



Mark Sanders-Barwick
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Power • Innovation • Delivered



THE PROBLEM(S)...



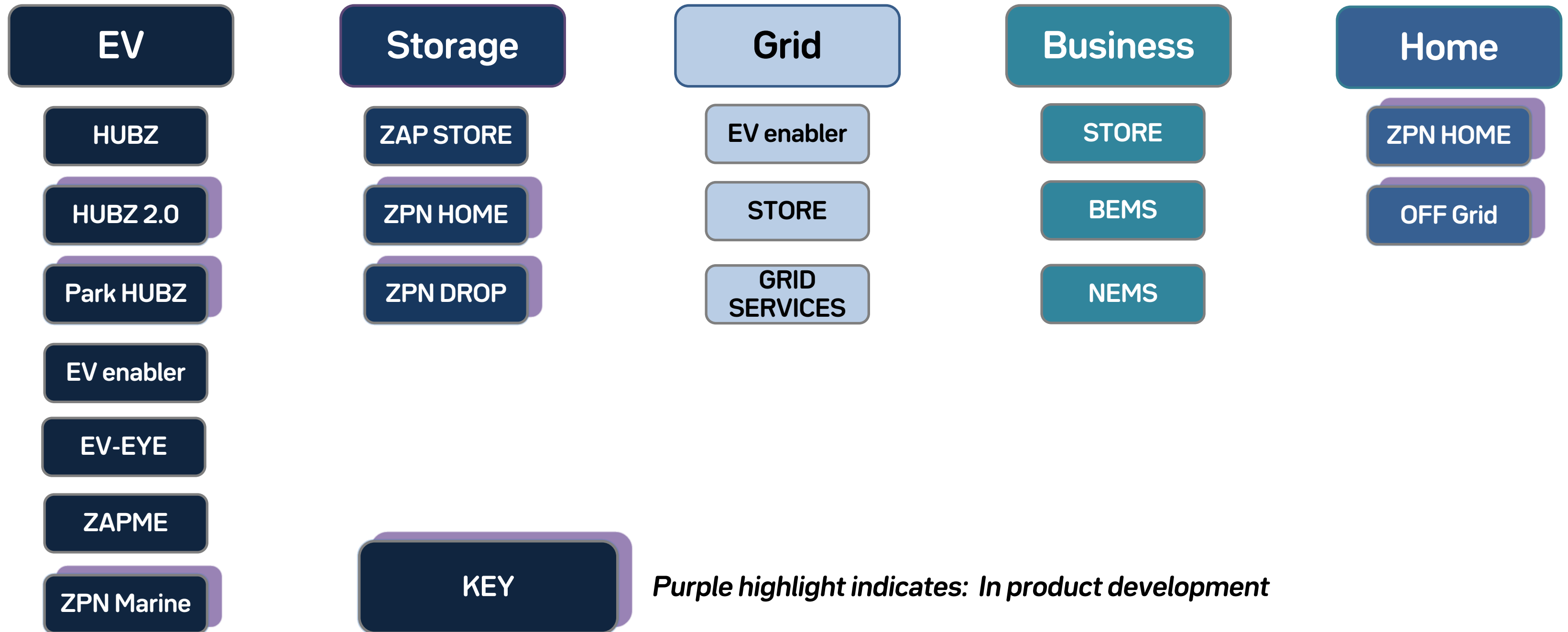
- Constrained energy supplies
- Rising energy costs
- Poor EV charging infrastructure
- Range anxiety for EV drivers
- Grid infrastructure in rural locations
- Building Power Management
- Recovery of Out Of Charge EVs
- Meeting emission targets
- Insufficient power grid infrastructure
- Reducing reliance on fossil-fuels

ZPN Energy - The Turnkey Solution



- HUBZ - EV Charging
- ZAPME - EV Recovery / Mobile Charging
- EV-Eye Fleet Telemetry
- ZPN STR - Energy Storage [from renewables]
- ZPN DRP - Emergency Energy / Charging
- EMS - Energy Management System

