



the future of energy trading

why AI-powered energy trading services
are crucial for a successful transition
to clean energy



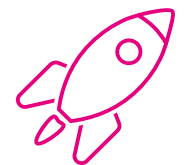


enspired

Trading as a Service

we are enspired

we are **driving the energy transition** by enabling our customers to bring flexible assets to the **European power spot markets** and capture their full value with our **AI-based trading service**



we monetize your power asset

- in a transparent and comprehensive manner with an online **real-time dashboard**
- providing you with **market access** if required
- Utilizing **state-of-the-art technology** for maximum value generation
- operating **24/7**
- with **fair commercials** - fair profit sharing, no minimum term, no risk, no surprises



our technology is your advantage

- **all available data** in real time implemented
- developing adaptive **trading strategies** based on self-learning models
- fully **automated trading processes** optimised down to the last millisecond
- plug & play integration with **standardised API**



company info

-  headquarters in **Vienna**, Austria
-  owned and managed by the **founders**
-  **recognised experts** in AI and algorithmic short-term energy trading



cross-market optimization of BESS

two main markets to be distinguished

Example Germany

Market

Market phases

Prerequisites

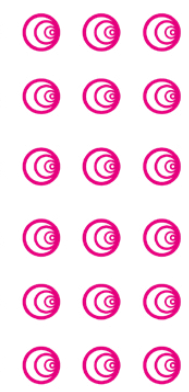
Counterpart

ANCILLARY SERVICES (balancing market)			
	FCR ¹	<u>aFRR</u>	<u>mFRR</u>
Auction	x	x	x
Bids	Symmetric ²	Asymmetric	Asymmetric
Activation	Automatically	Automatically (TSO)	Manually (TSO)
Product lengths in the 2 markets			
Capacity market	4 hrs (only 1 market)	4 hrs	4 hrs
Energy market		15 min <small>free bids possible</small>	15 min <small>free bids possible</small>
	FCR	<u>aFRR</u>	<u>mFRR</u>
Pre-qualification	x	x	x
Security of supply	x	x	x
Counterpart	TSO		

WHOLESALES MARKET (spot market)			
	Day-ahead auction	Intraday auction	Continuous intraday
phases	x	x	x
Time	12 PM	3 PM	3 PM - 12 AM
Product length	1 hr	15 min	15 min
	Day-ahead auction	Intraday auction	Continuous intraday
Market access	x	x	x
Counterpart	Power exchange		

