
EV Charging
Anywhere
June 2023

We develop, manufacture, and market

revolutionary Power Boosters,

Enabling & accelerating deployment of EV ultra-fast charging Anywhere

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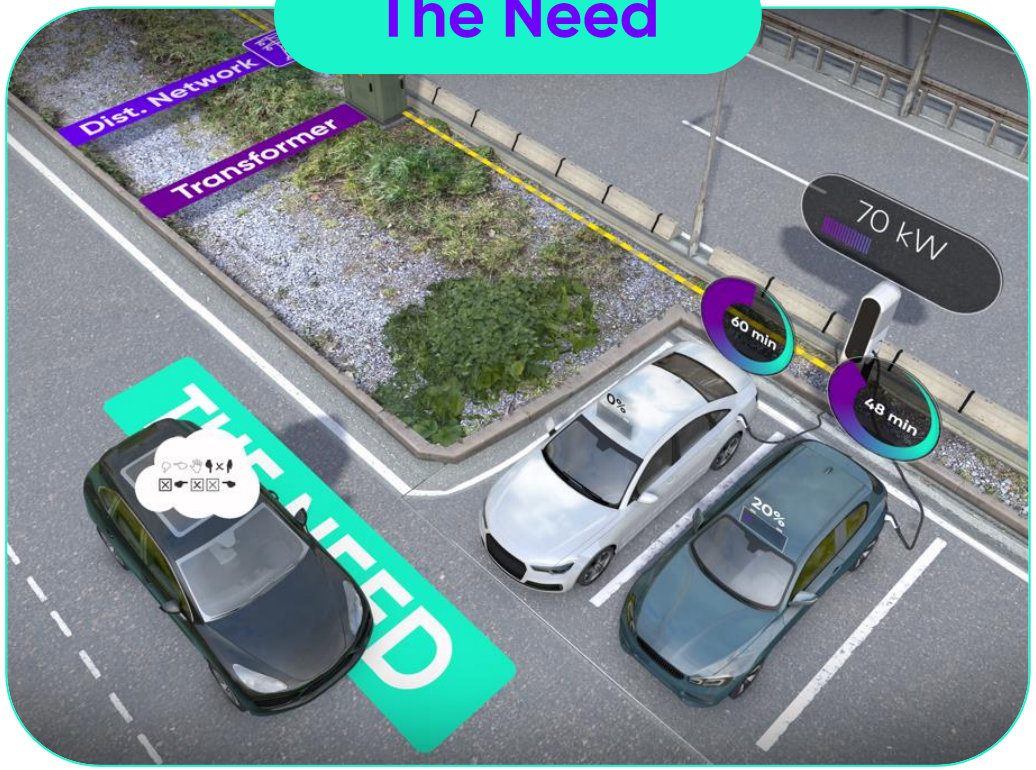
Ultra-fast Charging Is Critical To Enable The Transition To EVs

But Grid Infrastructure Cannot Support It

Enabling Today Ultra-Fast Charging Anywhere

The Need

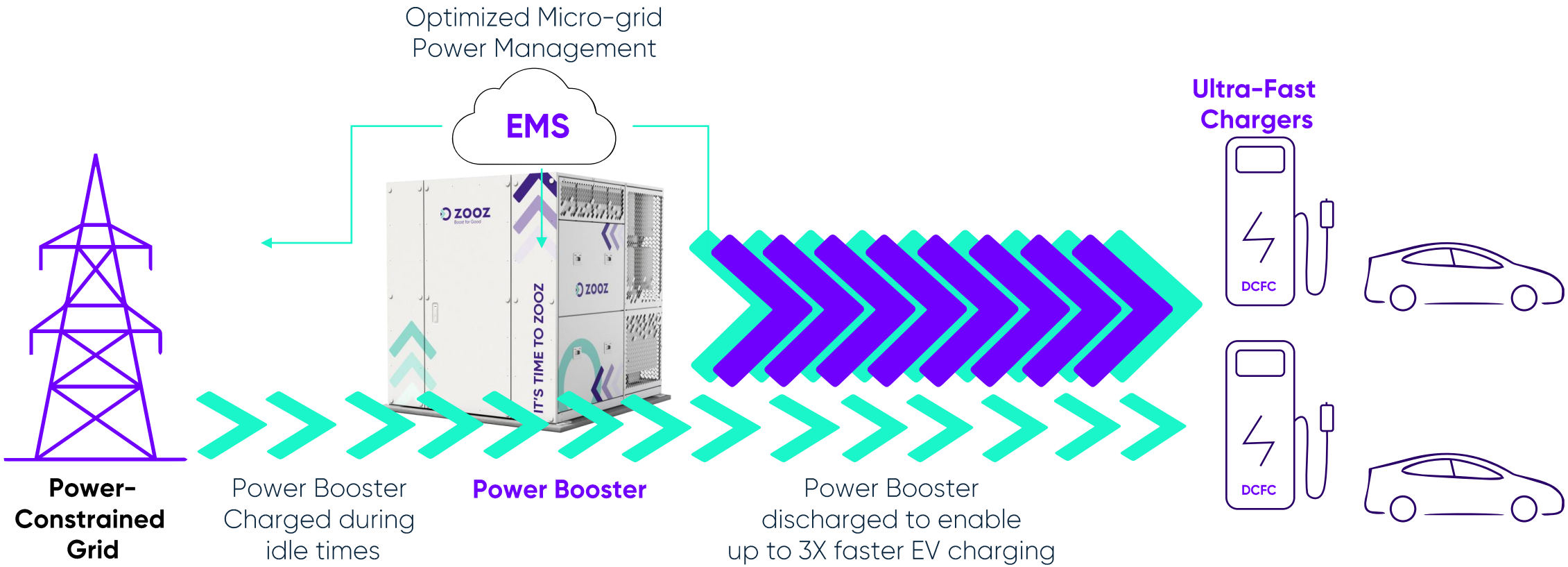


Lost Business And Dissatisfied Customers

- Long Charging Sessions
- Long Waiting for available charger
- Skipped Charging Sessions
- High Demand Charges

- Limited Grid
- Fewer, Longer charging session
- Long waiting time & skipped cars due to lack of available chargers

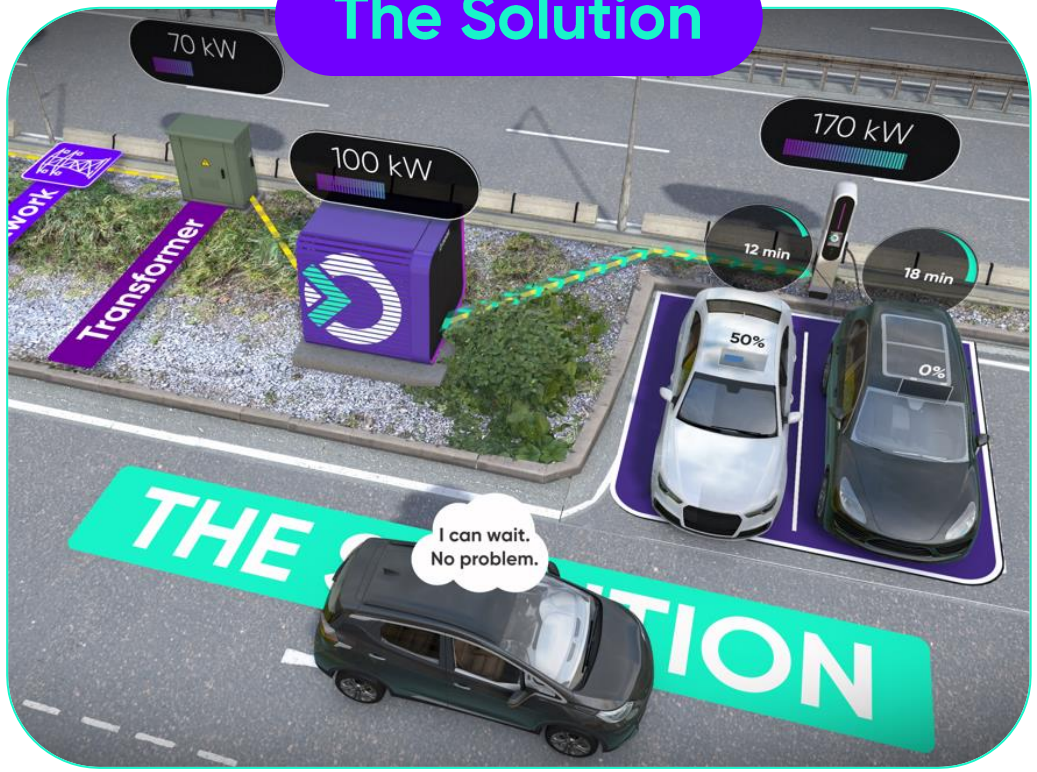
Enabling Today Ultra-Fast Charging Anywhere



Enables Ultra-Fast Charging, even at power-limited grid

Enabling Today Ultra-Fast Charging Anywhere

The Solution



Improve Service & Charge More

- Better drivers' experience
- More charged cars per day, More Sales
- Avoiding grid upgrade
- minimizing demand charges

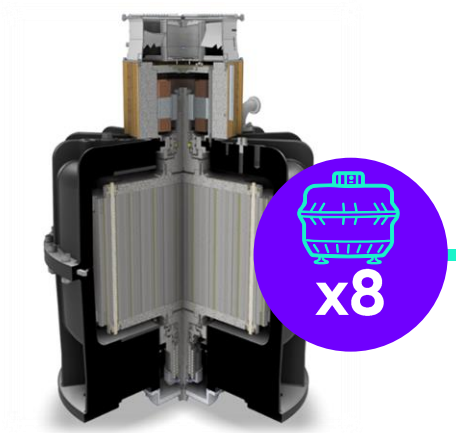
- Limited grid is boosted by the ZOOZTER™-100
- More charging Shorter sessions
- Greater availability - No skipped cars, less waiting time

Enabling Today Ultra-Fast Charging Anywhere

Accelerating Ultra-Fast EV Charging

- Increase power supply as utilization grow
- Defer grid upgrade investment
- Faster “land grabbing” – Accelerate sales and expand market share
- Re-deployable asset to accelerate growth and transition to EVs

The Kinetic Power Booster ZOOZTER™-100



ZOOZ V8
Flywheel

Innovative patented Flywheels technology

Sustainable- Non-chemical

High Power

High - Performance

Cost Effective

Flexible & Modular

Durable & Reliable

Safe (CE & UL Cert.)

Enabling & accelerating Ultra-Fast EV Charging

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ZOOZTER™-100 – All-in-one Integrated System

- **Completed European (CE) Certification process.**
- **Completed US (UL) Certification tests in Israel**
  (Final UL testing – to be done after installation in a US site)

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ZOOZ Flywheel – Mechanism of Action