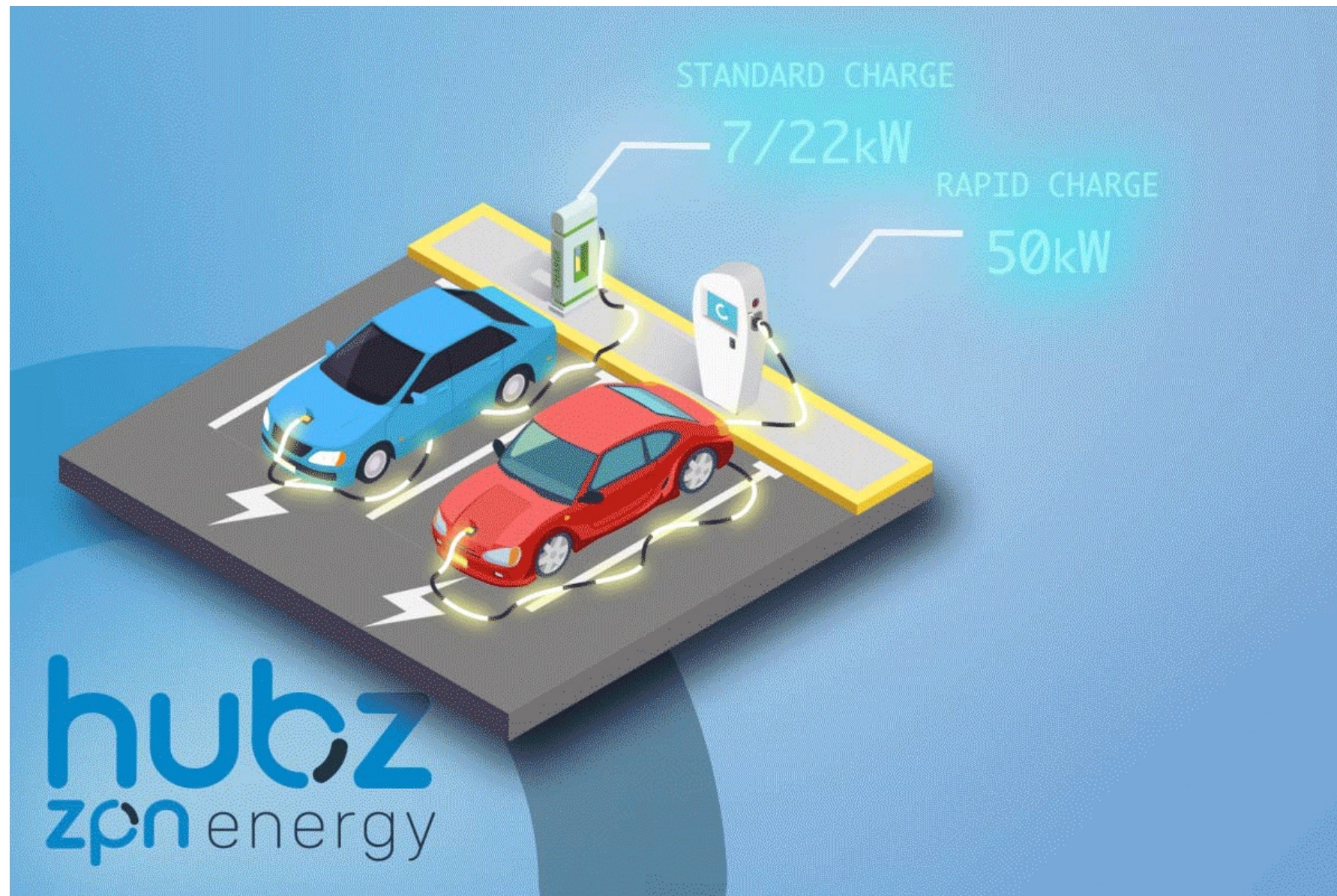
Our Solutions





HUBZ

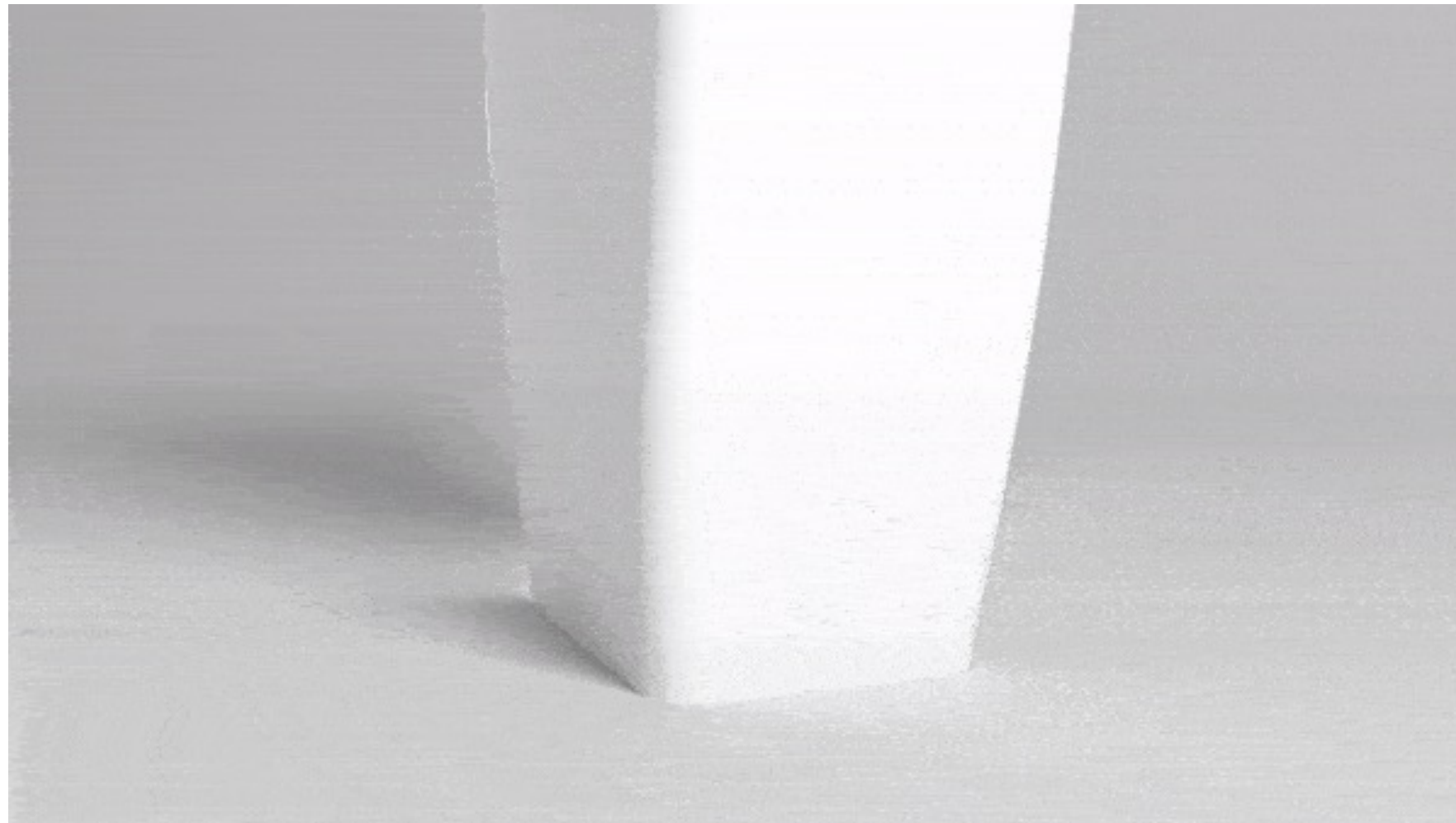
Why Rapid Chargers?



Most depot or destination chargers today have only 7kW of output, meaning that even after an hour of charging a driver won't get a significant amount of miles in their vehicle.

This is where HUBZ comes in - with such a high rate of charge it's possible to grab a sandwich and a coffee and come back to a fully charged vehicle. Getting a vehicle topped up whilst taking a break from the road can only be a good thing!

ZPN HUBZ



HUBZ is a OCPP 2.0.1 and PAS:1899/2022 compliant rapid charger with storage for energy constrained sites.