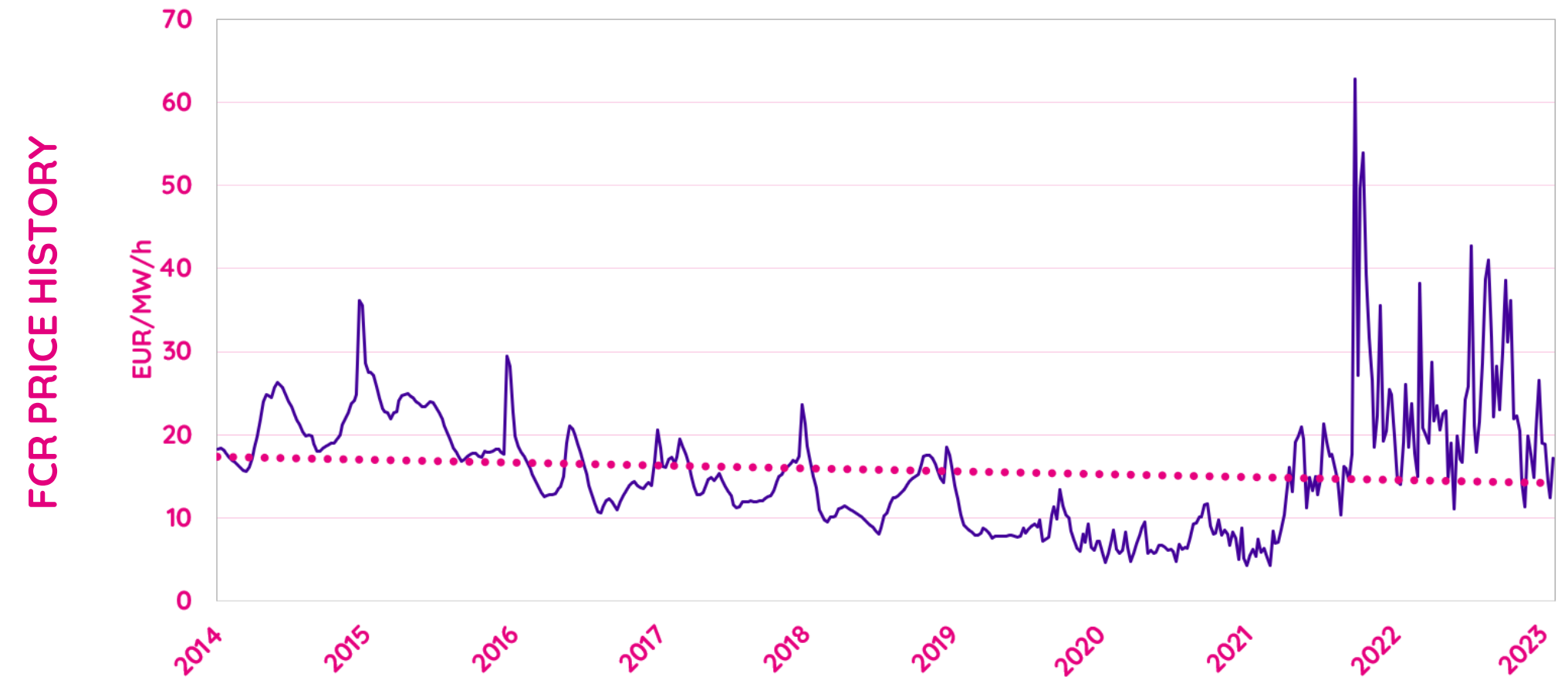
the majority of battery storage players in Europe market their batteries only in ancillary services





revenue diversification is a must due to current FCR market situation

FCR WEEKLY AVERAGE PRICES IN GERMANY FROM 2014



Source: <https://www.ffe.de/veroeffentlichungen/primaerregelungspreise-im-neuen-marktdesign-in-welche-richtung-werden-sich-die-pri-preise-zukuenftig-bewegen/>

CURRENT SITUATION OF THE MARKET ...

- FCR prices have been constantly falling over the past years
- batteries have become a main source of FCR for the TSOs
- more players are entering the market, increasing the cannibalization effect

LEADS TO THE NEED OF ...

- diversification minimizes the risk and acts as an insurance for ongoing market trends
- sophisticated wholesale arbitrage to reduce amortisation time
- cross-market battery optimization