Electricity from The Grid

ACCELERATING
=
CHARGING
Kinetic Energy

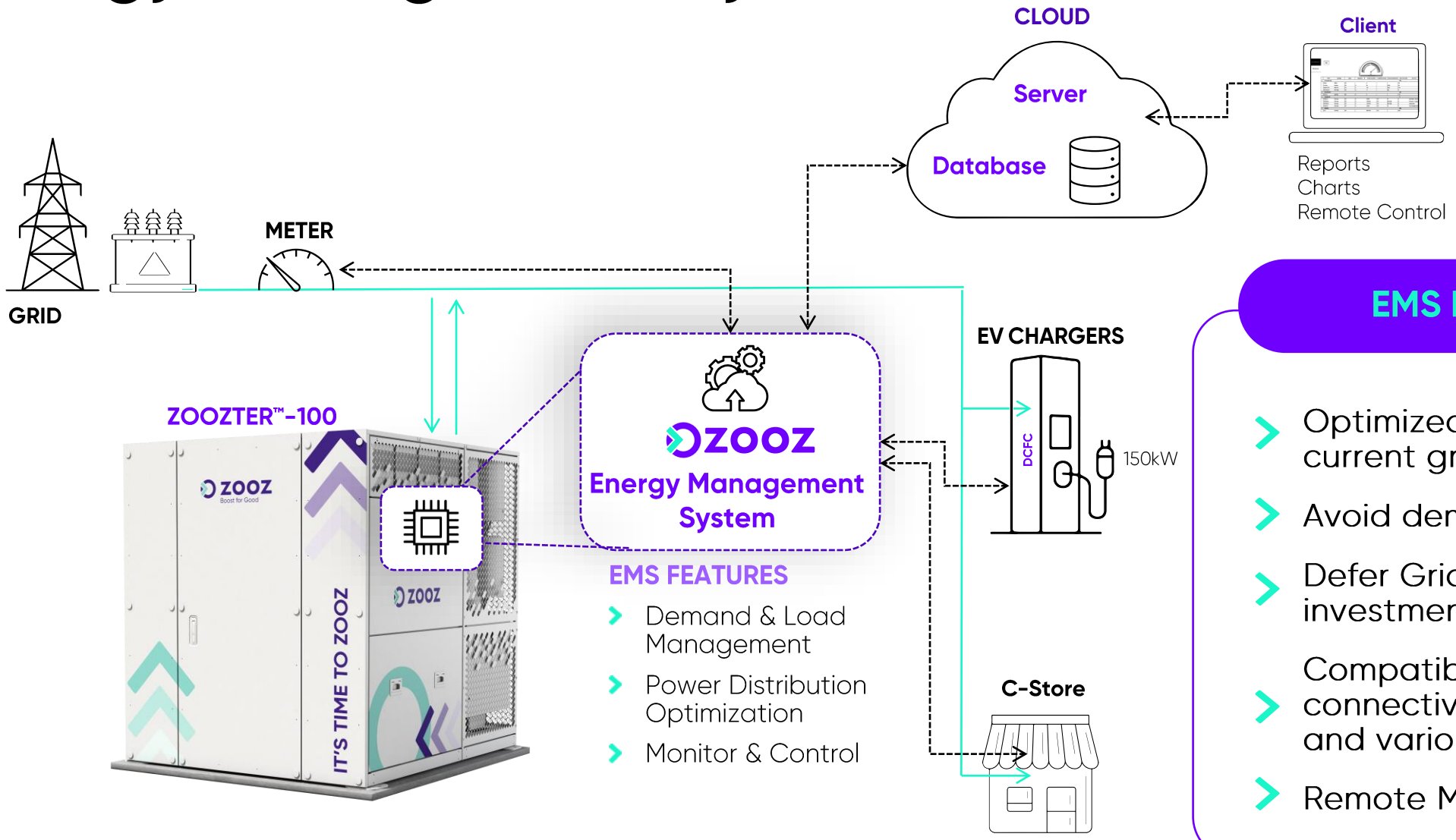
Trickle Charging Power

LEVITATING
=
STORING
Kinetic Energy

Electricity to
ultra-fast charging

DECCELERATING
=
DISCHARGING
Kinetic Energy

Energy Management System



EMS Benefits

- Optimized use of the current grid
- Avoid demand charges
- Defer Grid upgrade investment
- Compatibility and connectivity to other EMS and various chargers
- Remote Monitoring

EV Charging Infrastructure Market is Accelerating

Shell Invests Heavily Into EV Charging Stations

With Shell's purchase of Volta, the gas and oil giant drastically expanded its U.S. charging network.

By Chris Teague | Edited by Brian McHugh | Fact checked by Rusha Shrestha | April 3, 2023, at 4:28 p.m.

Save

Washington Watch

Biden adds more EV charging across U.S., with pledges from Uber, Walmart, PG&E and others

Published: April 17, 2023 at 8:13 a.m. ET

By Rachel Koning Beals Follow

20

The latest rollout would add more than 100,000 public EV chargers to the more than 135,000 now available. Biden wants 500,000 chargers across all states by 2030.

7-Eleven, Inc. Launches New Electric Vehicle Charging Network, 7Charge

NEWS PROVIDED BY
7-Eleven, Inc.
16 Mar, 2023, 07:11 ET

SHARE THIS ARTICLE

Trade association ChargeUK announces goal of doubling infrastructure in 2023

Posted May 5, 2023 by Marilyn Burkley filed under Fleets and Infrastructure, Newswire, The Infrastructure.

Hertz to offer 2,100 rental EVs in Houston, build public charging hub

Posted March 10, 2023 by Charles Morris filed under Fleets and Infrastructure, Newswire, The Vehicles.

Energy & Infrastructure >

May 26, 2023 - 10:09 am

Ford & Tesla enable Ford drivers access to Superchargers

CANADA | CHARGING STATIONS | DC | ELON MUSK | FORD | HPC | JIM FARLEY | NORTH AMERICA | ROAMING | SUPERCHARGER | TESLA

Surprising cooperation is to begin in North America. Ford will install Tesla's

Warren Buffett's Berkshire Hathaway quietly made a $8.2 billion acquisition that taps into the electric-vehicle boom

THERON MOHAMED | MAR 1, 2023, 19:03 IST

Walmart to Expand EV Charging Facilities to Thousands of U.S. Locations

A private effort will make a major contribution to the domestic capacity for electric vehicles.

1 Minute Read
April 11, 2023, 7:00 AM PDT

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Transition of Charging Infrastructure

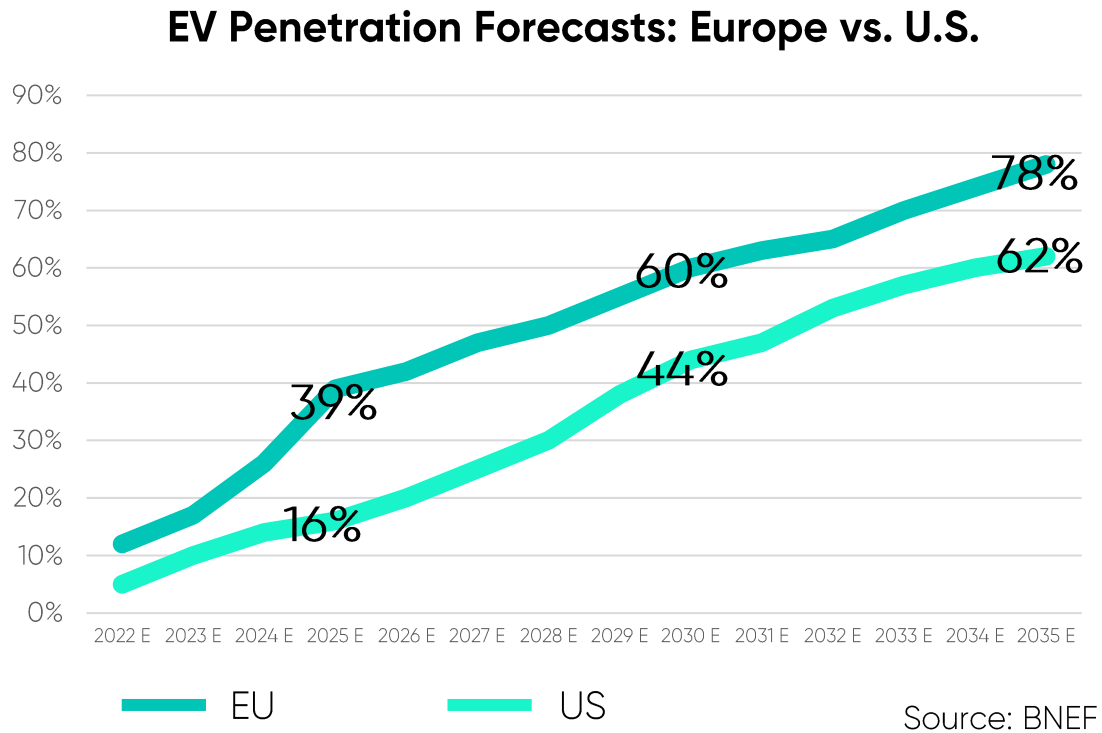
Market is moving from Private (slow) charging to Public Ultra-fast Charging
➡ Realizing Grid's Power-Limitations

Public Charging Infrastructure is **critical** to enable transition to EVs

New car models - **Ultra-fast** Charging **becomes a MUST**

Public Charging infrastructure is **moving to Ultra-fast Charging**

Increasing awareness to **grid limitations & demand charges**



Source: BNEF

Adding value to various verticals / use case

Benefits to CPOs & Property Owners

Faster & Cost-effective Network Deployment

- Faster land grabbing
- Re-deployable - to accelerate growth
- Defer upgrade investment

Greater Flexibility

- Agnostic to grid – Quick site integration
- Agnostic to Charger – keep preferred vendor
- Re-deployable asset with life > 15 years

Maximize site profitability and electricity sales

Generate More Revenues –
- Faster site initiation
- More charging ports
- Higher utilization

Minimal Cost of Ownership –
- Longer life
- Minimal maintenance
- Demand Charge Reduction

Greener & Safer

Accelerating and expanding our go-to-market

TRITIUM

Kevin Pugh
VP Sales – West EU
(formerly UK & Ireland
Country Manager @ Tritium)

driivz

Eyal Blum
Chief Revenue Officer
(formerly VP BD @ Driivz)

ZOOZ

1st Commercially Operating Site in Israel

In cooperation with

דור אלון

אפקון
תחבורה חשמלית
מקבוצת שלמה

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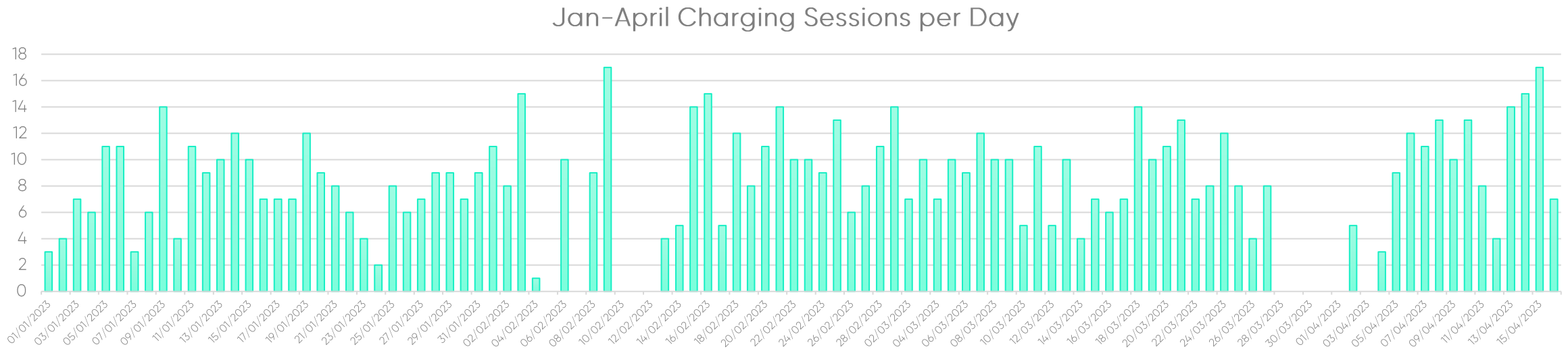
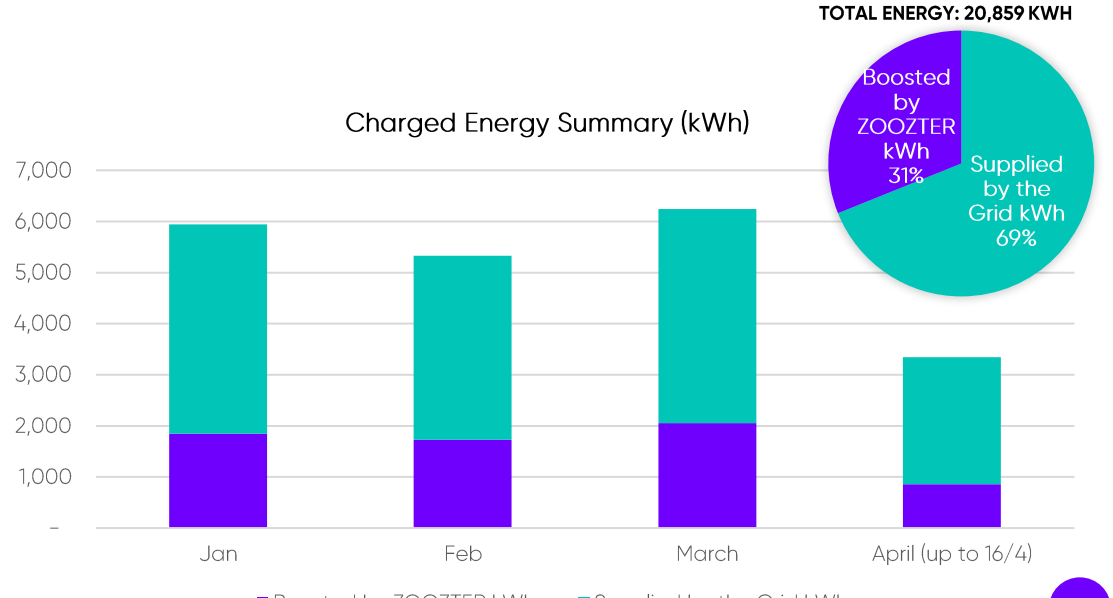
CASE STUDY

Q1 Summary – Dor Alon "Mall-Zichron"



