V2G ARBEJDSGRUPPE
MØDE 13, 10. MARTS 2026

PROGRAM

Før frokost

09:00 – Velkomst + sikkerhed

09:10 – Bordet rundt

09:30 – B2B guide – godkendelse

09:45 – Pause

09:55 – Det internationale spor

10:10 – Kommissionsrapporten 1

10:55 – Pause

11:15 – V2G v. EON/BMW

12:00 – Frokost

PROGRAM

Efter frokost

12:45 – Kommissionsrapporten 2

13:30 – Pause

13:39 – Coalition of the Willing rapporter

14:24 – Pause m. Brunsviger

14:38 – B2B guide – Indhold til forelæggelse

15:08 – Opsamling

ENERGINET

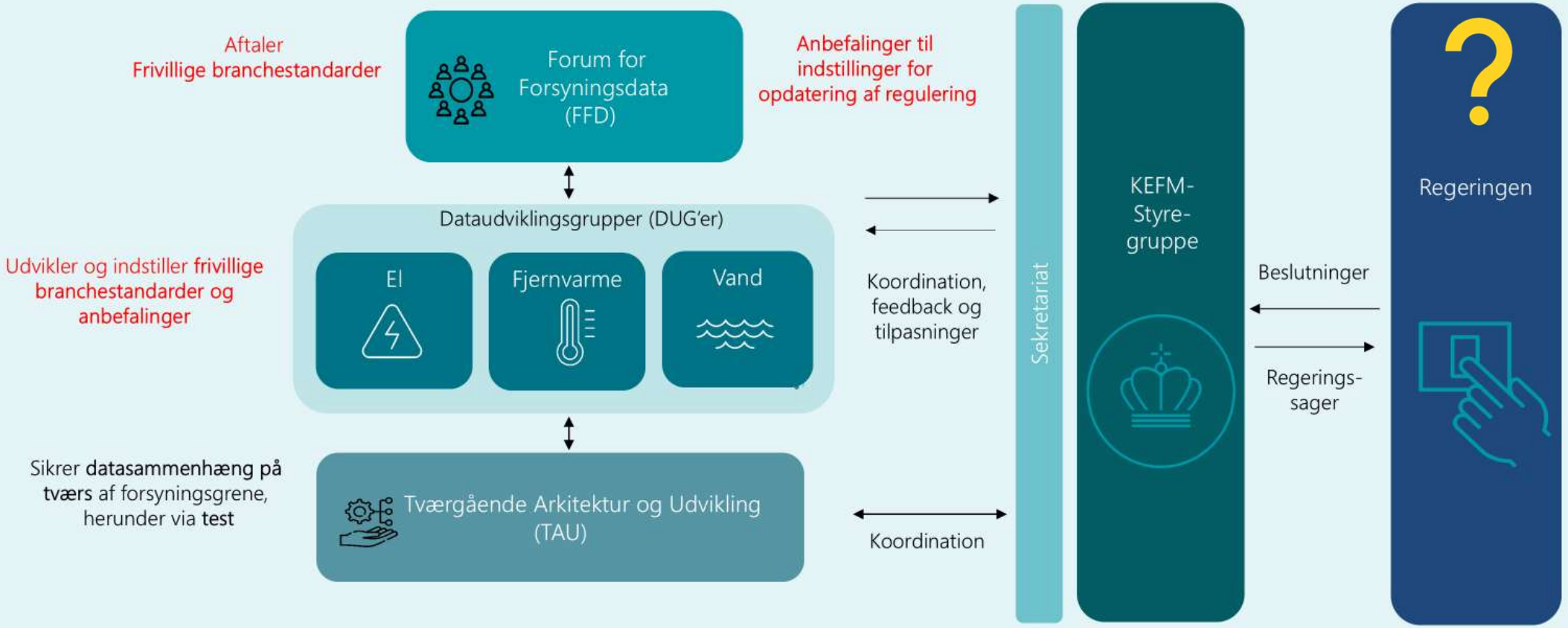
SIKKERHED

Rødt bånd, flugtvej, toiletter

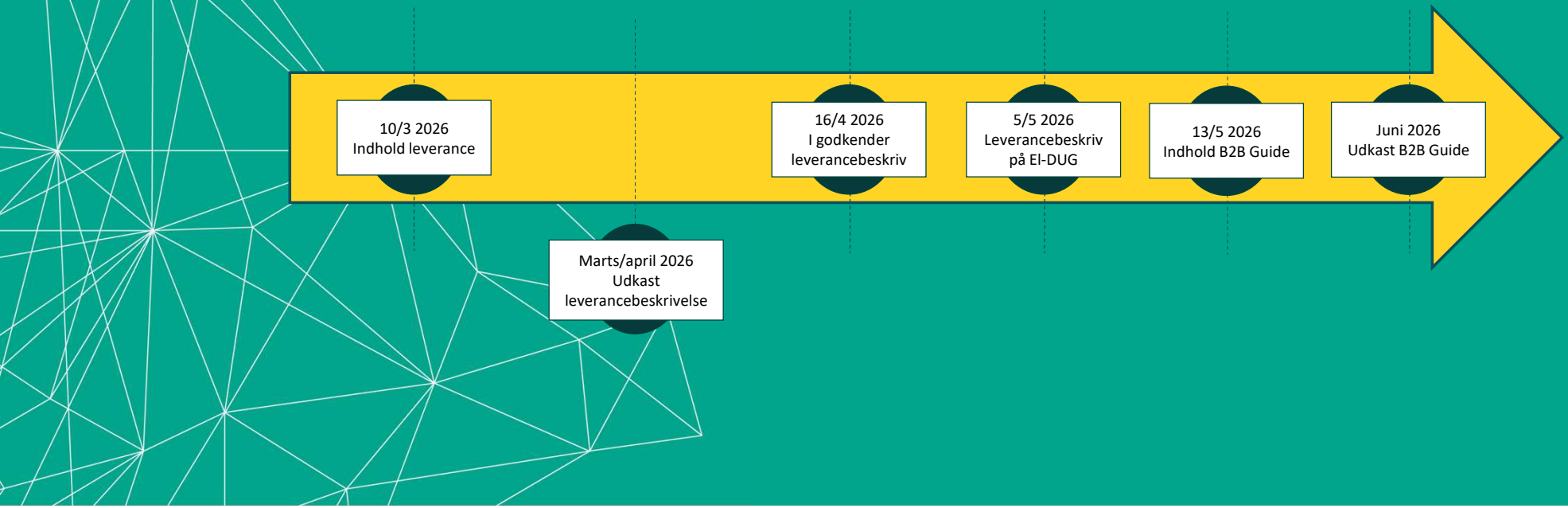
ENERGINET

GODKENDELSE OG UDKAST
B2B GUIDE

Privat-offentligt partnerskab om FDP



PROCES OG MÅL
MARTS → SOMMER



PAUSE

Vi ses igen 9:55

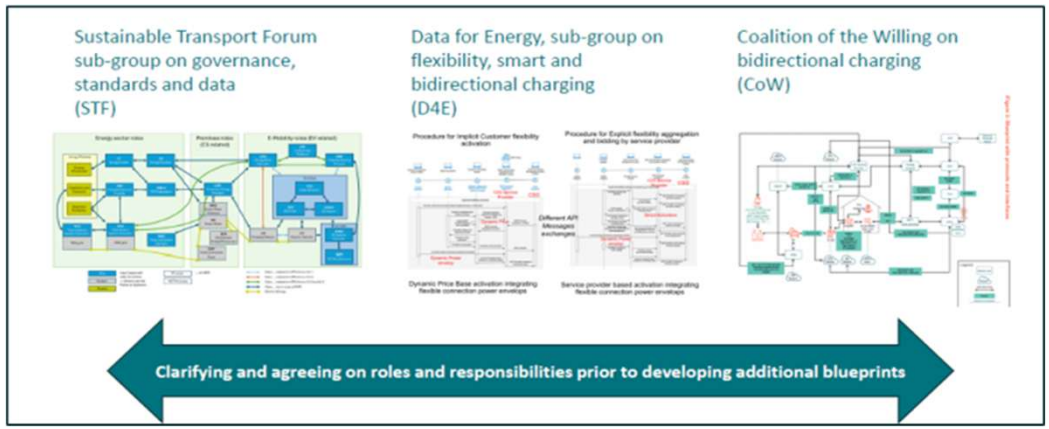
Today's Agenda

Time	Agenda item
14:00- 14:15 (15 mins)	Welcome & Introduction (Commission) • Opening remarks by the Directors Rosalinde van der Vlies (Director DG ENER.B) Thibaut Kleiner (Director, DG CNECT.E) Eric von Breska (Director, DG MOVE.B)
14:15- 14:30 (15 mins)	Short Overview of the D4E-STF-CoW Joint Report • Presentation of the Alignment Framework/Roles - Alexander Funke and Christian Adelhardt (CoW) • Overview of the recommendations from the 10 transversal topics - Paul de Wit (EU DSO Entity)
14:30 - 15:20 (50 mins)	Roundtable discussion
15:20-15:30 (15 mins)	Conclusions & Next Steps • Thibaut Kleiner (DG CNECT) • Rosalinde van der Vlies (DG ENER)

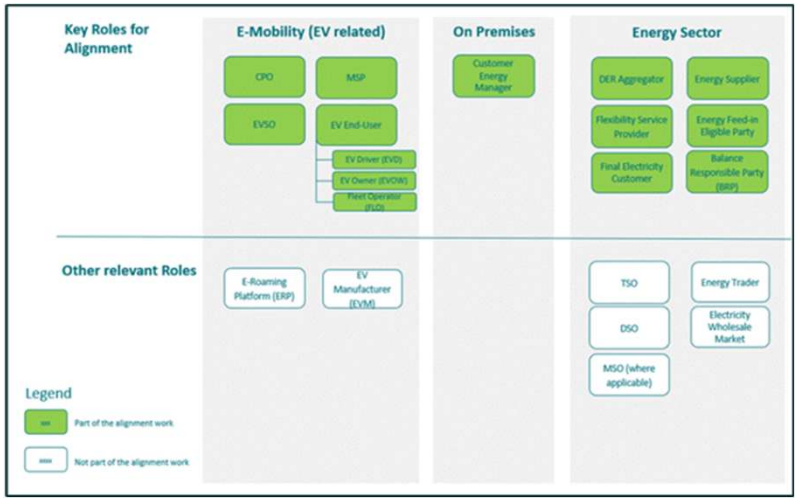
2. Overview of the D4E-STF-CoW Joint Report