Sleek, innovative design with user-friendly features such as a wheelchair height multimedia colour touch screen and a powered, retractable charge cable. Contactless payment via debit/credit card, Apple Pay and Google Pay



V

	50-75kW	150kW	300kW [development]	400kW [development]
	50kWh	150kWh	300kWh	400kWh
V	1000	1000	1200	1200

HUBZ Media Screen

The touch media-screen in HUBZ units allows streaming of media and advertising. Ideal for promotions and advertising!
The only limit is your imagination.



A dark blue van is shown from a rear three-quarter perspective with its double doors open. Inside the cargo area, a pallet jack is visible, with the word 'FORKS' and a downward arrow printed on its handles. The word 'ZAPME' is overlaid in large, white, bold, sans-serif capital letters across the center of the van's interior. The background is a solid dark blue color.

ZAPME

ZAP ME – Recovery / Charging-as-a-Service (CaaS)



ZAPME - ZPN Energy's mobile EV charger can be used to rescue EV's that have run out of charge, including EV trucks.

ZAPME can act either as a recovery solution or as CaaS / Charging-as-a-Service to remote locations with no EV Charging infrastructure or at properties with no off-road parking / street side chargers



ZAPME Configurations



The world's simplest solution to electric vehicle recovery and on-demand local electric charging. ZAPME is the leader in the offer of Charging-as-a-Service (CaaS) having provided mobile energy since 2017.



ZAPME GO	ZAPME	ZAPME MAX
50kW	50kW	50kW minimum
10-22kWh	50kWh	150-300kWh
600-1000	1000	1000-1200