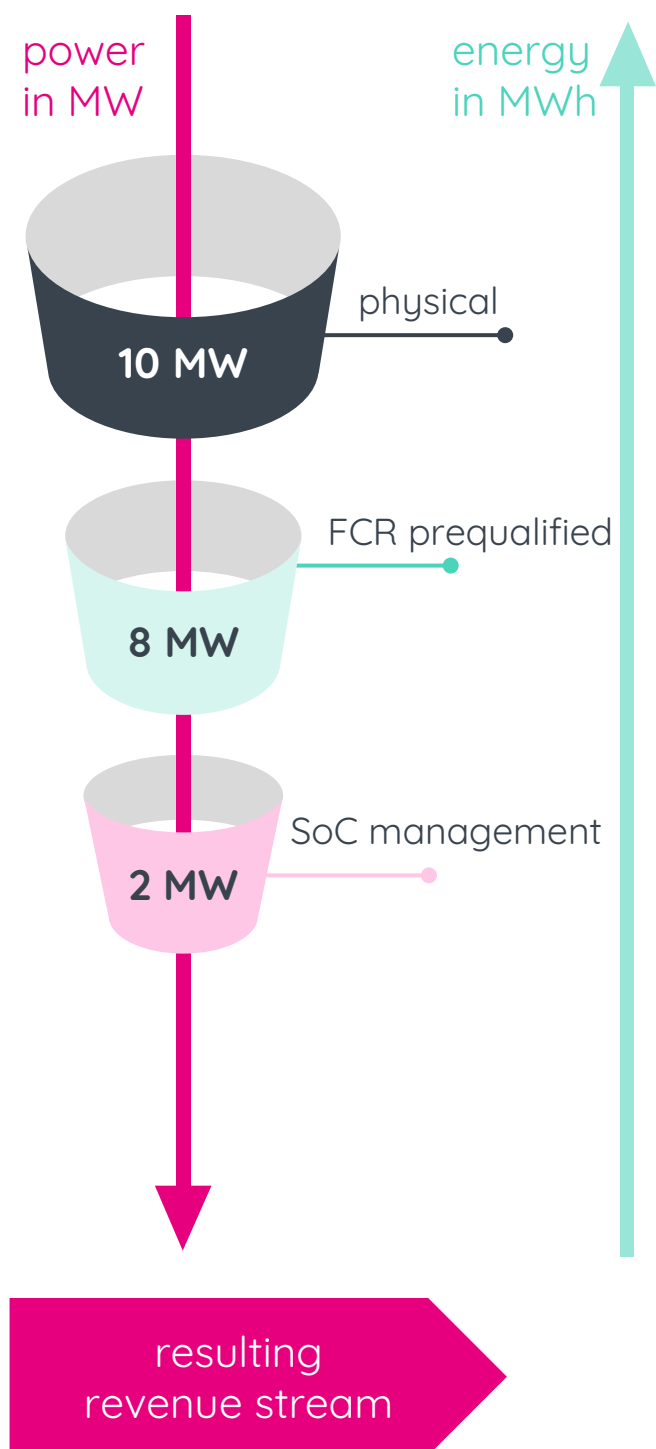


diversifying revenue streams

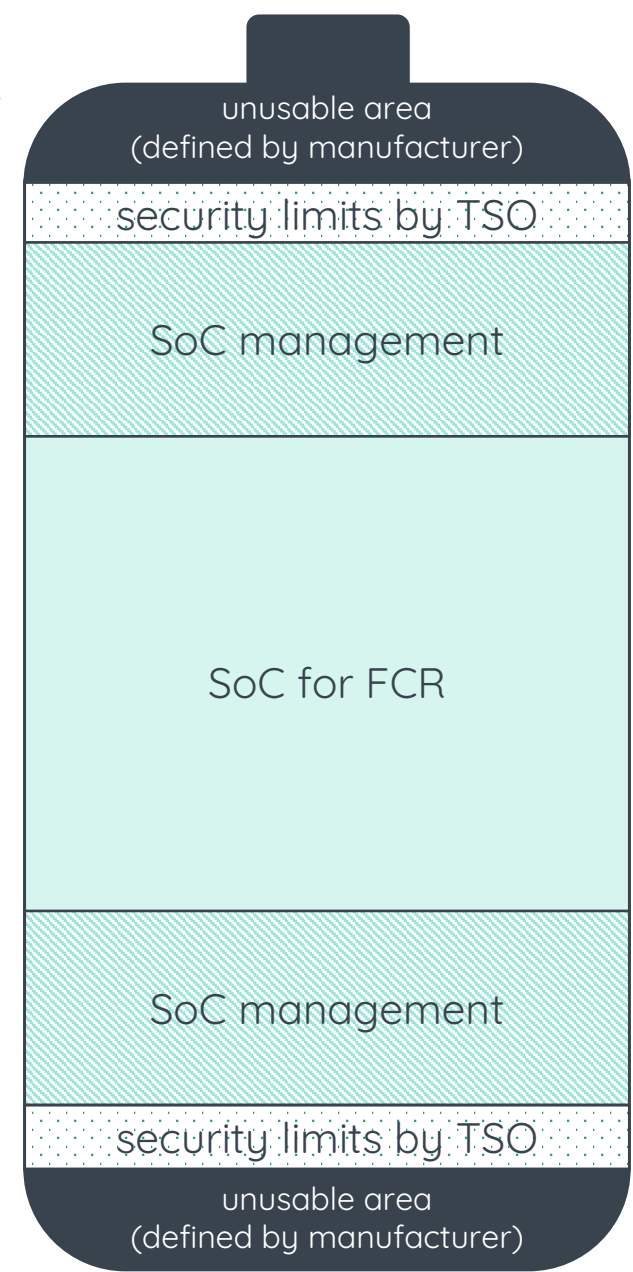
different levels of optimization possibilities