Alignment Framework - Roles and User Scenarios

Where it started

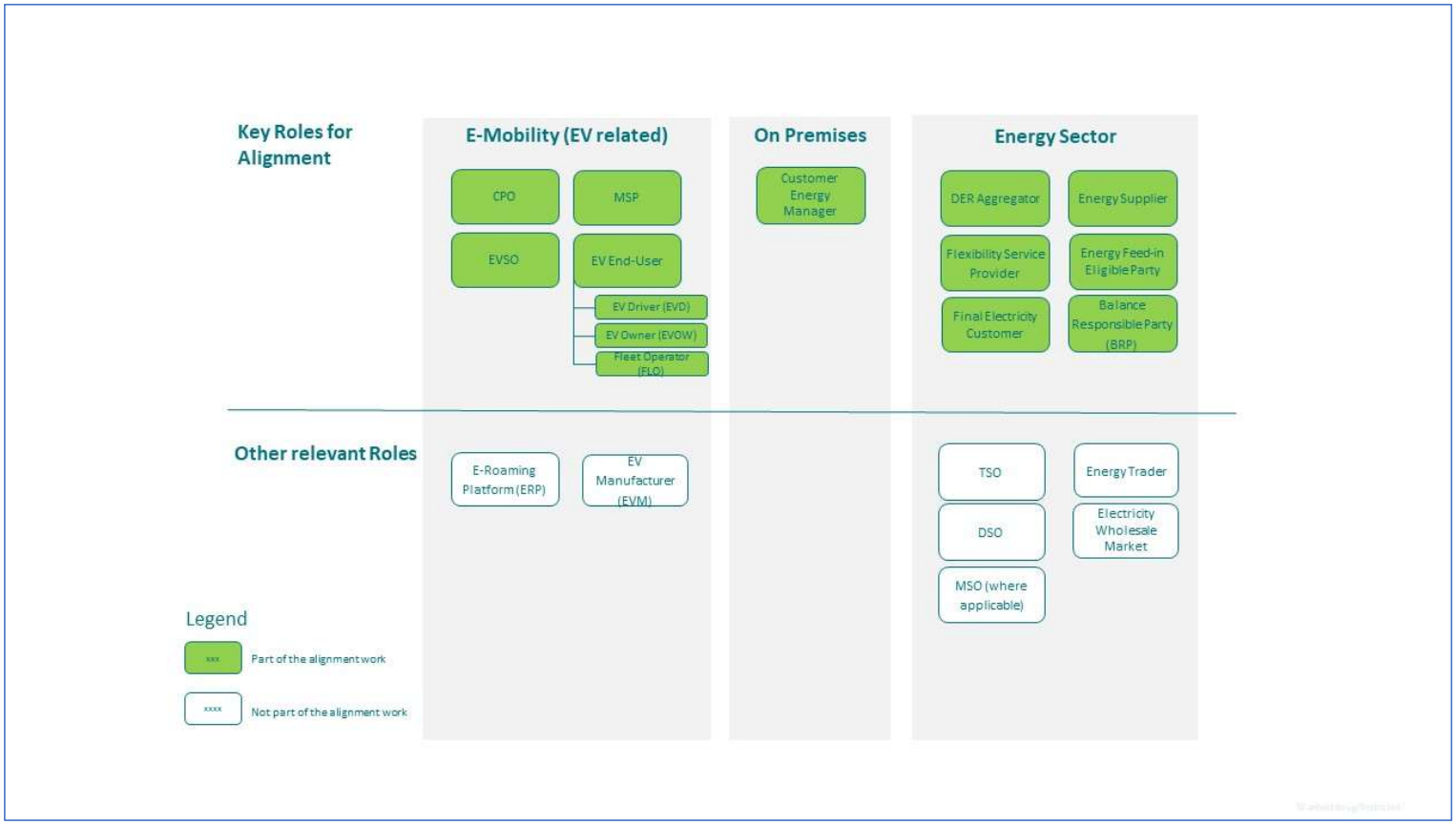


Task to align



European Commission

Roles involved in smart and bidirectional charging of electric vehicles



European Commission

CPO DEFINITION ... FOR DØDELIGE

Ladeoperatør, som typisk installerer og vedligeholder ladestandere (hardware).

De sikrer ladestandernes funktionalitet som opdateringer, styresystem, beregning og afregning af opladning, så kunderne kan have adgang (software).

CPO kan også være producent af ladestandere men ofte er de ikke.

EM og eller
CEM og eller
DERSO

EVSO DEFINITION ... FOR DØDELIGE

Bilens systemoperatør sikrer, at bilens behov og krav kan kommunikeres på en sikker måde til parter, der har tilladelse til at tilgå oplysninger om bilen, herunder dens batteri.

EVSO skal sikre interoperabilitet mellem bil og forbundne enheder, digitale eller fysiske.

Systemoperatøren er typisk den samme som har bygget bilen, eller tæt forbundet til denne.