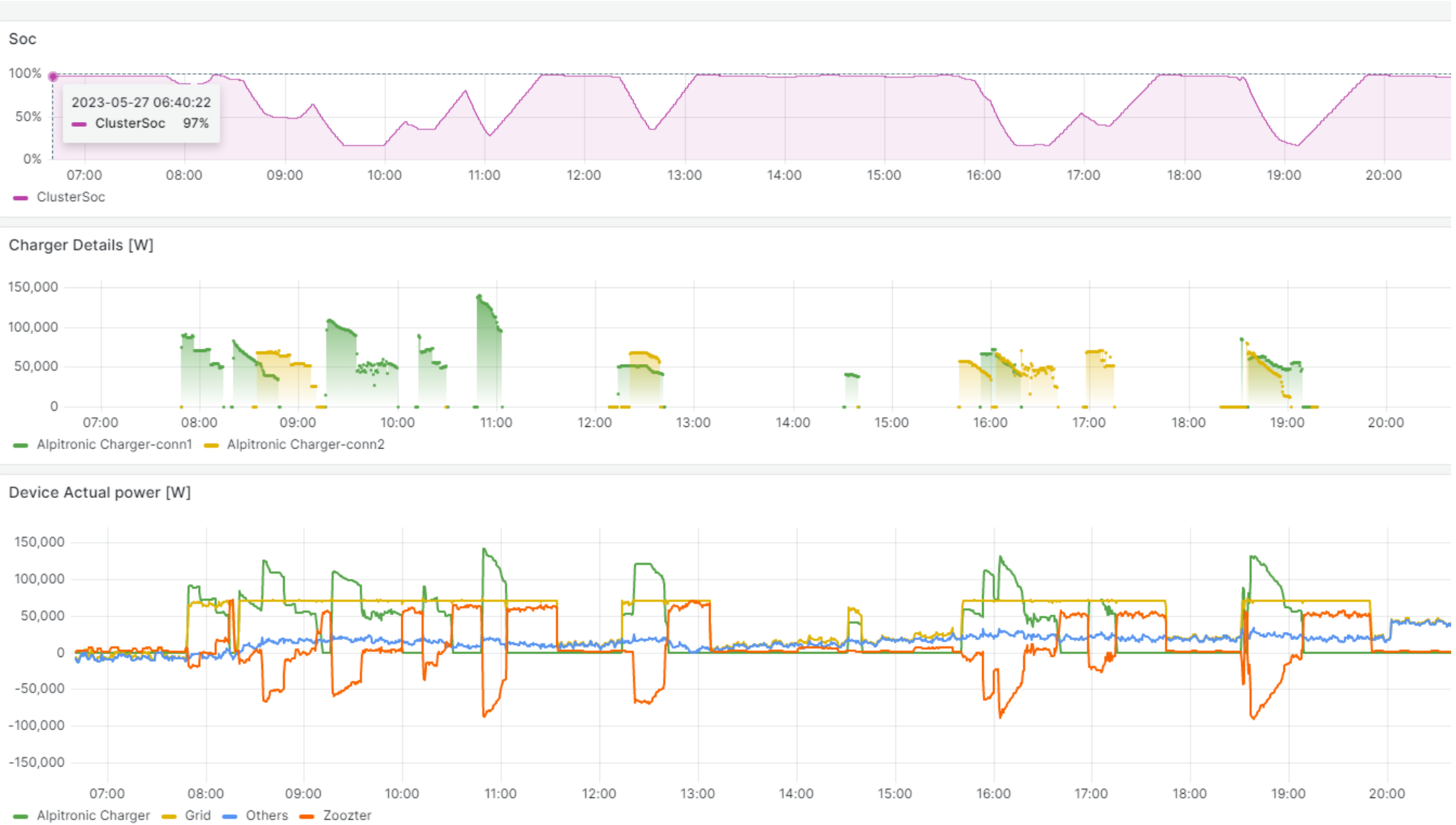
* 11 days without charging - all related to Alpitronic chargers' issues

	Jan	Feb	March	April (up to 16/4)	Total
# of Charging Sessions	238	226	239	141	**847**
Average Daily Utilization	7.7	8.1	7.7	8.8	**8.0**
Max daily utilization	14	17	14	17	**17**
Average charging time (min)	33 min	30 min	33 min	28 min	**31 min**
Average kWh per session	25.0	23.6	26.1	23.7	**24.7**



Single Day Utilization Example (27/5/23)

CASE STUDY



ZOOZTER SOC%

Charge Point 1

Charge Point 2

Moving Forward with US Market Introduction

4 Pilots planned for the 2H'2023

Coming Soon*

Car Rental Giant

@ La-guardia Airport, NY.

On Schedule – Q4/2023*

New York Power Authority

Largest US Utility

Slightly Delayed – Q4/'23*

ARKO
A Family of Community Brands

At Rockhill, SC.

Delayed due to long lead time of site's equipment (Transformer)

blink®

At Ft. Lauderdale, FL.

Delayed due to long lead time of Permit and Site's make-ready

Delayed – Q4/2023*

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** Company estimation, subject to changes*

Moving Forward with EU Market Introduction

Watch movie at:
[The ZOOZTER™ has landed in Germany. - YouTube]

Moving Forward with EU Market Introduction

"Soft" Launch Event – May 9th, 2023

Official Launch Event – Coming soon !
(Planned for June 13th, 2023)

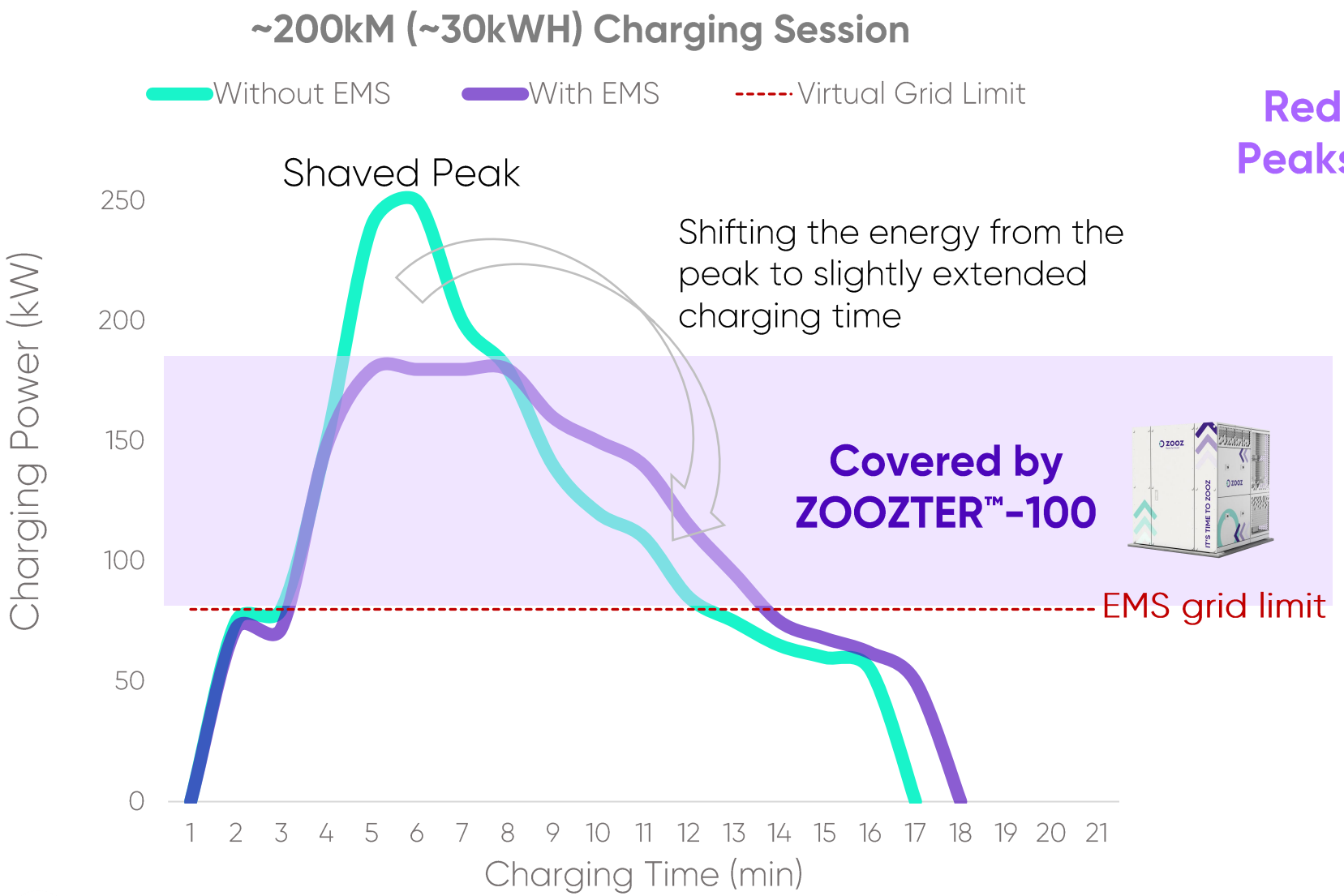
Moving Forward with EU Market Introduction

- **Started commercial sales in Germany**
- First two sites – launched !
- Additional three sites – will be operational within several weeks*
- The Customer has **expressed his intention to order additional 5 sites** (including 5 ZOOTER™-100 systems) within the next few weeks*.