Example Germany

ILLUSTRATIVE
10 MW | 12 MWh

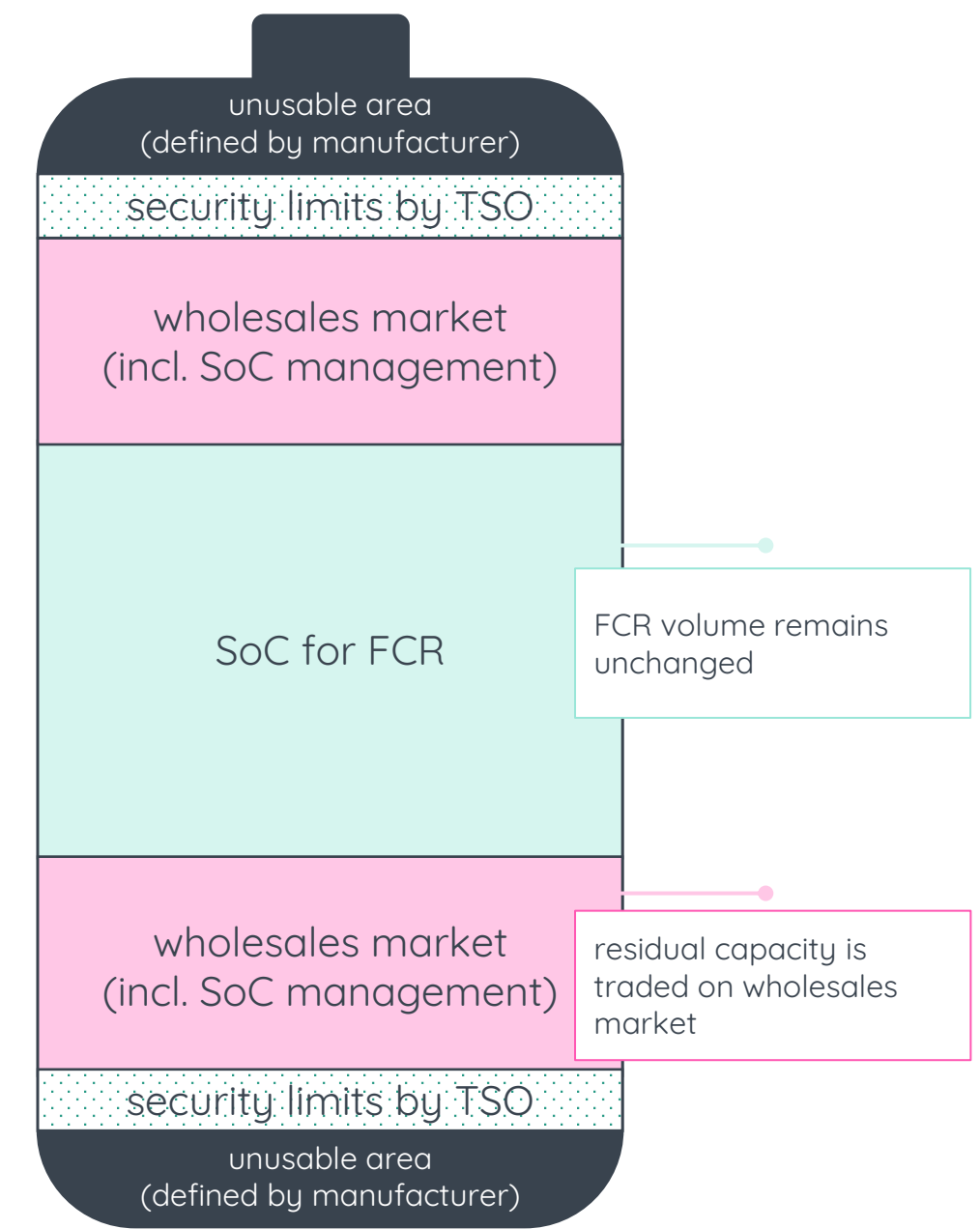


NO DIVERSIFICATION €