PAUSE

Vi ses igen 11:12

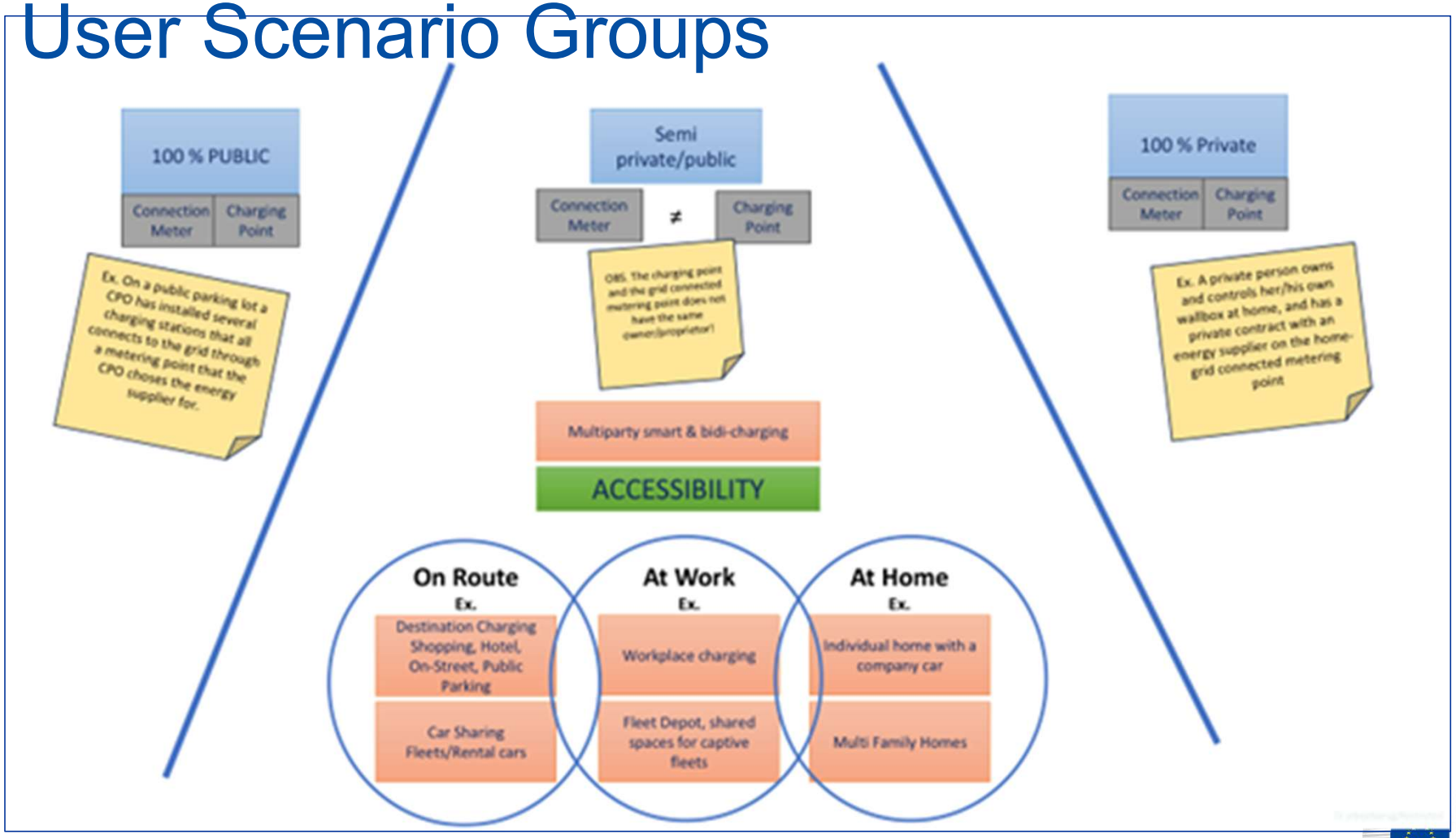
ENERGINET

EON + BMW

PAUSE

Og frokost! Vi starter igen 12:45

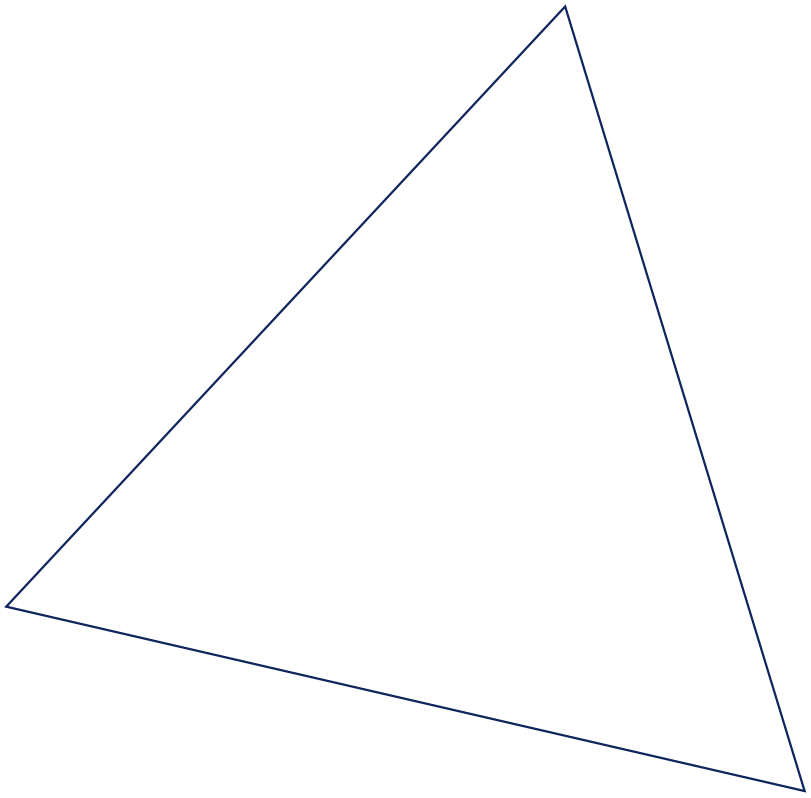
User Scenario Groups



European Commission

PUBLIC

ON ROUTE



BUSINESS

AT WORK

PRIVATE

AT HOME

Tax?

Money flow

Contract Relation

What are the relevant USE SCENARIOS?

Static Service Provider & Dynamimc Service Provider

Mixed Ownership

Semi Public / Private, common pattern/characteristics
- 1 grid connection meter
- several (many!) submeters

Multiparty
- Independent?
- Cooperation?

= „we go for these wordings to elaborate finally instead of „mixed ownership““

100 % public