** Company estimation, subject to changes*

CASE STUDY

Avoid Peak Load & Reduce Demand Charges



Reduced Peaks' load

Example savings of Demand Charges

Monthly Charge
170kW X $20 = $3.4K

~$40K
Total yearly savings

* Based on CA utility demand charge fee of $20/kW

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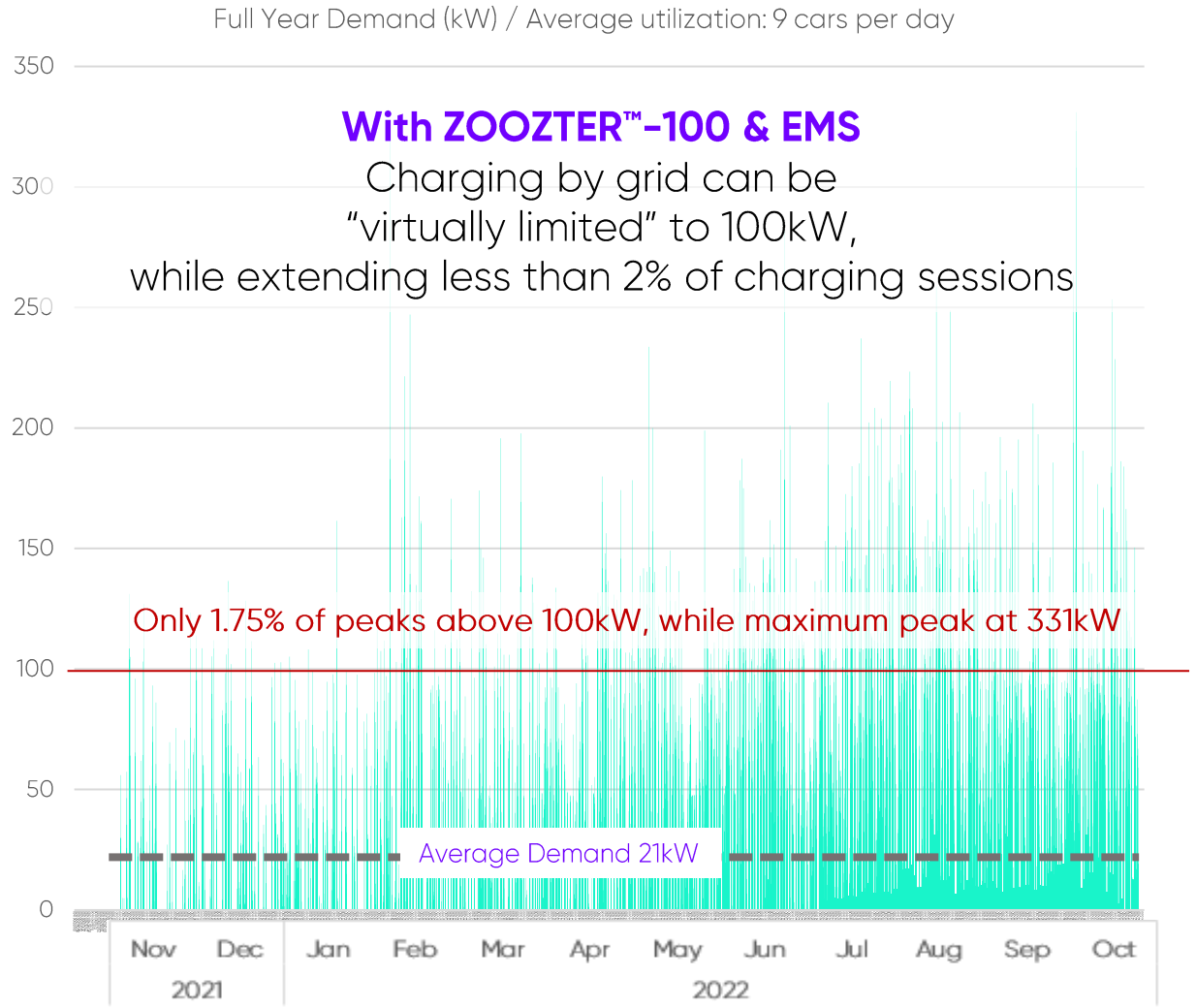
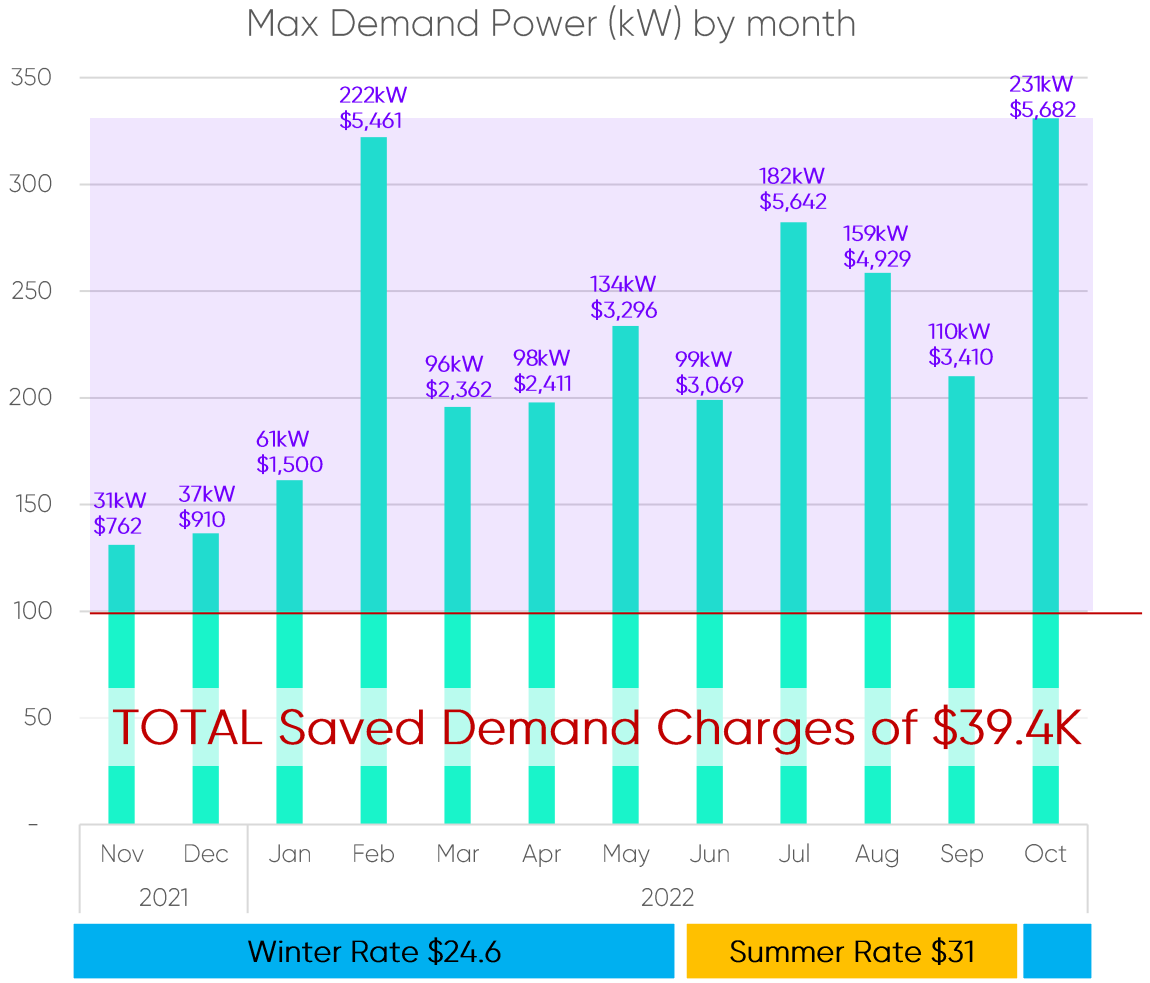
EMS - Avoid And Reduce Demand Charges

CASE STUDY

Example Based on a US C-Store demand data

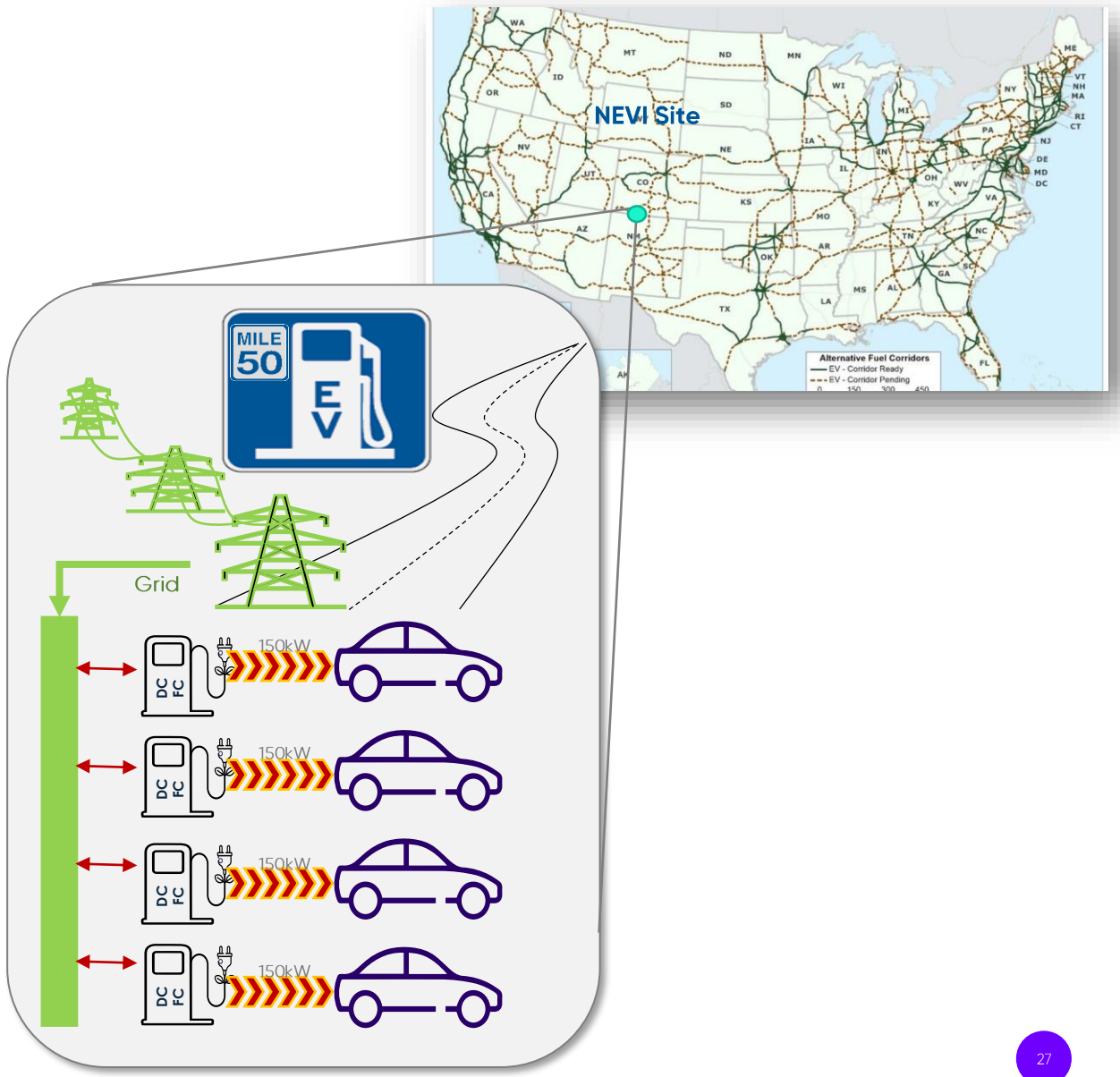




The NEVI (National EV Infrastructure) Challenge

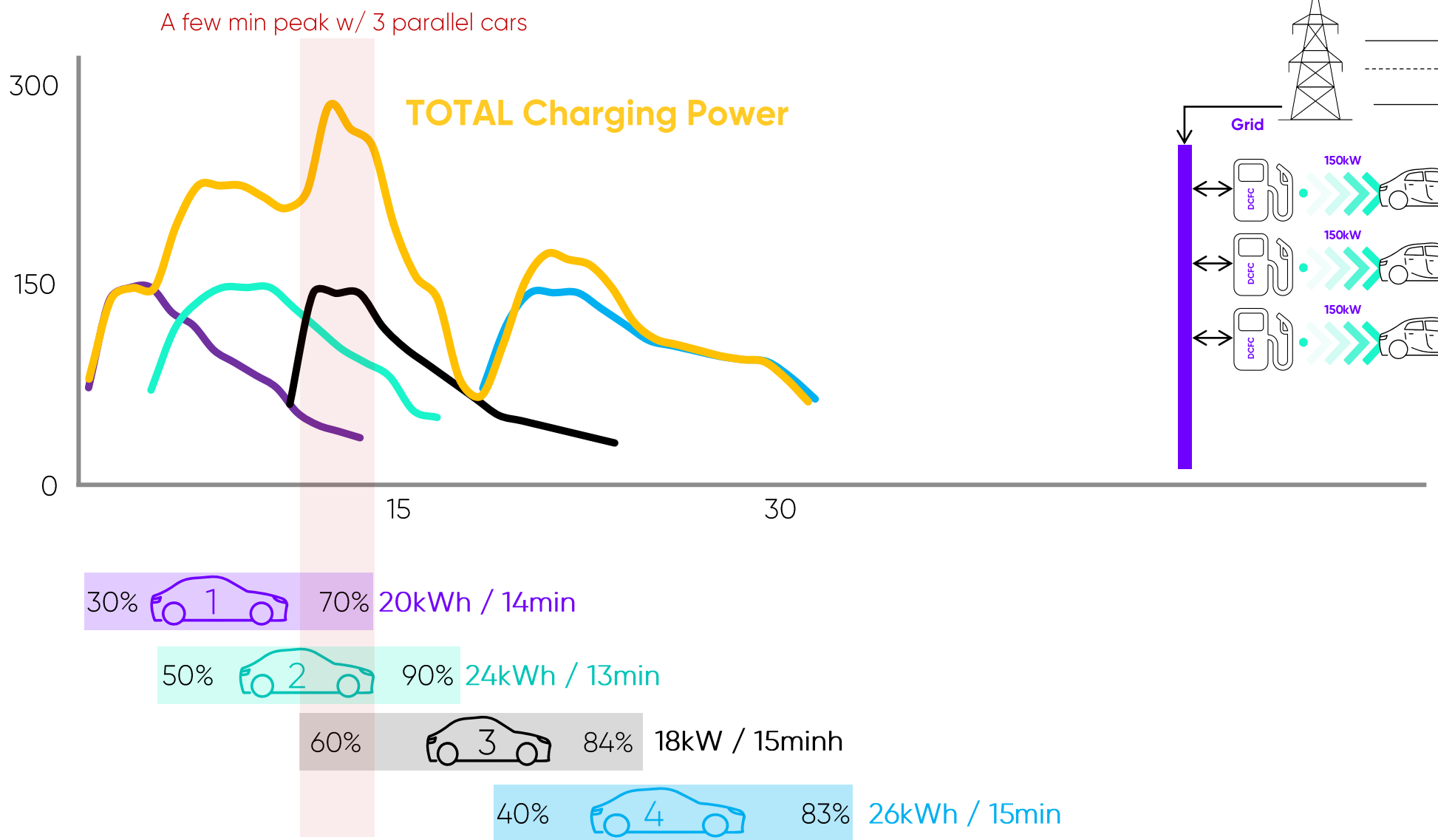
- **The NEVI Site Requirements**
  - 4x 150kW DCFCs
  - Simultaneously charging 4 EVs
  - Total power of 600 kW
  - Every 50 miles

- **The Challenge:**
  - How to support 600kW peak power every 50 miles, with insufficient grid?