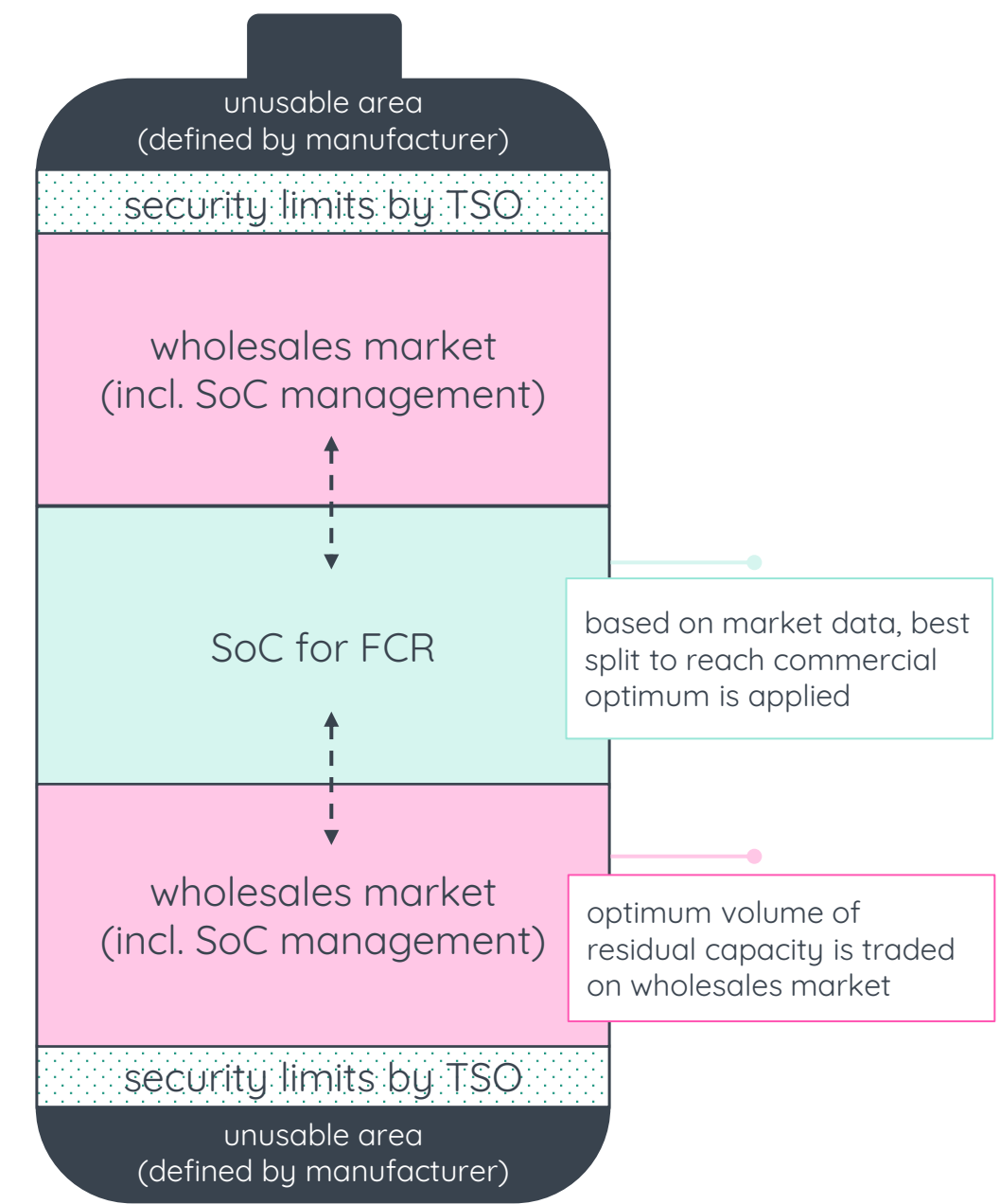
Revenue only generated with 8 MW in FCR
underutilized battery