Accesibility from EV-(End user) Driver perspective

100 % private

Other scenarios

Relevant use cases

on ROUTE

Airport (long term) parking

Rental charging (vacation)

at WORK

BUSINESS

DEPO

Work Office

Car sharing Fleets

Private-owned car charging at workplace

EV Owner charging at
- home
- a public CP
- in MA building/ ?? AP owned being a diff. ??? customer

Captive fleets recharching at dedicated charging stations on street (cambio, poppy) taxis

Workplace charging

Fleet depots opened up to the public

V2h/v2b (Building business) Energy Sharing at multi apartment houses

Depot charging

at HOME

PRIVATE

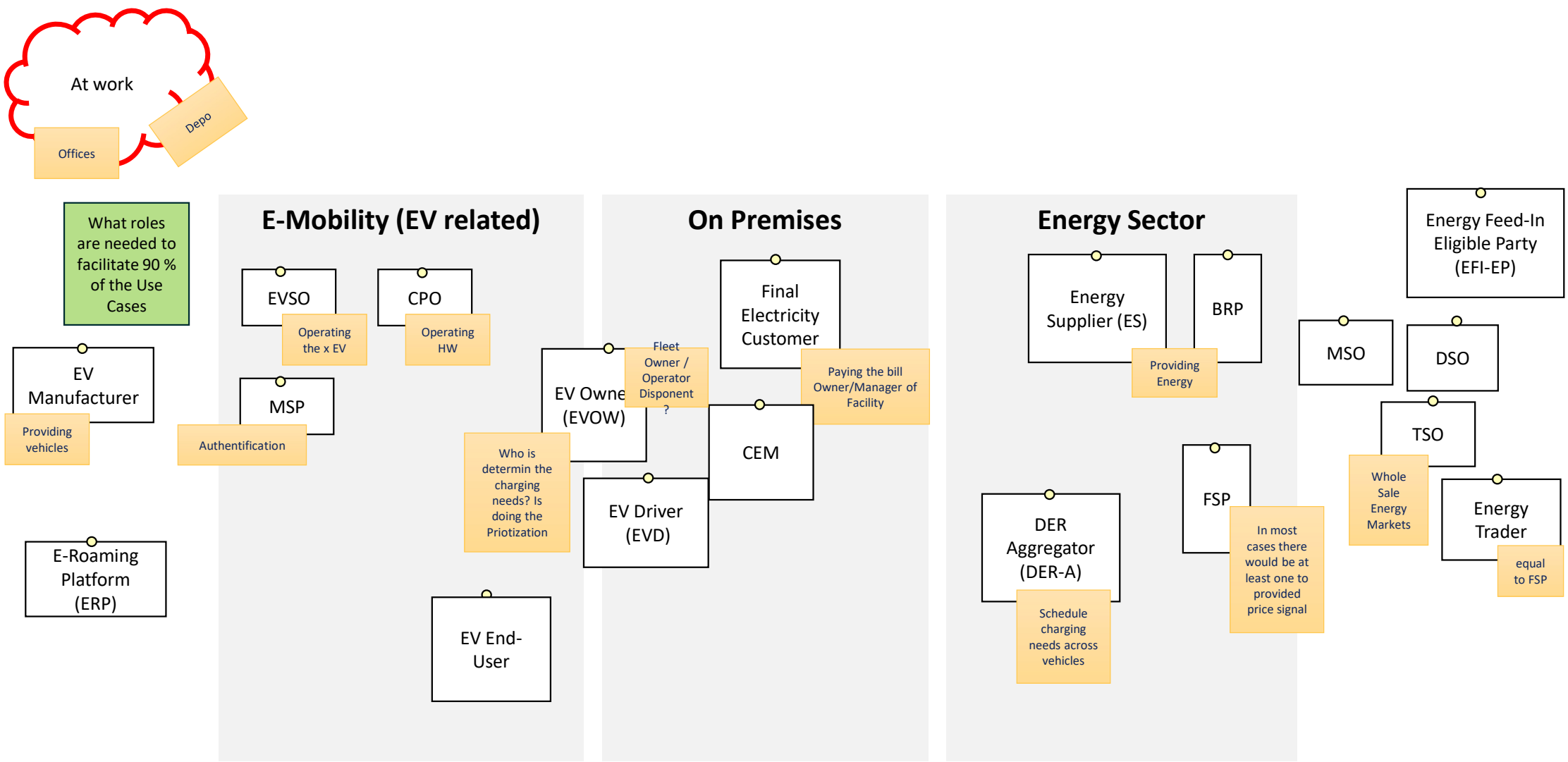
HDV-Depot (Sundays)