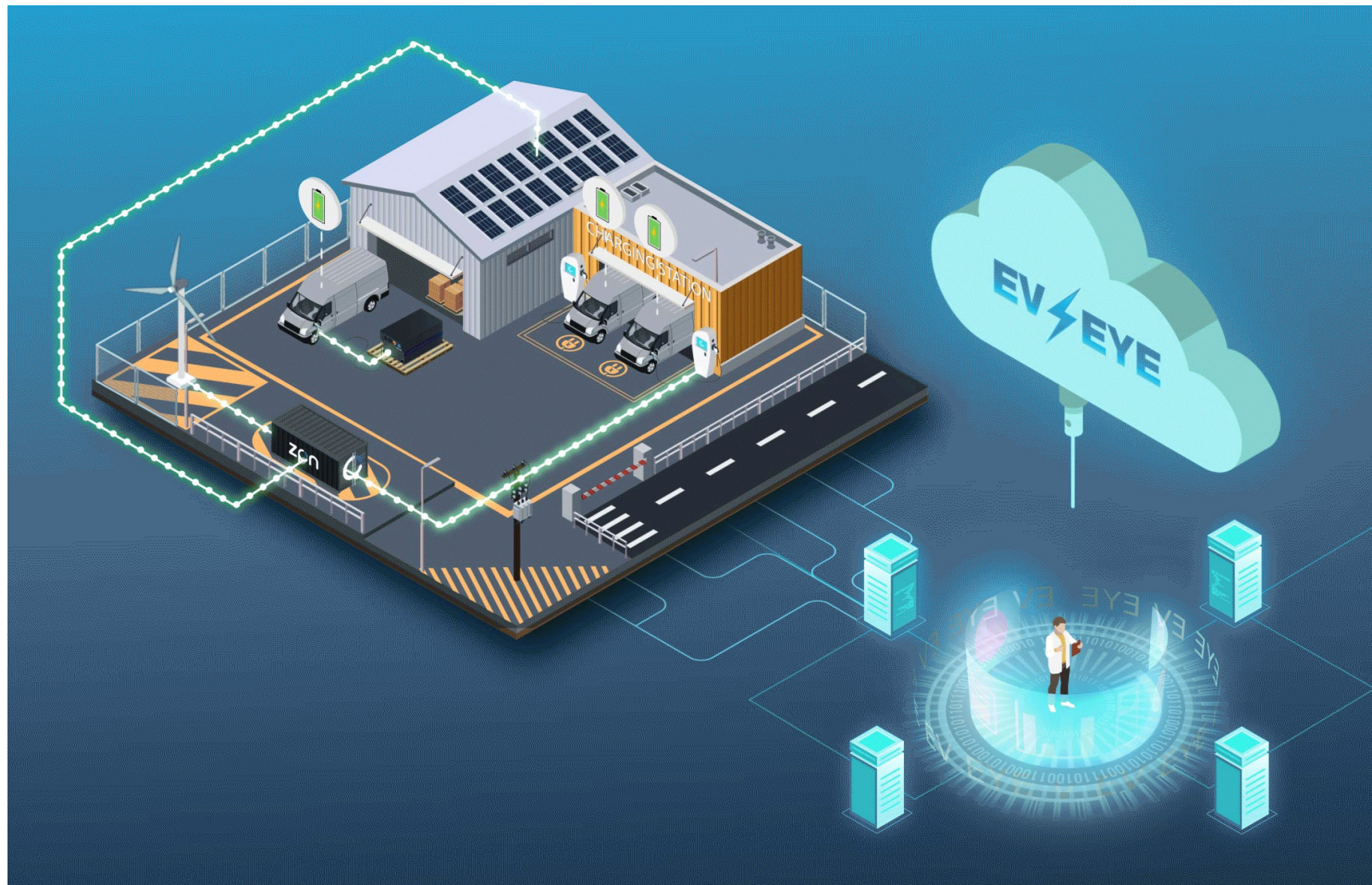


EV ⚡ EYE

EV TELEMETRY



EV-Eye: For What You Don't Yet Know



EV-Eye is a one box solution that delivers the very best of EV-Vehicle telematics with an internal GPS modem.

The device is click and play and will provide data/reports to resolve issues you may not have even considered yet. The data/reports can be visualised using ZPN's Fleet Management SaaS. An App is also available.

***NO MORE MPG... HUBZ and EV-Eye gives you more MPC
[Miles Per Charge]***

- All-in-one telematics solution
- High quality data from every vehicle – including ICE!
- Control and ownership of your data
- Plug-and-play installation
- Single point of contact for vehicle data and modem

A Vehicle Vector – EV-Eye expands with your fleet

EV-Eye provides the following data... on all EV types



- Remaining miles - not battery percentage
- Charging point overlay
- Driving style. This impacts mileage, therefore profit
- Odometer reading
- Battery – improper charging pattern, poor battery condition
- Temp drop
- Non-use of Eco mode (remote eco-enable possible on some vehicles)
- Regen braking ratios an indicator of efficient driving
- Charging cable connect / disconnect
- When is most cost-effective time to obtain highest residual resale value?
- Mixed fleet continuity of data – ICE / EV – your legacy data is preserved
- Vehicle recovery – *order a ZAPME charge from within the portal*
- Tell-Tales: *get live feedback identifying non-reported issues*
- Maximise miles: *more jobs per charge = more profit*



ZPN Store

zpn energy

ZPN STR: Energy Storage

Large scale energy storage and management. Integration with BEMS, HEMS and NEMS.

Providing Energy supplies in excess of 500kWh • Option to connect to grid and solar



V

	ZPN STR 1	ZPN STR 2	ZPN STR 3
	1MW	2MW	3MW
	600-1000	1000	1000-1200
	10ft Container	20ft Container	40ft Container
	Battery Chemistry Options	Battery Chemistry Options	Battery Chemistry Options





Energy Management System (EMS)

ZPN Energy Management System (EMS)



ZPNs EMS incorporates hardware and software to create an integrated platform, which enables users to monitor and control their energy consumption



Artificial Intelligence

Machine Learning, with IoT and APIs at its core, enhances usage of energy



API and block chain ready

Sensors and software connecting and exchanging data with other devices via the internet, creating the ability to engage block chain and crypto markets.