LITE DIVERSIFICATION €€



additional revenue generated on wholesales market
fully utilized battery

PRO DIVERSIFICATION €€€



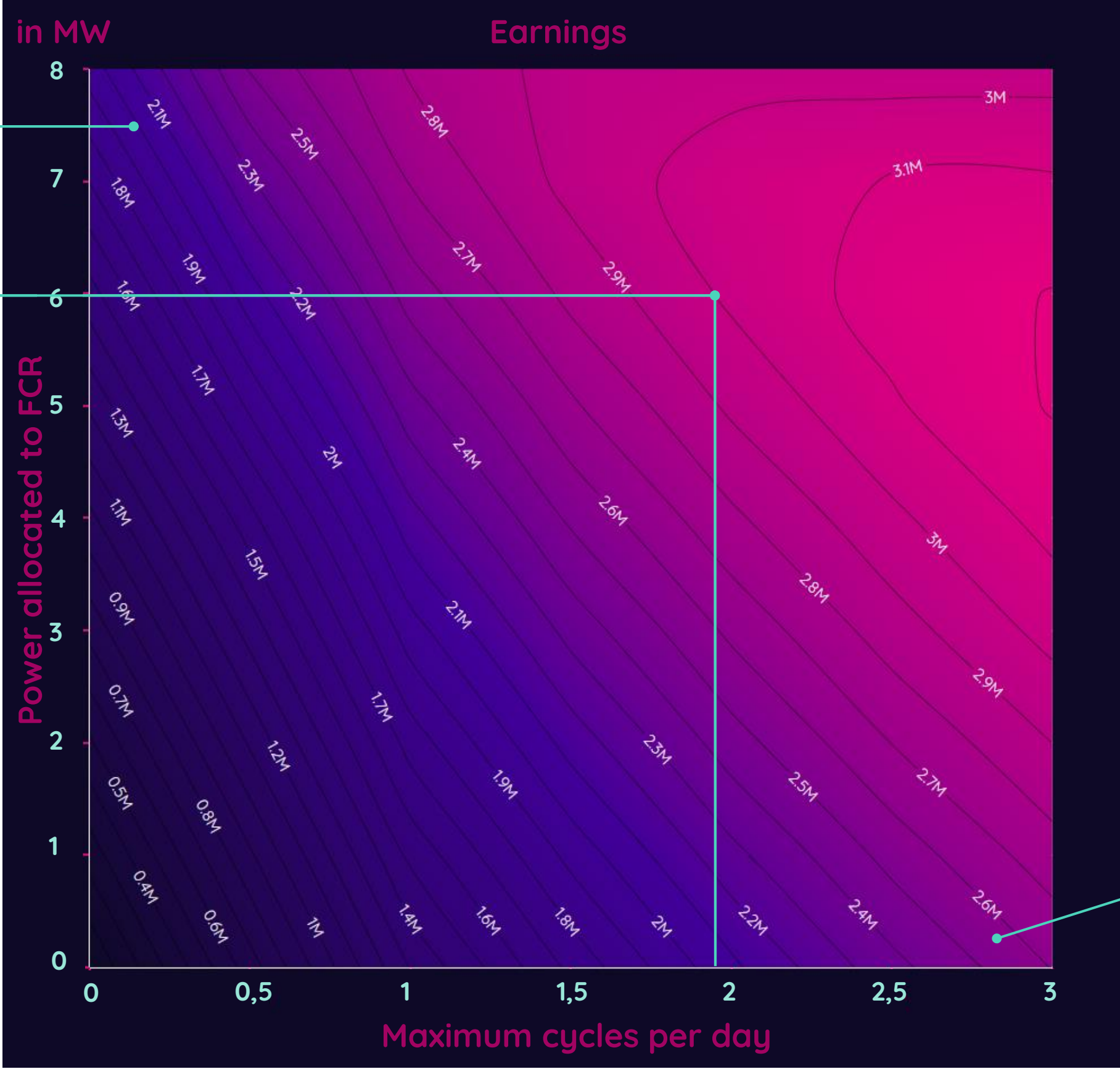
optimal split between wholesales & FCR applied
optimally utilized battery