CASE STUDY

Expected Charging Pattern – Multiple Cars



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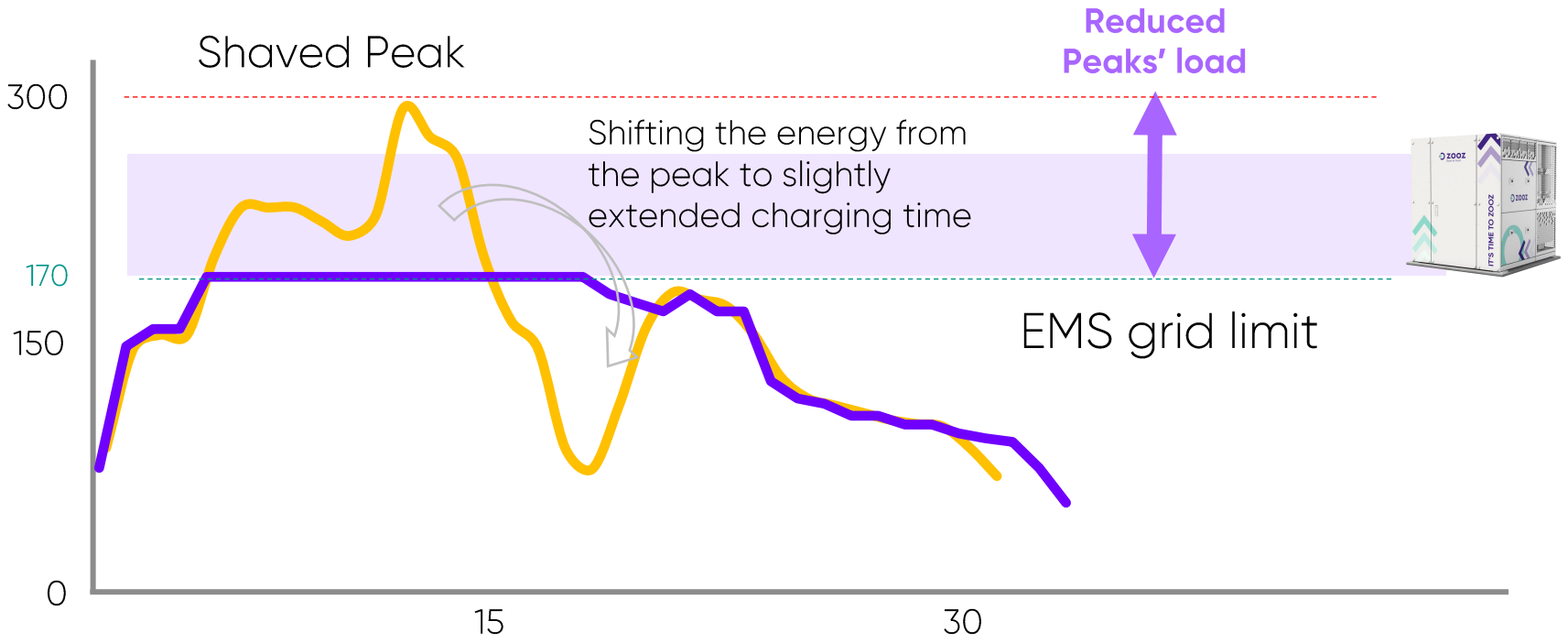
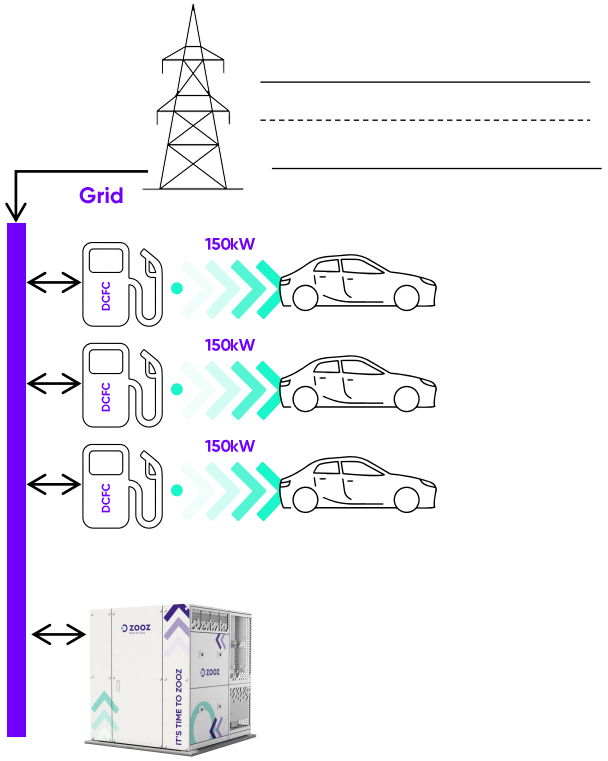




30% 1 70% 20kWh / 14min

50% 2 90% 24kWh / 16min

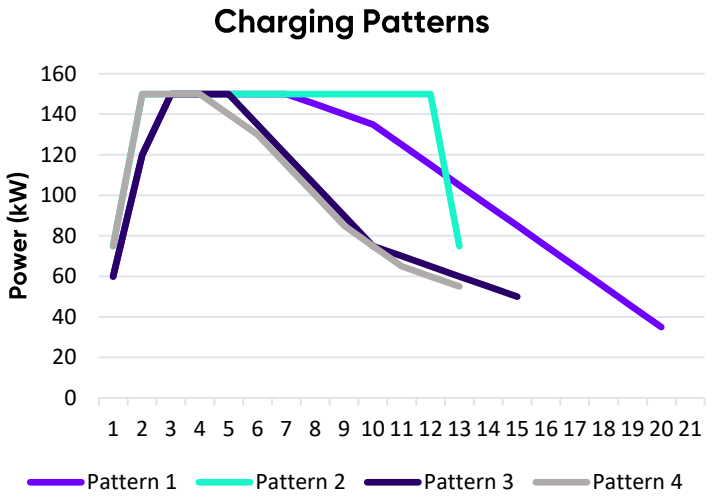
60% 3 84% 18kW / 18minh

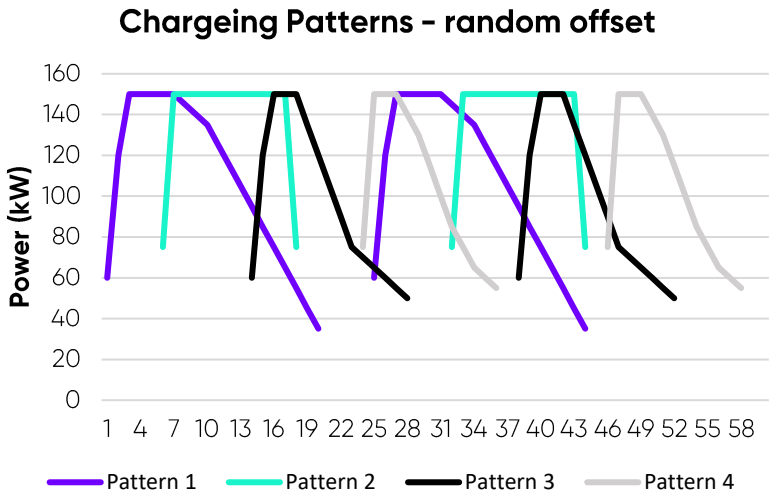
40% 4 83% 26kWh / 18min

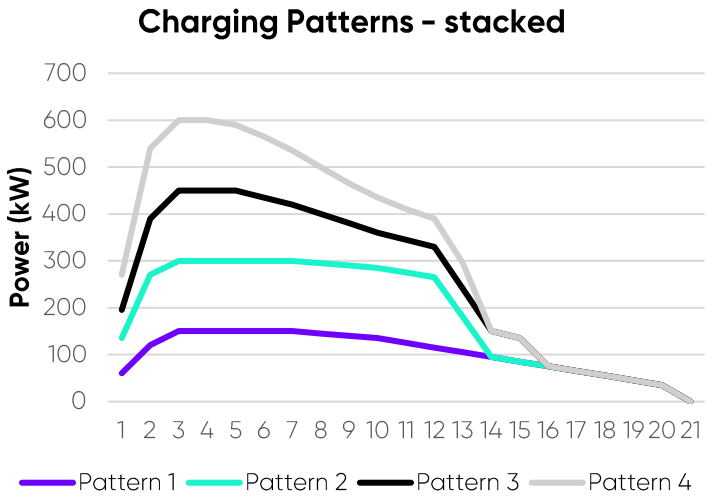
Extended charging time
(few extra minutes for
cars 2,3,&4)