Cyber and Data Security

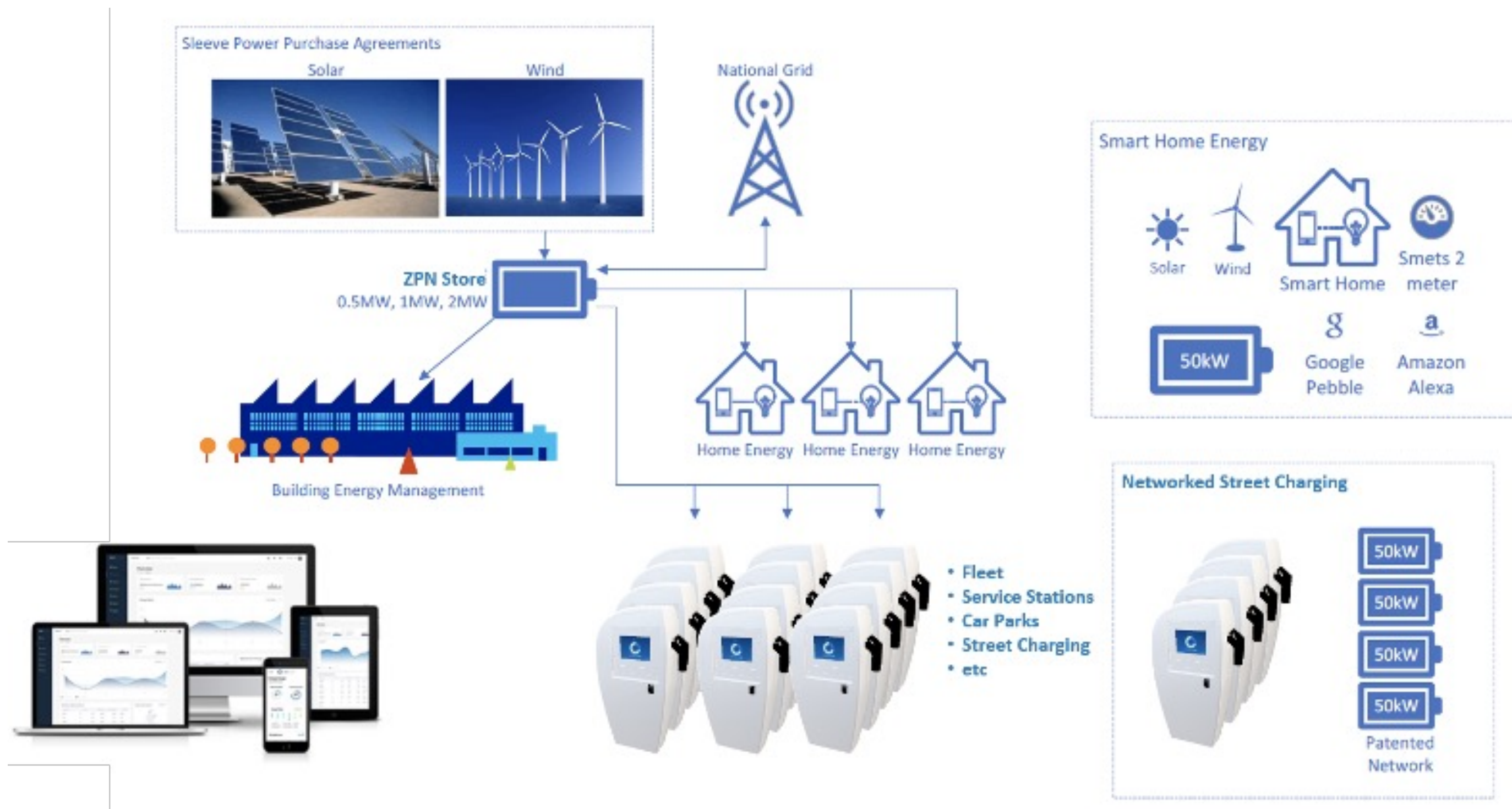
Protecting systems, network, programs, devices and data from cyber attacks



Energy Management System

OCPP 2.0.1 compliance, with improved functionality and enhanced security

ZPN Energy Management System (EMS)