optimal power split between FCR and wholesales (18 months periode)

BESS only used for FCR

realistic average optimized configuration



BESS only used in wholesales market



diversification is key

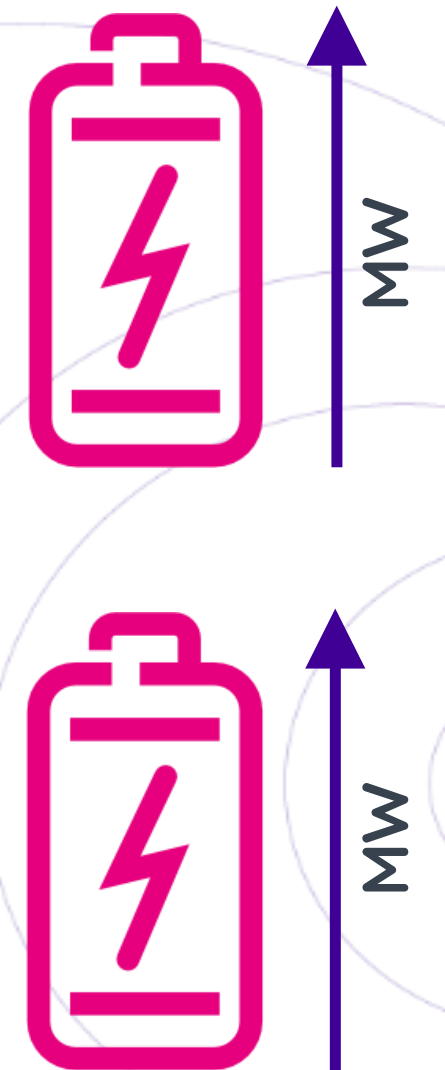
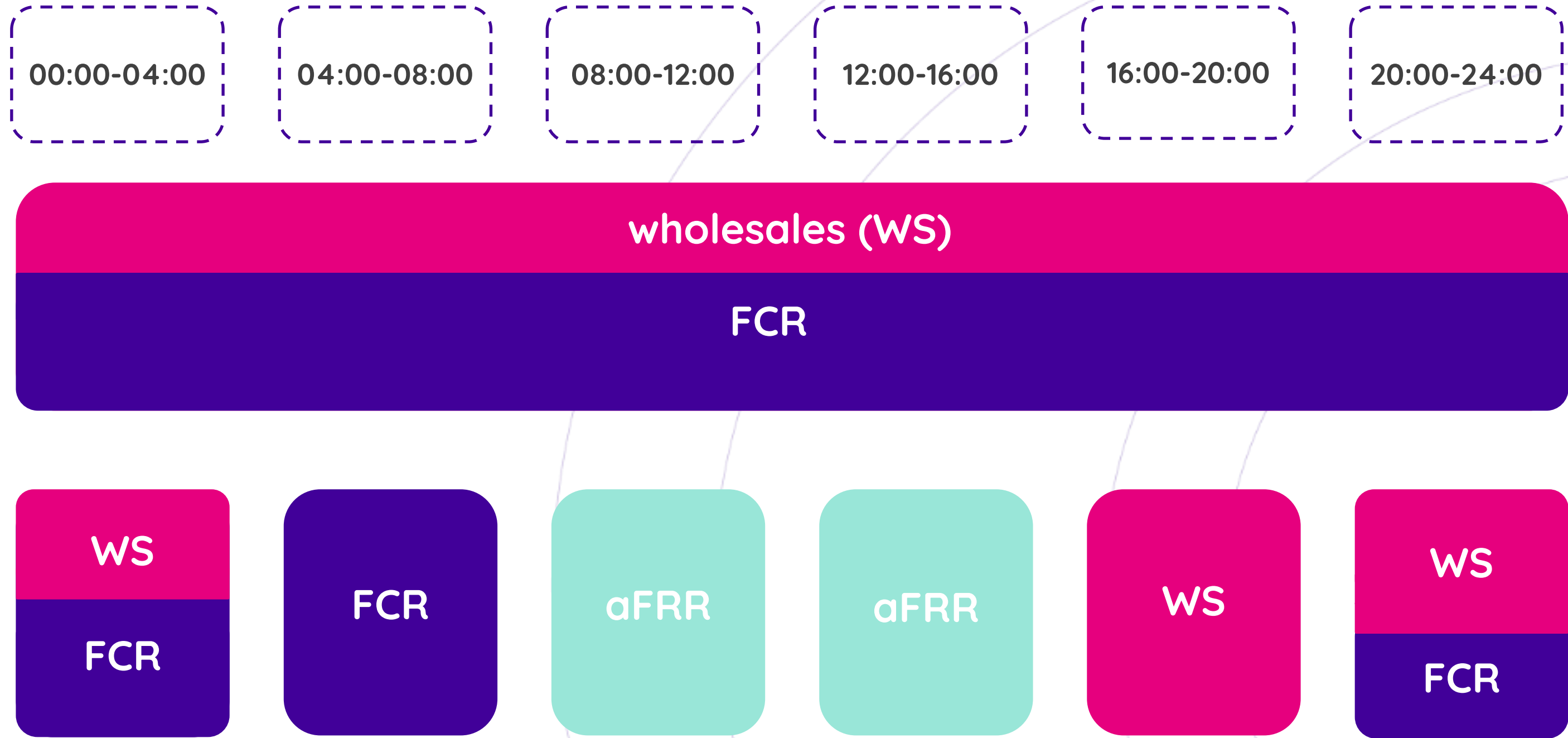
optimize revenues by daily decisions