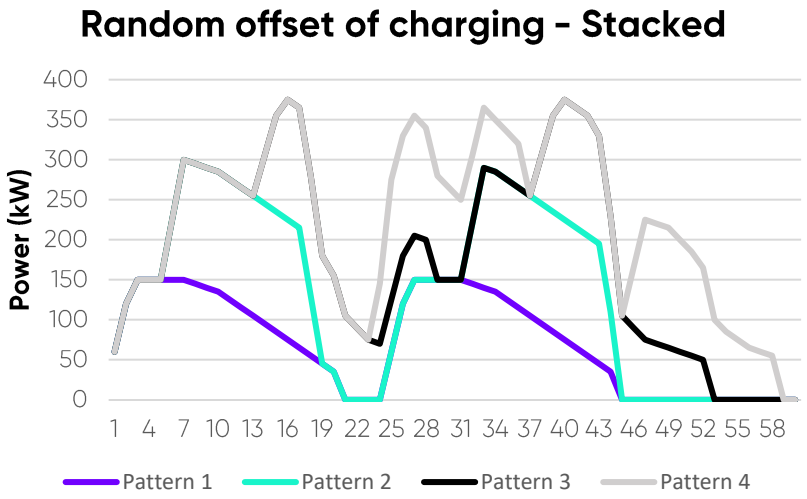
CASE STUDY

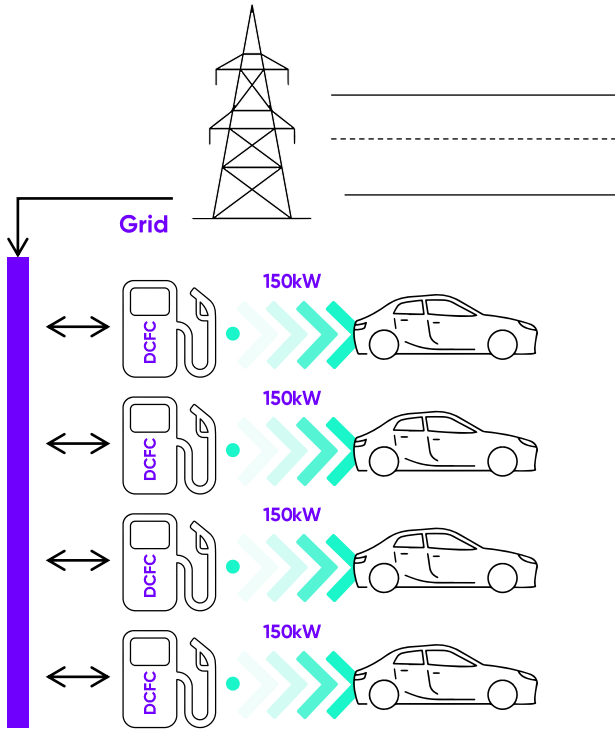
Charging Hub– Expected Charging Pattern





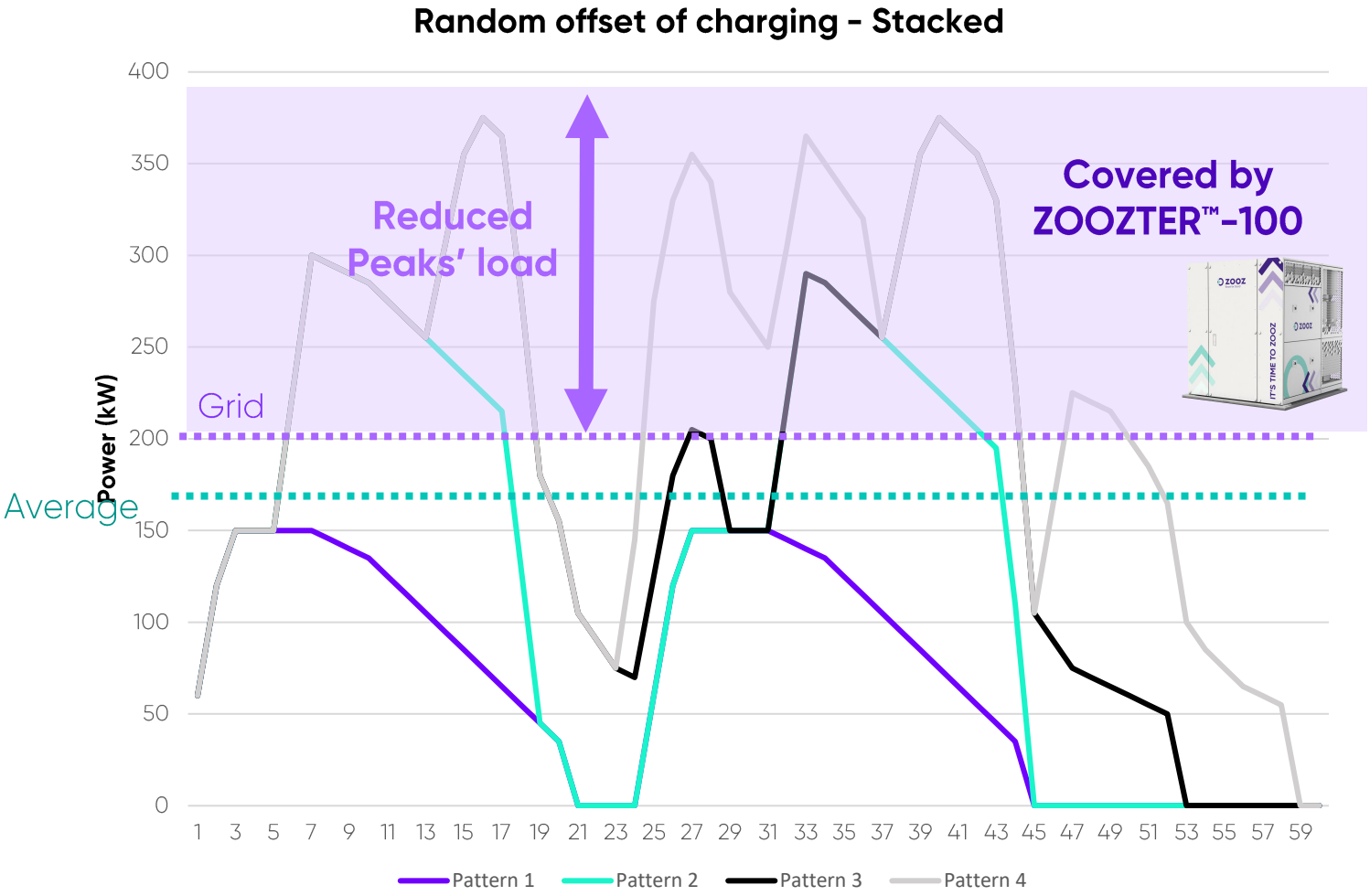


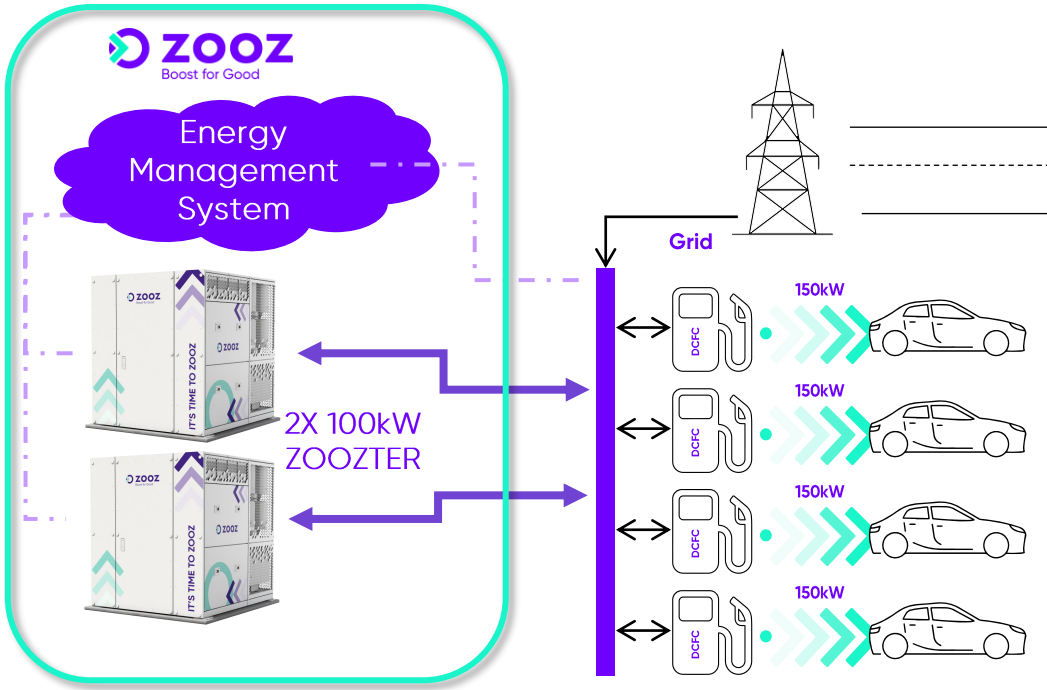




CASE STUDY

Charging Hub – Powered by ZOOZ





ZOOZ Boost for Good

CASE STUDY

Simulation of Charging Hub Demand with High Utilization

- >100 cars per day (6 am-10 pm)
- 4 charging points
- Average car charging: 25kWh
- Max power per car: 150kW
- Charging pattern: 4 different types / Random
- Rush hours: 7-10 am, 4-7 pm

Covered by 2x ZOOZTER™-100

0.4% of peaks >550kW

1.5% of peaks >500kW

13% of peaks >400kW

Grid limit

Average:~250kW

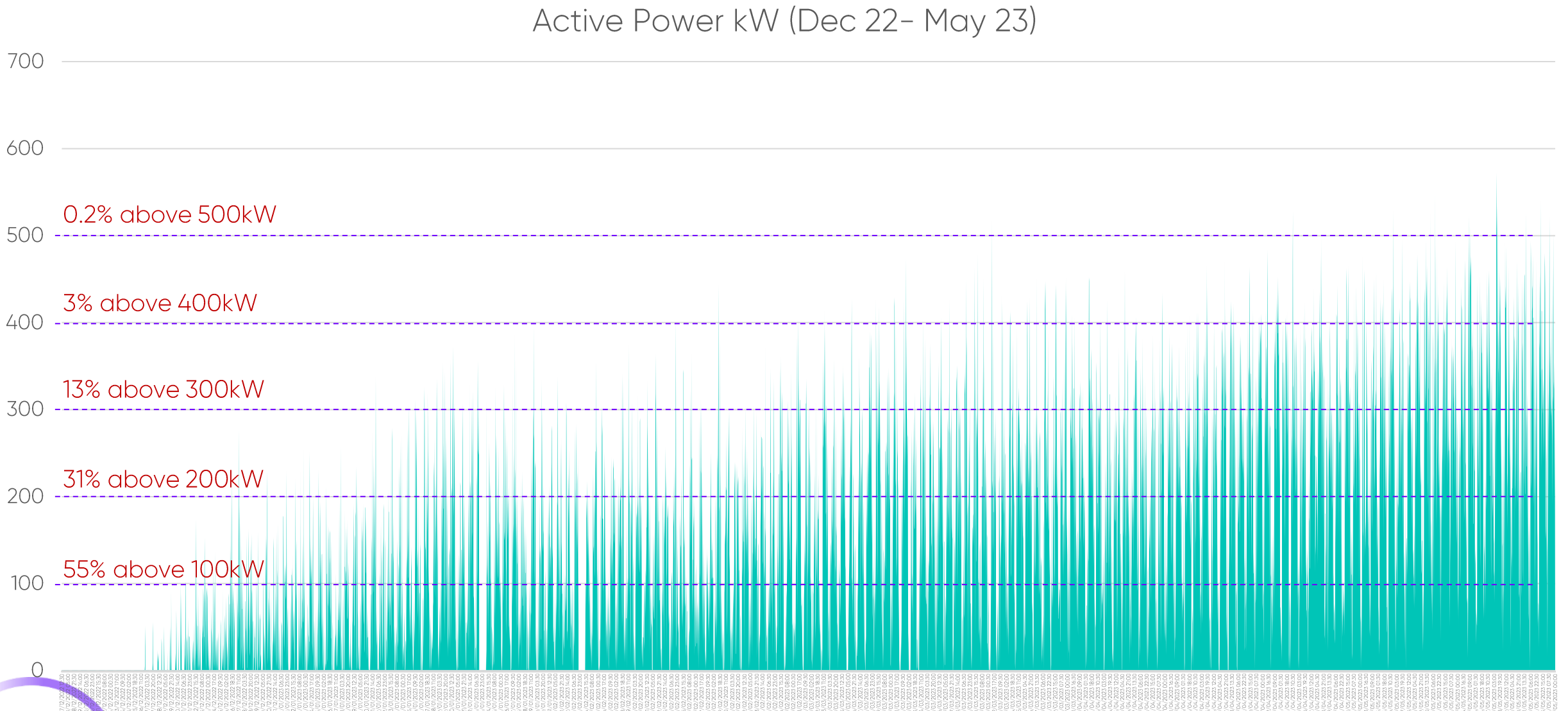
Power

700
600
500
400
300
200
100
0

6:00 6:10 6:20 6:30 6:40 6:50 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00