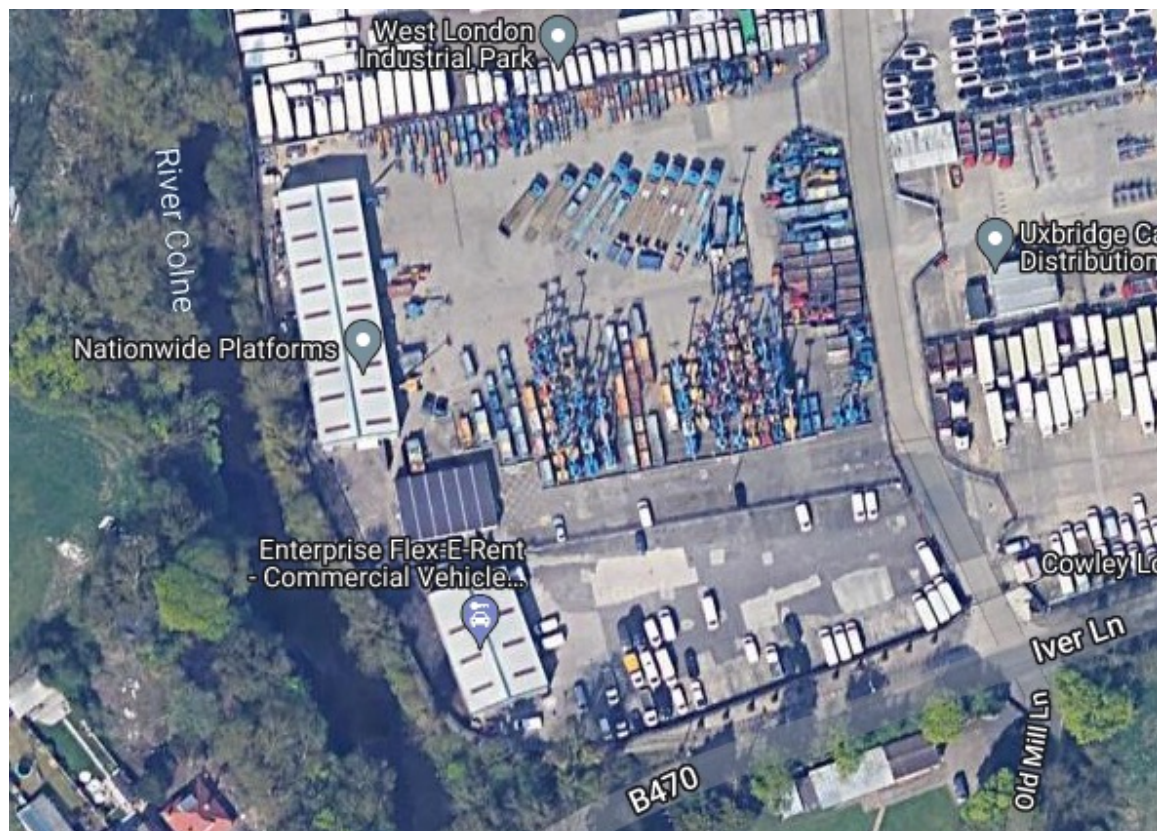


Case Study – Nationwide Platforms

Nationwide Loxam approached ZPN Energy after identifying 30 of their sites with constrained energy supplies.

The plant equipment utilised by Nationwide is transitioning from diesel to electric, placing a further demand on grid connection to their sites.

Nationwide are location sensitive so have to remain at their sites to operate as a business



Business benefits

- Reduction in reliance on grid power
- Continuation of business at key locations
- Increase in usage of green energy
- Compliance with CSR policy
- Reduction in Carbon emissions