diversification is key

cross market battery optimization options





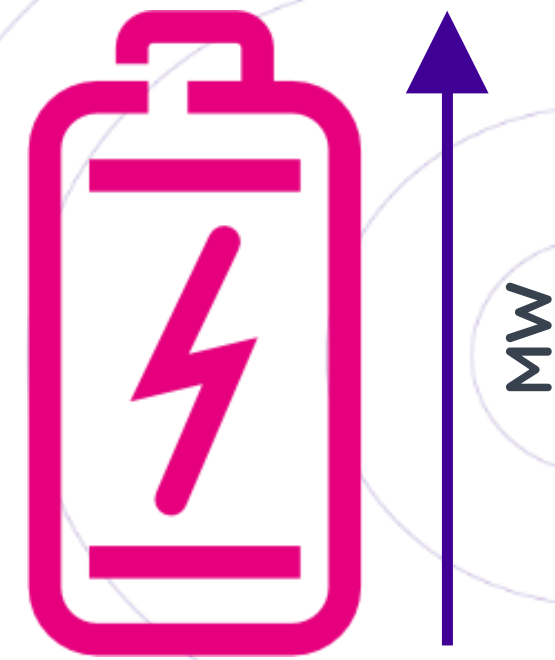
diversification is key

cross market battery optimization options

months to get pre-qualified

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

just start with wholesales





let's have a chat!

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