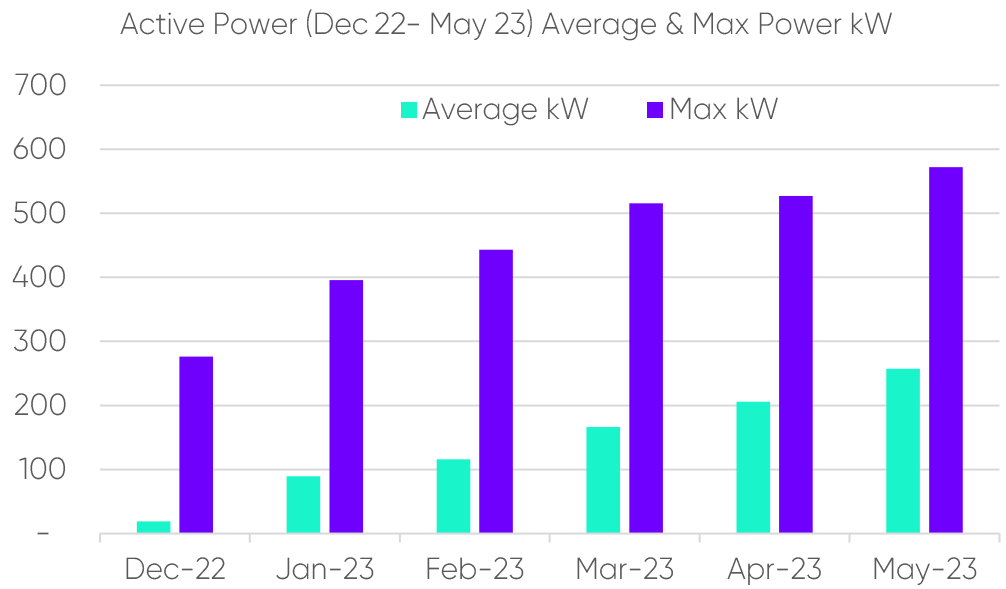
CASE STUDY

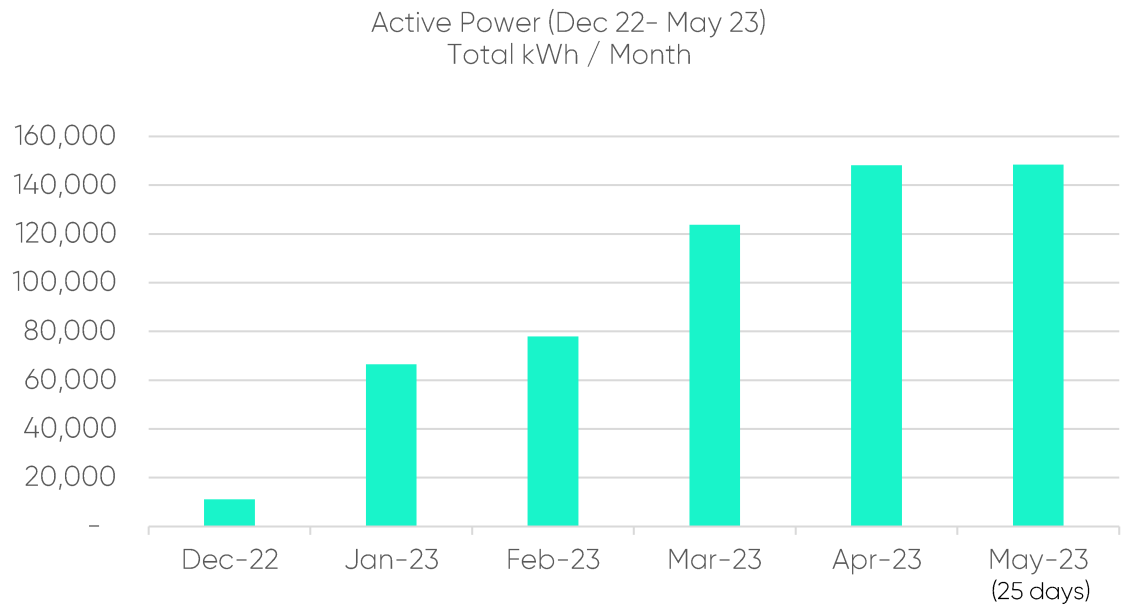
Demand Profile – UK Charging Hub

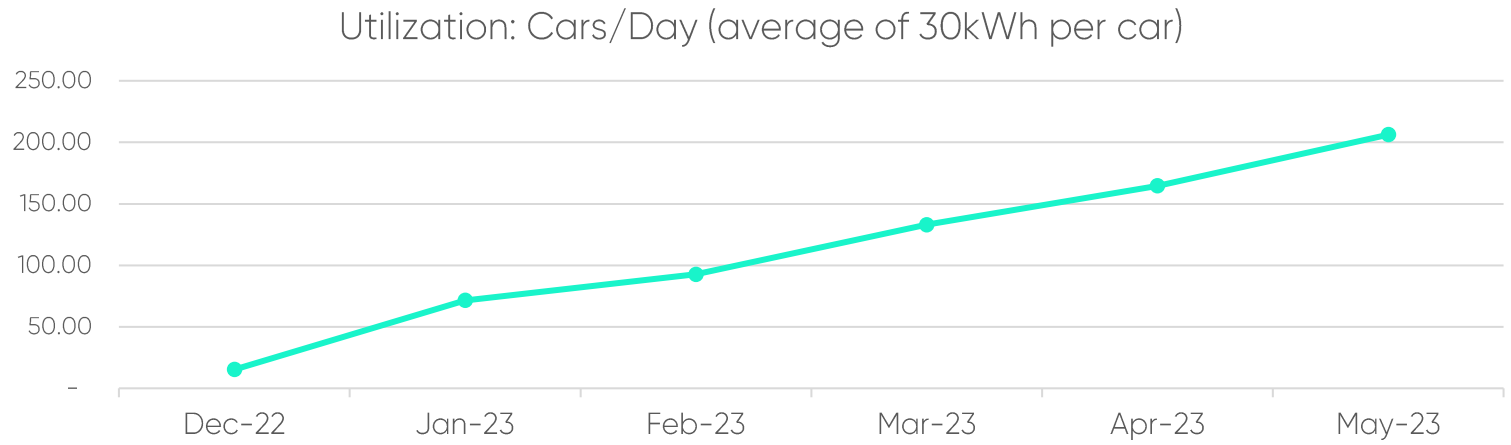


CASE STUDY

Demand Profile – UK Charging Hub







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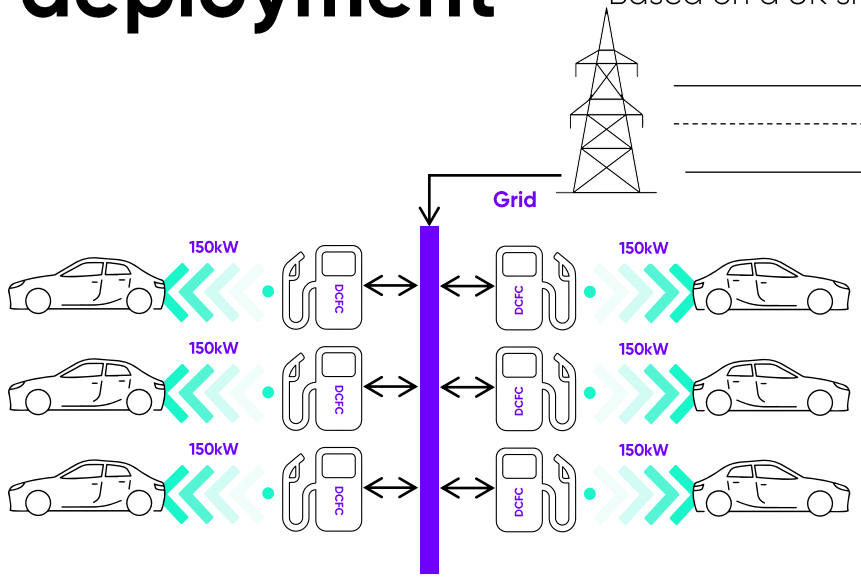
UK Charging Hub (6x 150kW) – inefficient deployment

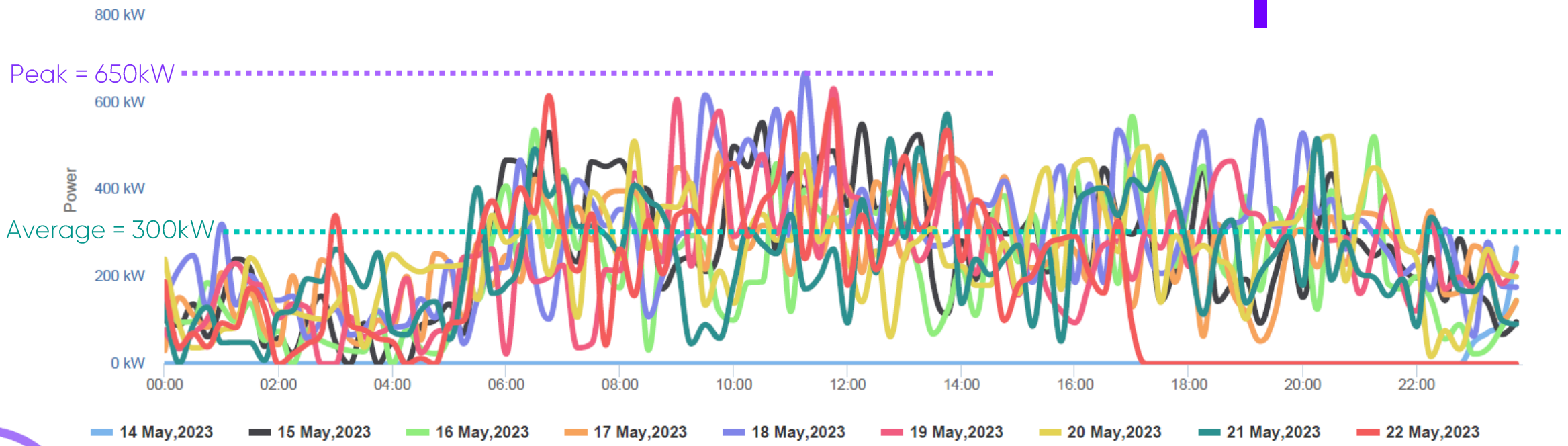
CASE STUDY

Based on a UK site data



Grid = 900kW

Power Last 7 Days



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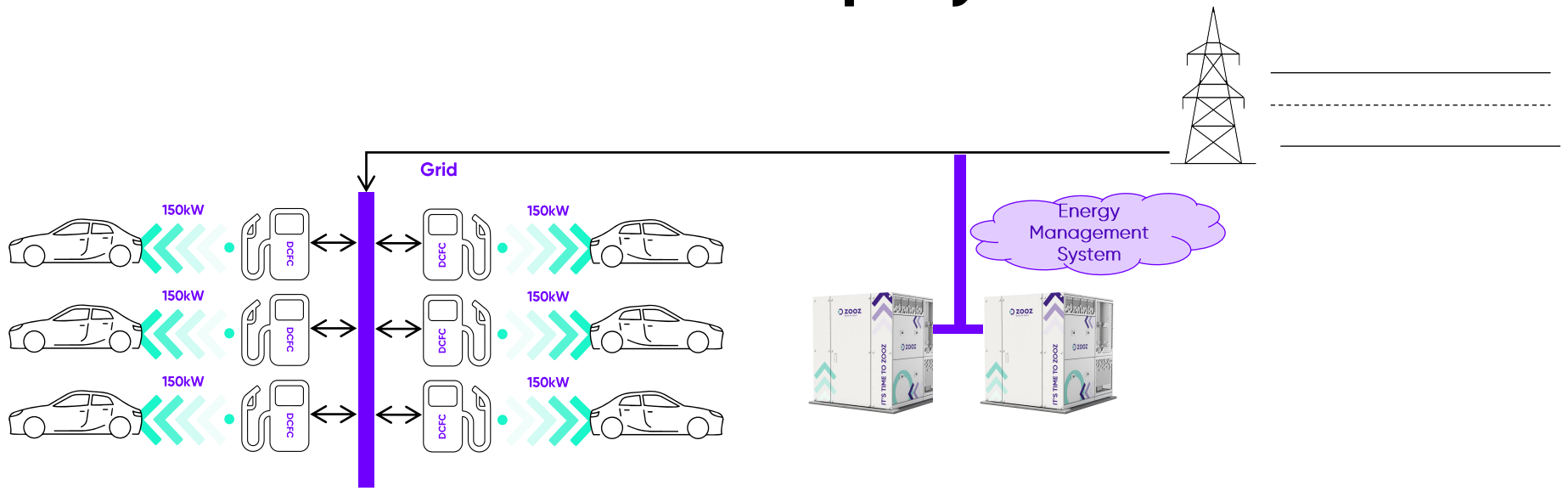
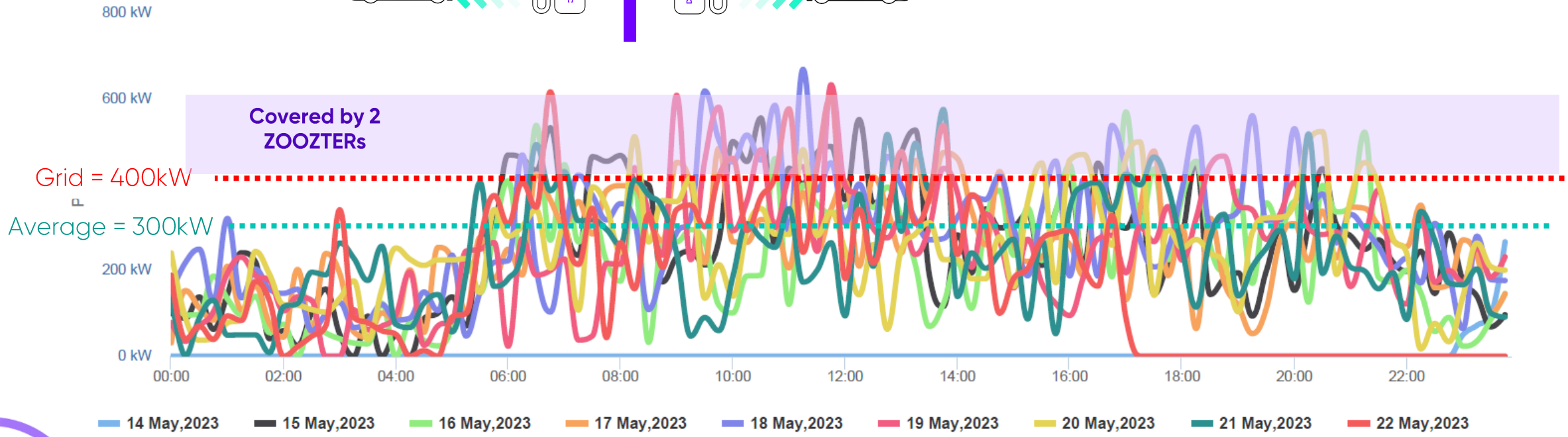
UK Charging Hub (6x 150kW) – Efficient deployment

CASE STUDY

Based on a UK Site

- **Grid: 400kW**
- **6 Chargers X 150KW**
- **2 ZOOZTER X100kW**





ZOOZ Boost for Good

ROI (for 2 ZOOZTER +4 Chargers, 100 cars/day)