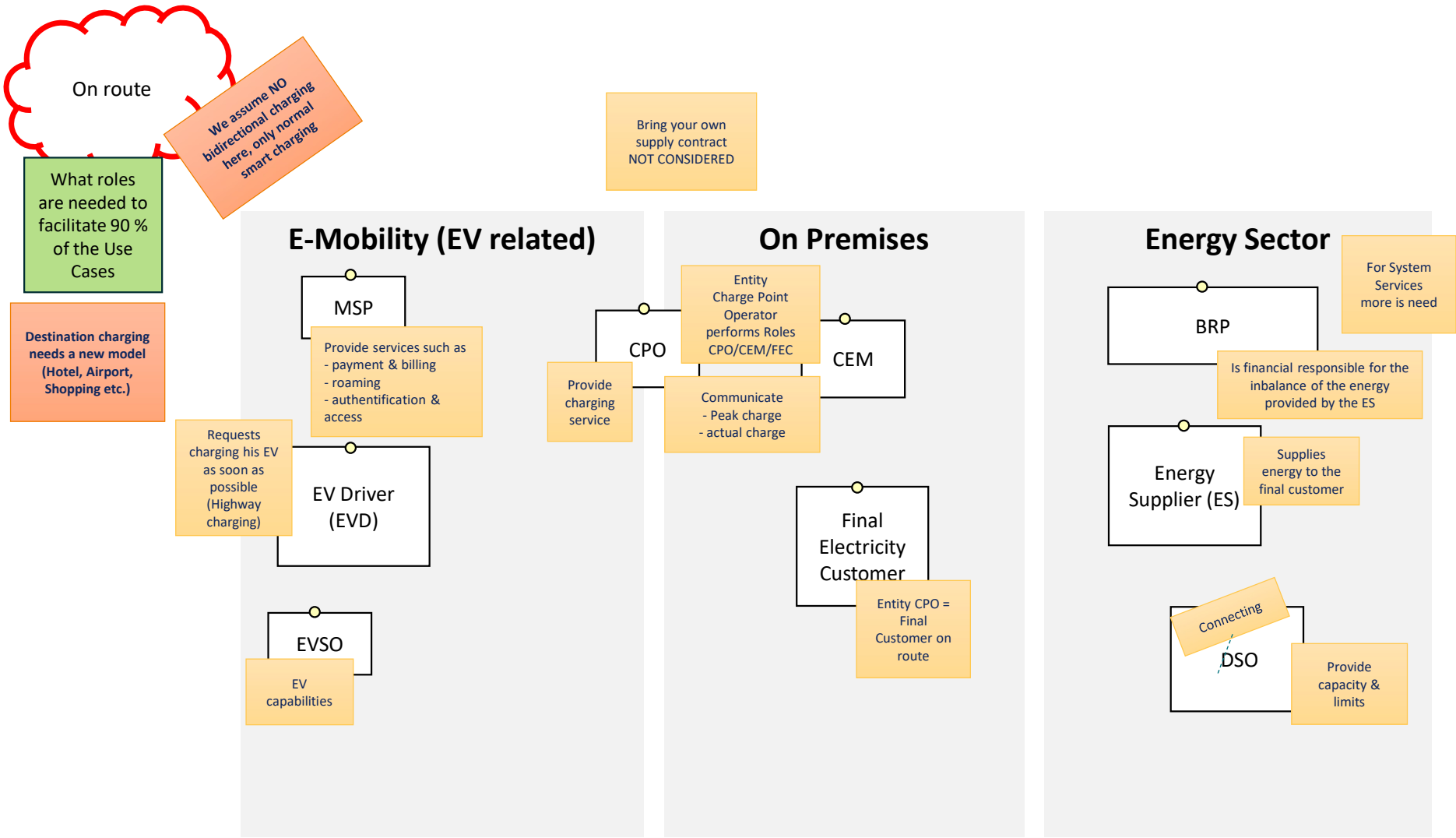
„Owner“ of the connection differs from the „User“ of the connection