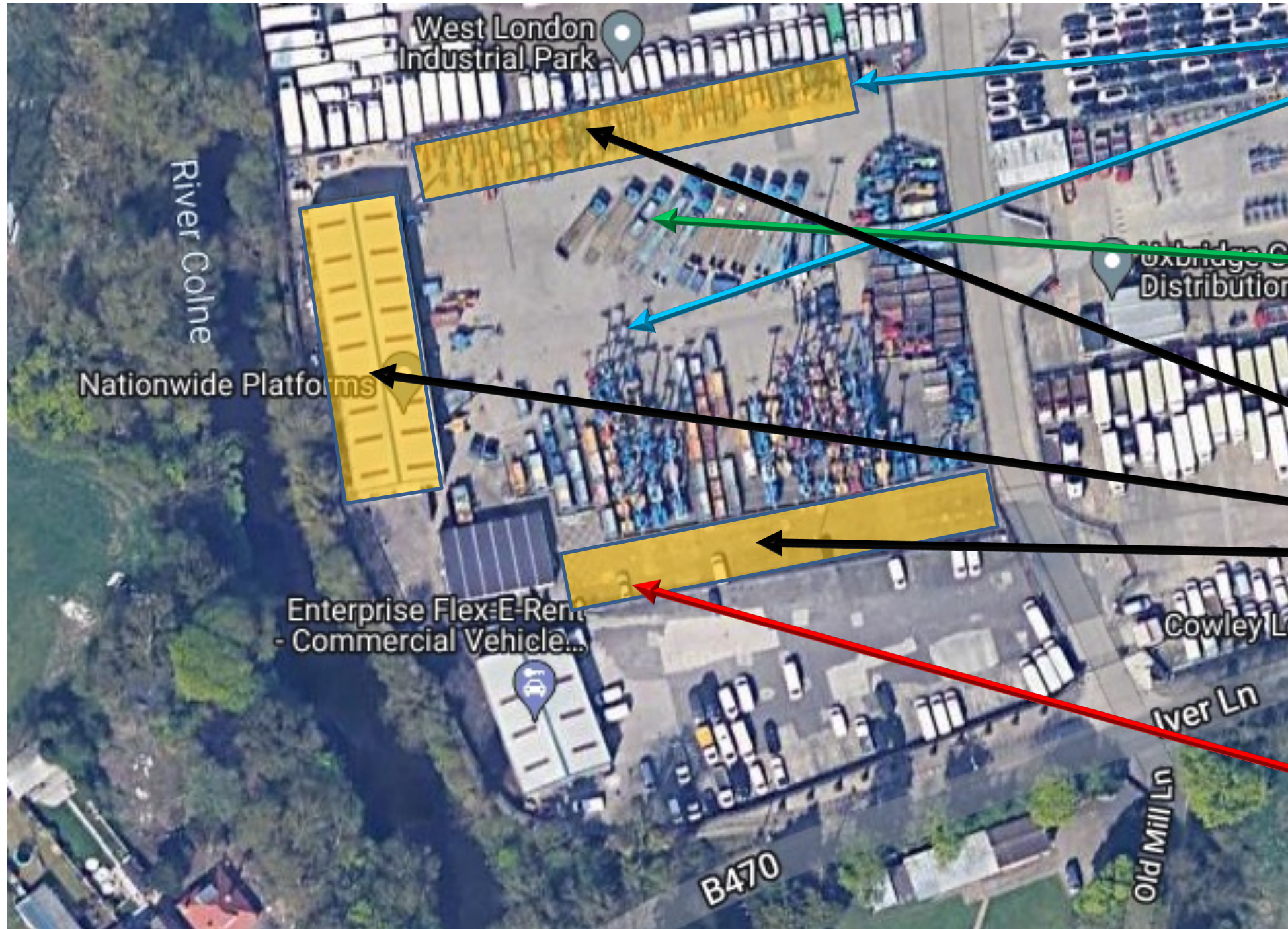
Financial benefits

- Reduction in electricity costs
- Reduction in liquid fuel costs
- Reduction in overall fleet costs
- Income potential from charging delivery vehicles & visitor vehicles
- Increase in operational window due to vehicle noise reduction

People benefits

- Reduction in toxic emissions
- Increase in air quality
- Staff able to charge vehicles at workplace

Nationwide Platforms – Our solution



Energy Storage System
1MW system

Commercial Vehicle Charging
2 x 350kW chargers

Solar PV
205kWp system

Passenger Vehicle Charging



Nationwide Platforms - ROI

Summary of proposed system:

Solar array: 205kWp
Battery storage: 1MW
Chargers: 2 x 350kW

Costs:

Capex: £862,820 [excl. groundworks]
Opex: £5,500 per annum

Assumptions:

Current usage: 113,610 kW per annum
Projected usage: 264,210 kW per annum
Current cost of electricity: £0.75 per kW per annum
Grid capacity: 1,490.40 kW per day
Solar array lifespan: 25 years
Estimated cost of grid upgrade alternative: £500,000
Solar output: 185,202.35

Savings and ROI:

Estimated cost of grid upgrade alternative: £500,000
Grid capacity: 1,490.40 kW per day
Projected usage: 264,210 kW per annum
Current cost of electricity: £0.75 per kW per annum

Estimated Savings: £133,401.77 per annum

ROI: 6.47 years

ROI: Taking into account of grid upgrade alternative: 2.72 years

Solar array lifespan: 25 years
Solar output per annum: 185,202.35 kW

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