CASE STUDY

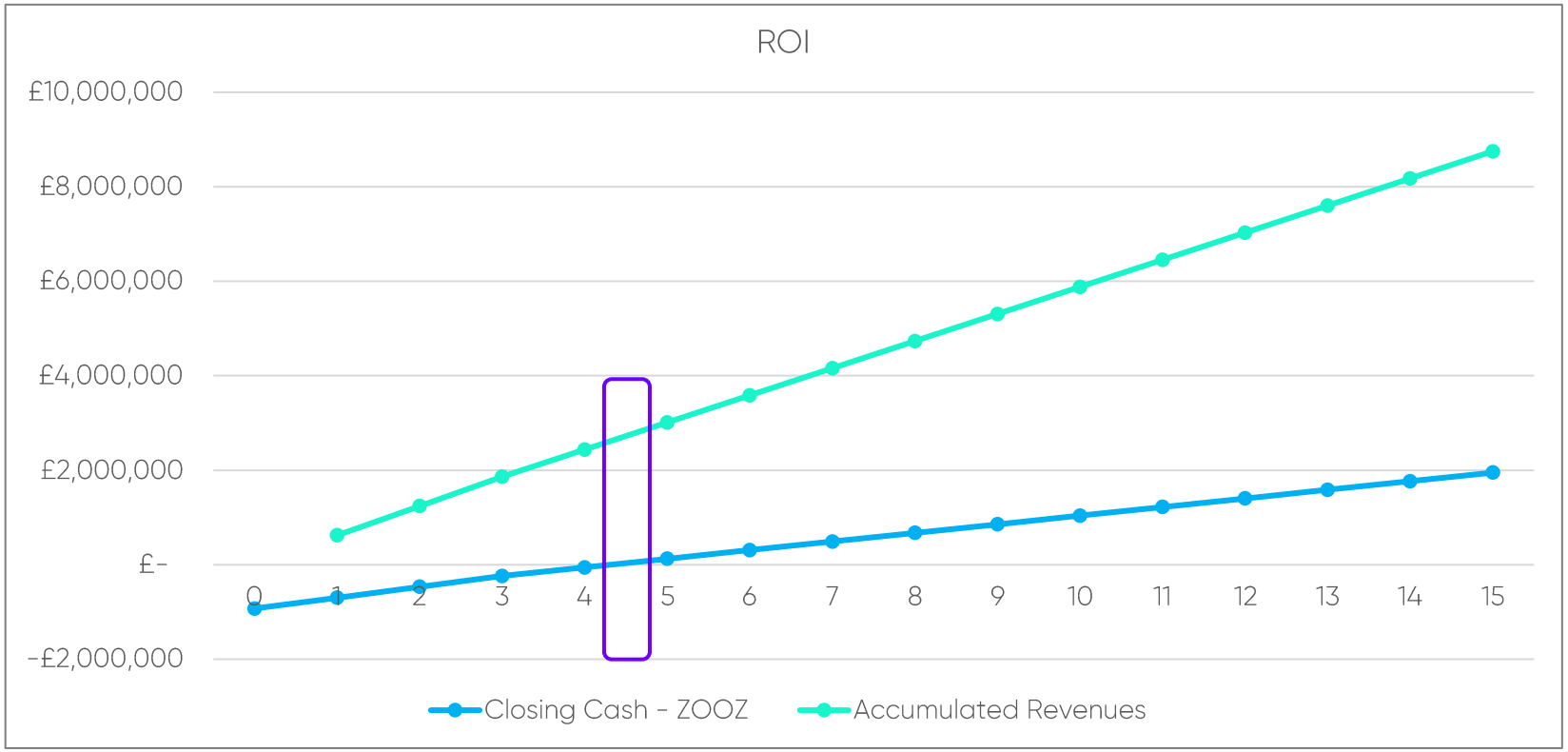
Based on a UK Site

CAPEX			
	Costs	Qty.	Total
Power Booster	[redacted]	2	[redacted]
Ultra-fast Charger	[redacted]	£ 4	[redacted]
Make Ready' Costs	[redacted]	£ 1	[redacted]
Installation & Commissioning Costs	[redacted]	£ 1	[redacted]
Investment			**£ 927,143**
Gov. Grant			£ -
Total investment	927142.66		**£ 927,143**

Technical Data		
Grid Connection at Site	250	kW
Ultra-fast Charging capability	900	150x6
Power Booster Round-trip Efficiency	80%	
Fast Charger Efficiency	95%	
Overall System Efficiency	81%	
Extended Range per Charging	200	km
kWh to km conversion	6	
Average Charging per EV	26.2	kWh
Average Charging EVs / Day	100.0	

Financial Data			
Booster Depreciation Period	15	years	
Charger Depreciation Period	10	years	
Rent Annual Fee	[redacted]		
Billing Annual Fee	[redacted]		
Other Annual Fixed Costs	£ -		
Billing recuring fee (%)	[redacted]	of Revenues	
Insurance Annual Cost	[redacted]	of Equipment Cost	
O&M Annual Cost	[redacted]	of Equipment Cost	
Other Variable Costs	[redacted]	of Revenues	
MSP Connection Cost (Per EV)	[redacted]		
Electriciy Cost	$0.30	£/kWh	
Fast-Charging Price	£ 0.65	£/kWh	years 1-3
	£ 0.60	£/kWh	years 4+

Yearly Numbers of Charging				
Charged Electricity	956,300	kwh		
Consumed Electricity	1,176,582	kwh		
EV Charged - 1st year	100			
Y2Y Charging growth	15%	years 1-3	6%	year 4+
Max EV Charging @ site	100			
Operating Days/year	365			



Summary

- EV infrastructure market is accelerating -
  supporting **HUGE potential** for our unique solution.
- Market education & learning period –
  Perfect timing for launching our innovative ZOOZTER™-100.
- First site in Israel – commercially operational for 5 months !
- **Moving forward with US penetration** –
  4 Pilots with major partners to be operational by end ‘23*.
- **Two sites launched** in Germany !
  Three more sites expected to be operational soon* !
  Customer expressed intent to order 5 more sites* !
- Working on **additional opportunities** (Europe & US)
  while leveraging live sites and real recorded data.

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** Company estimation, subject to changes*

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Enabling Ultra-fast EV charging Anywhere

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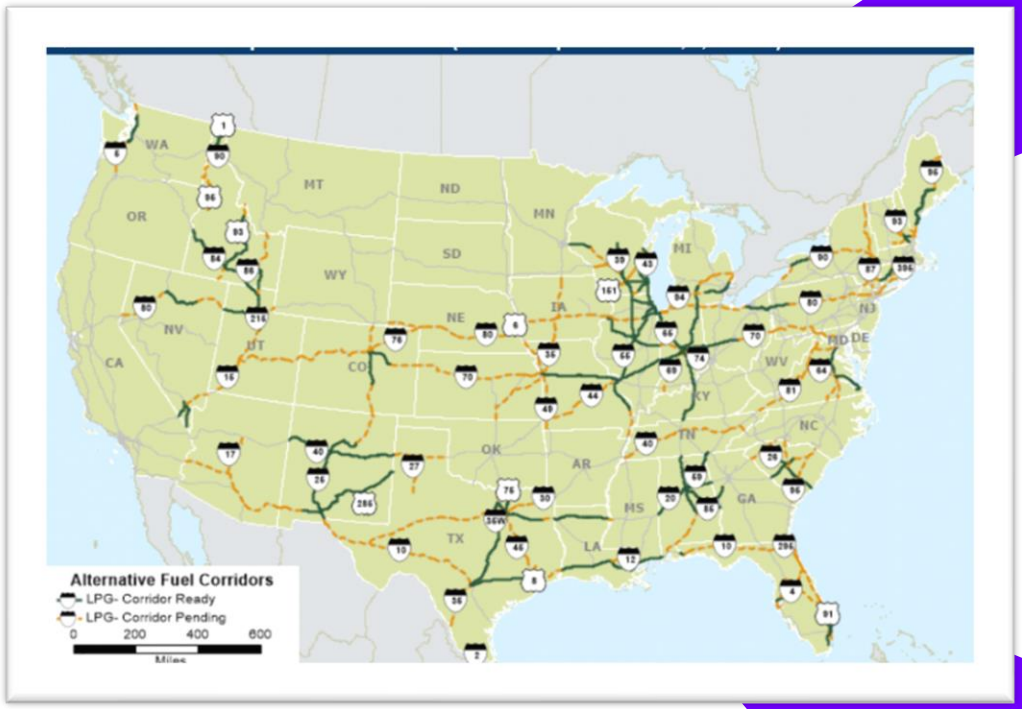
Appendix Slides
June 2023

USA - NEVI (National EV Infrastructure) Program

About NEVI:

- Federal funding of **$5B** for EV-Charging along Alternative Fuel Corridors
  - To be allocated by state DOTs in '22-'26
  - Plans approval by FHWA, by Sept. 30th each year
  - Federal cost-share - up to 80%.
- Additional **$2.5B** in discretionary funding – No guidance yet



Requirements For Charging Infrastructure:

Installed **every 50 miles** along state's interstate HW **within 1 mile of the exit**

Include **min. 4 x 150kW DCFC** capable of simultaneously DC charging of 4 EVs

At food retailers, convenience stores, etc. **(publicly accessible locations)**

Source: NEVI Guidelines

Scalable Offering for Charging-Hub

Land Grab

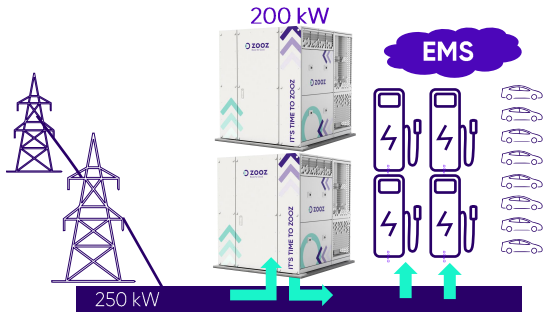
< 50 Cars, Grid 100kW

ZOOZTER enables:

- Grid upgrade deferral
- Early start of service

Increased Utilization

50-100 Cars, Grid 250kW



Additional ZOOZTER & EMS enable increasing hub's utilization with **limited grid upgrade,**

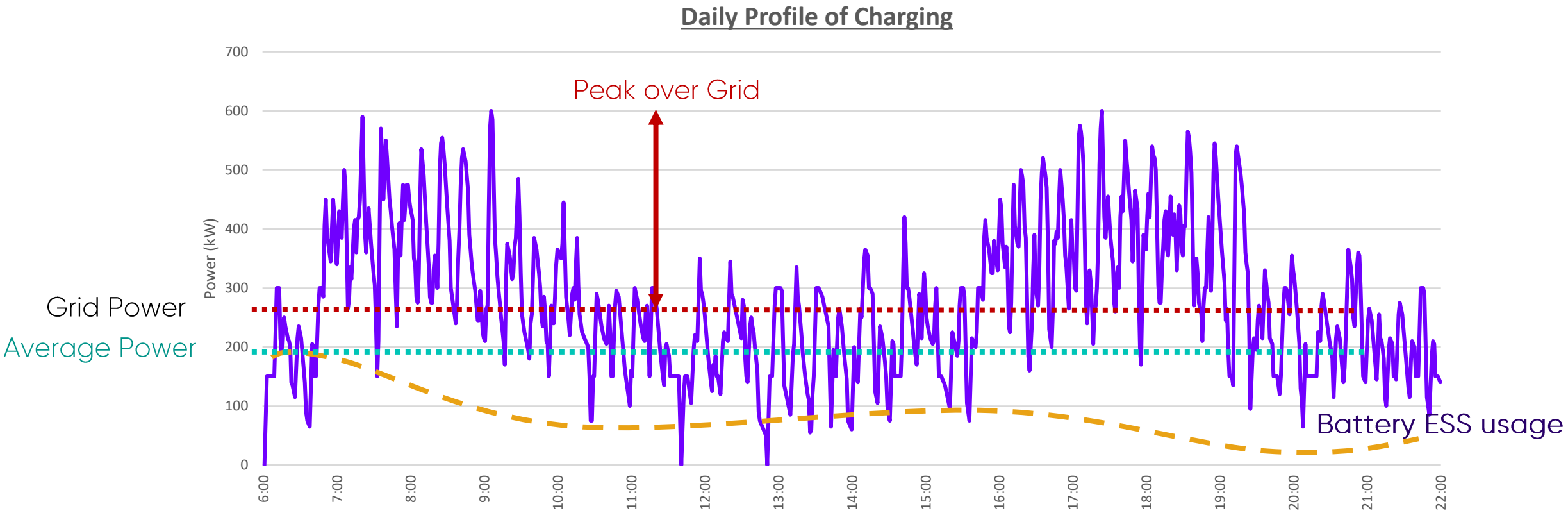
High-demand Operation

>100 Cars, Grid 250kW

A hybrid solution required only for very high-utilization to enable additional capacity during high-demand hours

Gradual CAPEX investment, Minimizing OPEX (demand charges), Increasing revenues

Hybrid Solution Serving Charging Hub with Very High Utilization



- Grid supports average energy/power consumption
- Battery ESS supports peak demand during rush hours
- Flywheel-based Booster – front-end storage to support multiple/frequent cycling
- Avoiding HUGE demand charges

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