Charging @ a friends house

Company Car @ home

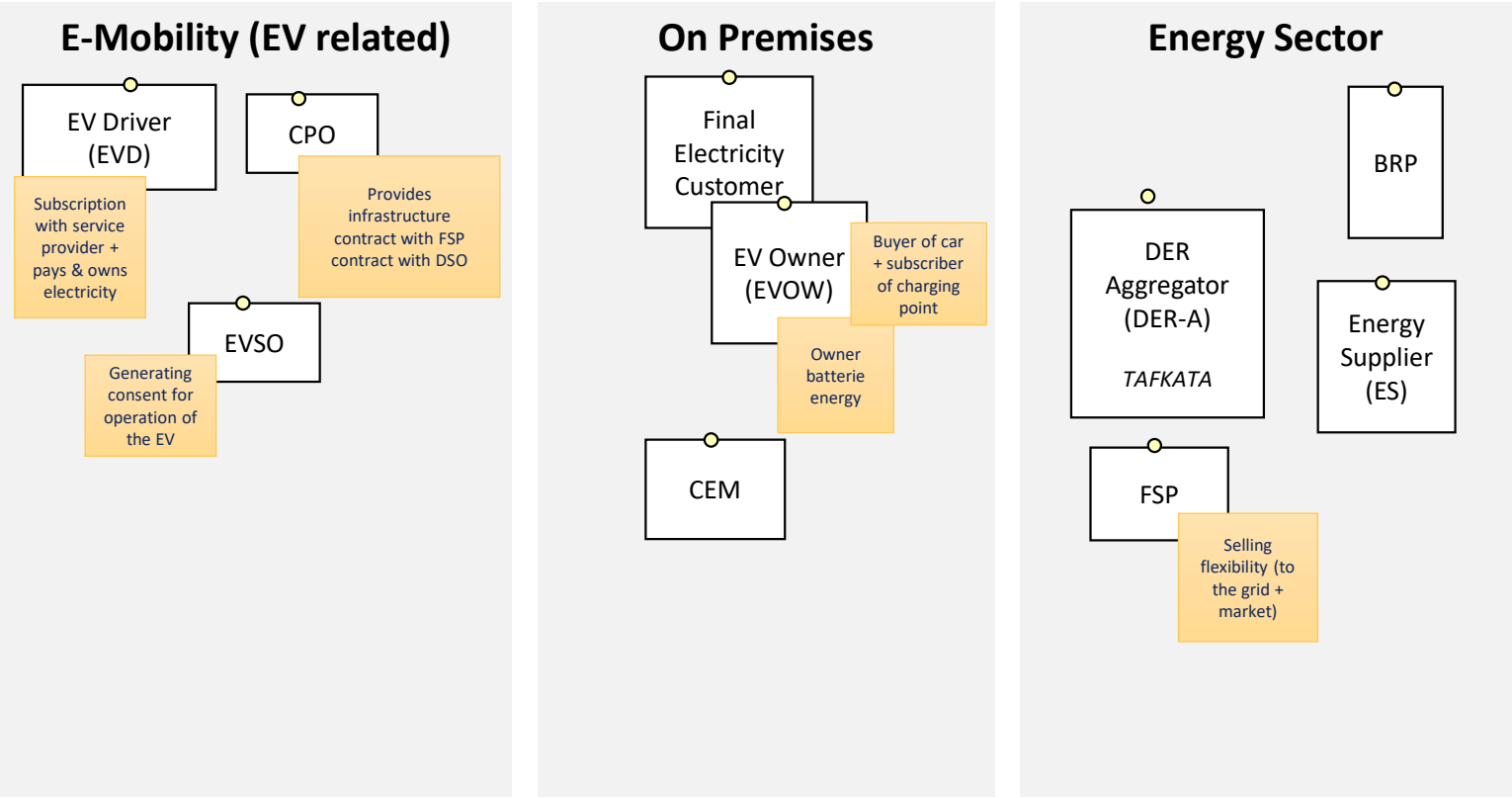
Multi-family homes


At work
Depo
Offices
What roles are needed to facilitate 90 % of the Use Cases
E-Mobility (EV related)
EVSO
Operating the x EV
CPO
Operating HW
EV Manufacturer
Providing vehicles
MSP
Authentification
E-Roaming Platform (ERP)
EV End-User
On Premises
Final Electricity Customer
Paying the bill Owner/Manager of Facility
EV Owne (EVOW)
Fleet Owner / Operator Disponent ?
Who is determin the charging needs? Is doing the Priotization
CEM
EV Driver (EVD)
Energy Sector
Energy Supplier (ES)
BRP
Providing Energy
DER Aggregator (DER-A)
Schedule charging needs across vehicles
FSP
In most cases there would be at least one to provided price signal
Energy Feed-In Eligible Party (EFI-EP)
MSO
DSO
TSO
Whole Sale Energy Markets
Energy Trader
equal to FSP


On route
We assume NO bidirectional charging here, only normal smart charging
What roles are needed to facilitate 90 % of the Use Cases
Destination charging needs a new model (Hotel, Airport, Shopping etc.)
Bring your own supply contract NOT CONSIDERED
E-Mobility (EV related)
MSP
Provide services such as
- payment & billing
- roaming
- authentification & access
Requests charging his EV as soon as possible (Highway charging)
EV Driver (EVD)
EVSO
EV capabilities
On Premises
CPO
Entity Charge Point Operator performs Roles CPO/CEM/FEC
CEM
Provide charging service
Communicate
- Peak charge
- actual charge
Final Electricity Customer
Entity CPO = Final Customer on route
Energy Sector
For System Services more is need
BRP
Is financial responsible for the inbalance of the energy provided by the ES
Energy Supplier (ES)
Supplies energy to the final customer
Connecting
DSO
Provide capacity & limits

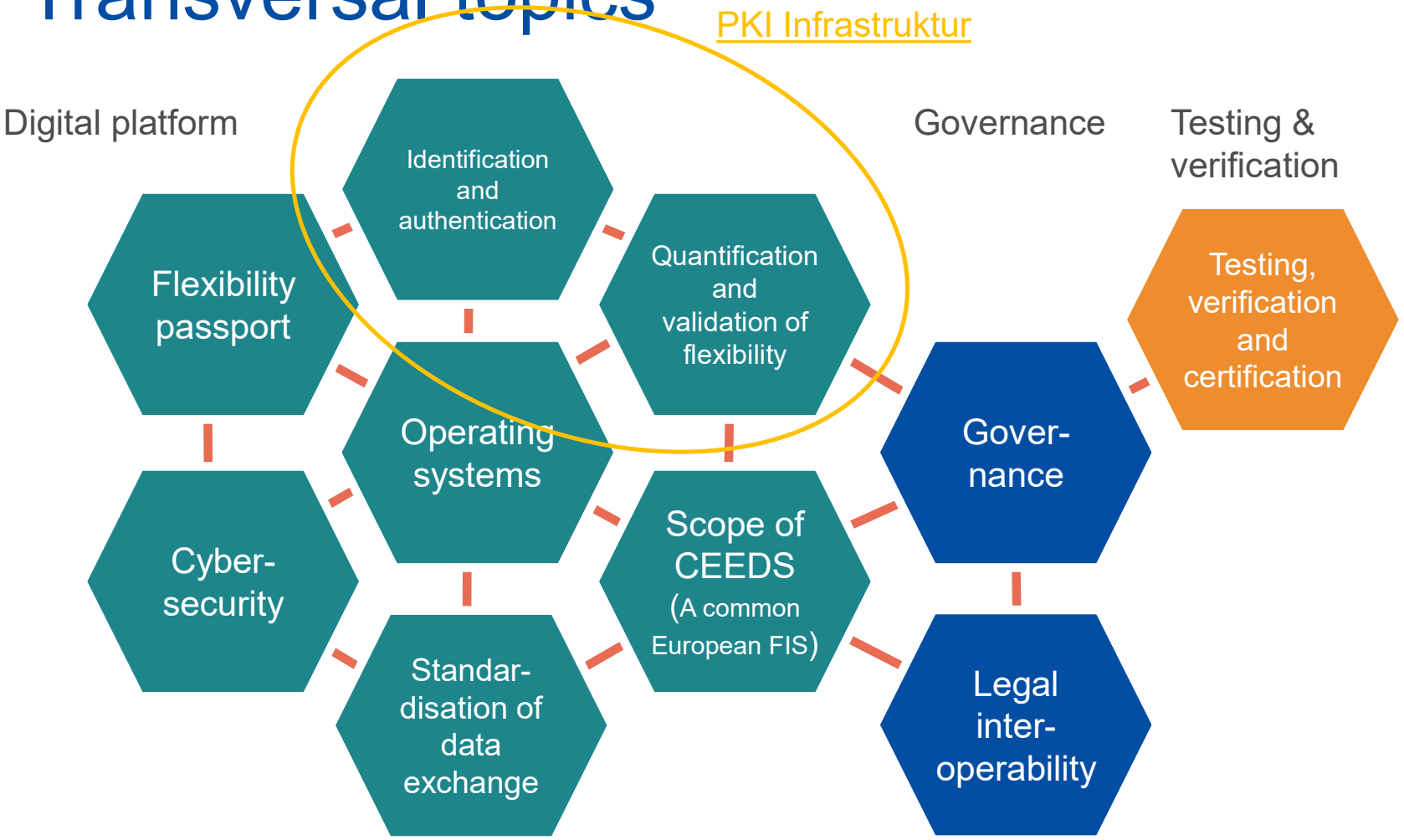
At home

What roles are needed to facilitate 90 % of the Use Cases



Energy Feed-In Eligible Party (EFI-EP)

Transversal topics



European Commission

PAUSE

Vi starter igen 13:39

ENERGINET

COW RAPPORTER

Actors in the V2G Energy Market

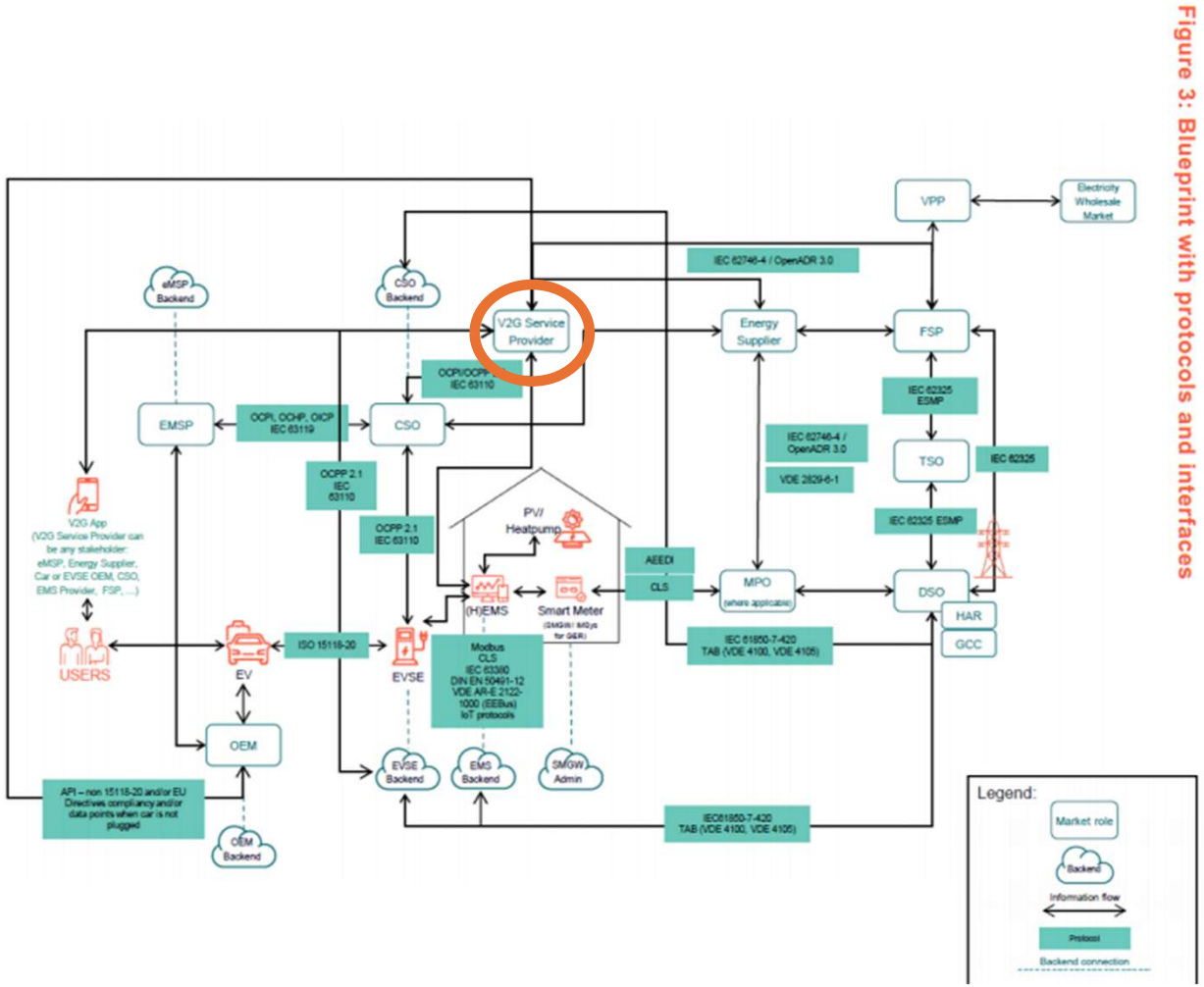
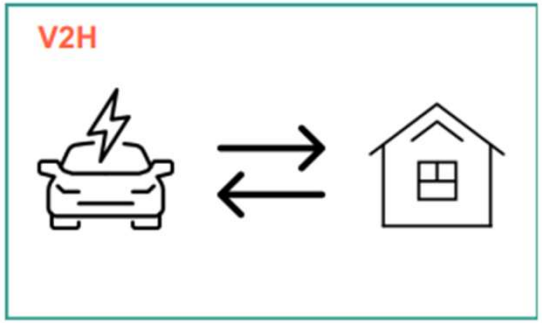
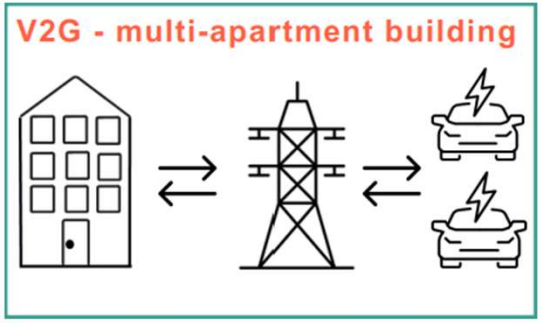
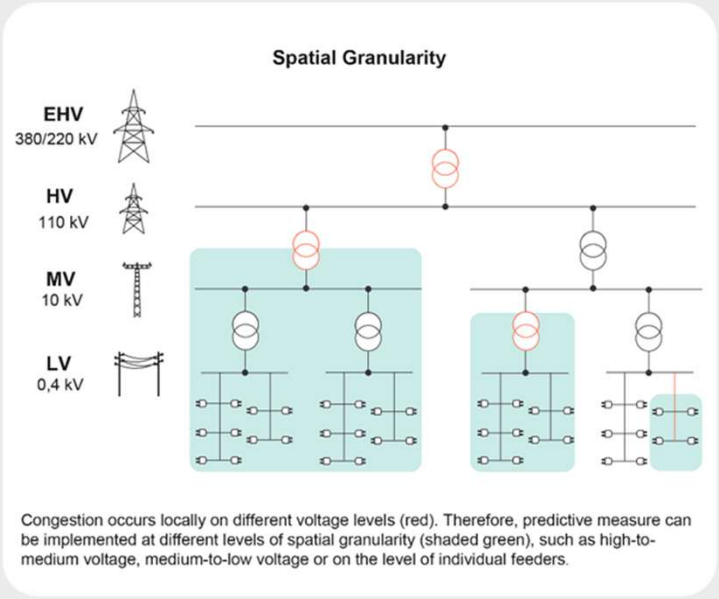


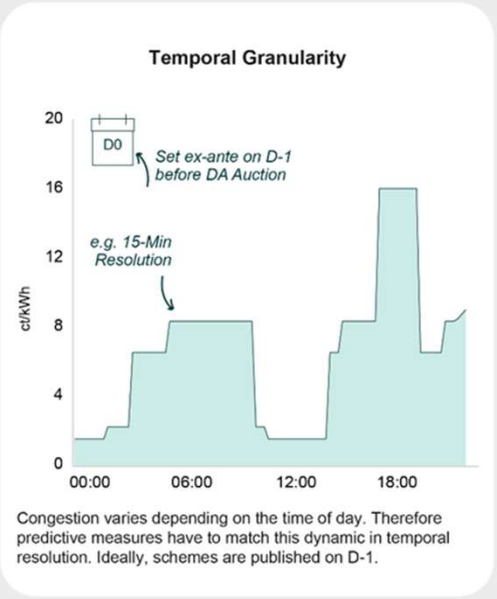
Figure 3: Blueprint with protocols and interfaces



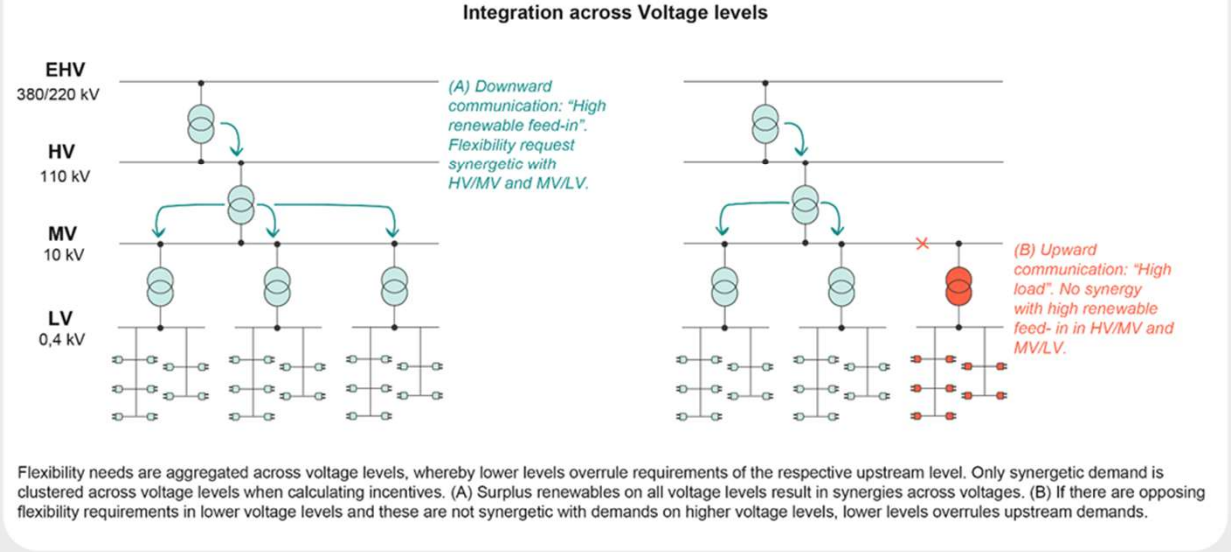




Congestion occurs locally on different voltage levels (red). Therefore, predictive measure can be implemented at different levels of spatial granularity (shaded green), such as high-to-medium voltage, medium-to-low voltage or on the level of individual feeders.



Congestion varies depending on the time of day. Therefore predictive measures have to match this dynamic in temporal resolution. Ideally, schemes are published on D-1.

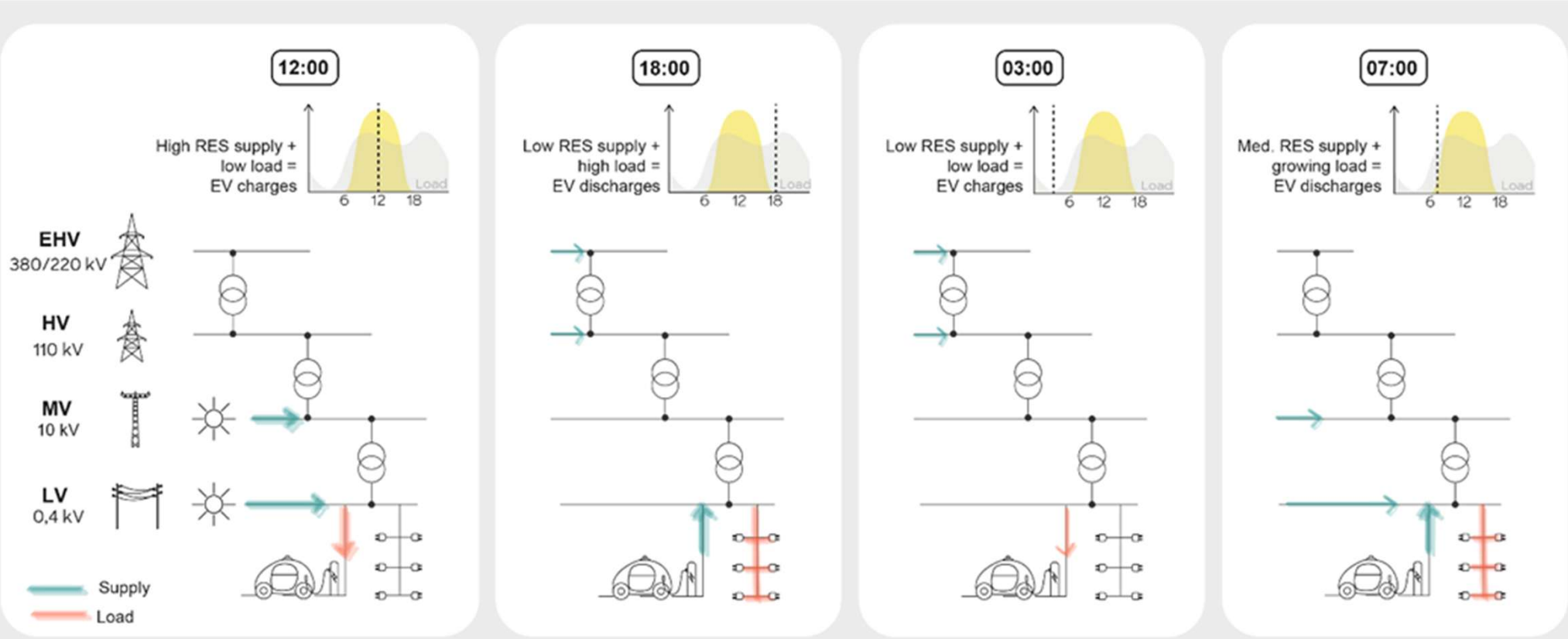


Flexibility needs are aggregated across voltage levels, whereby lower levels overrule requirements of the respective upstream level. Only synergetic demand is clustered across voltage levels when calculating incentives. (A) Surplus renewables on all voltage levels result in synergies across voltages. (B) If there are opposing flexibility requirements in lower voltage levels and these are not synergetic with demands on higher voltage levels, lower levels overrules upstream demands.

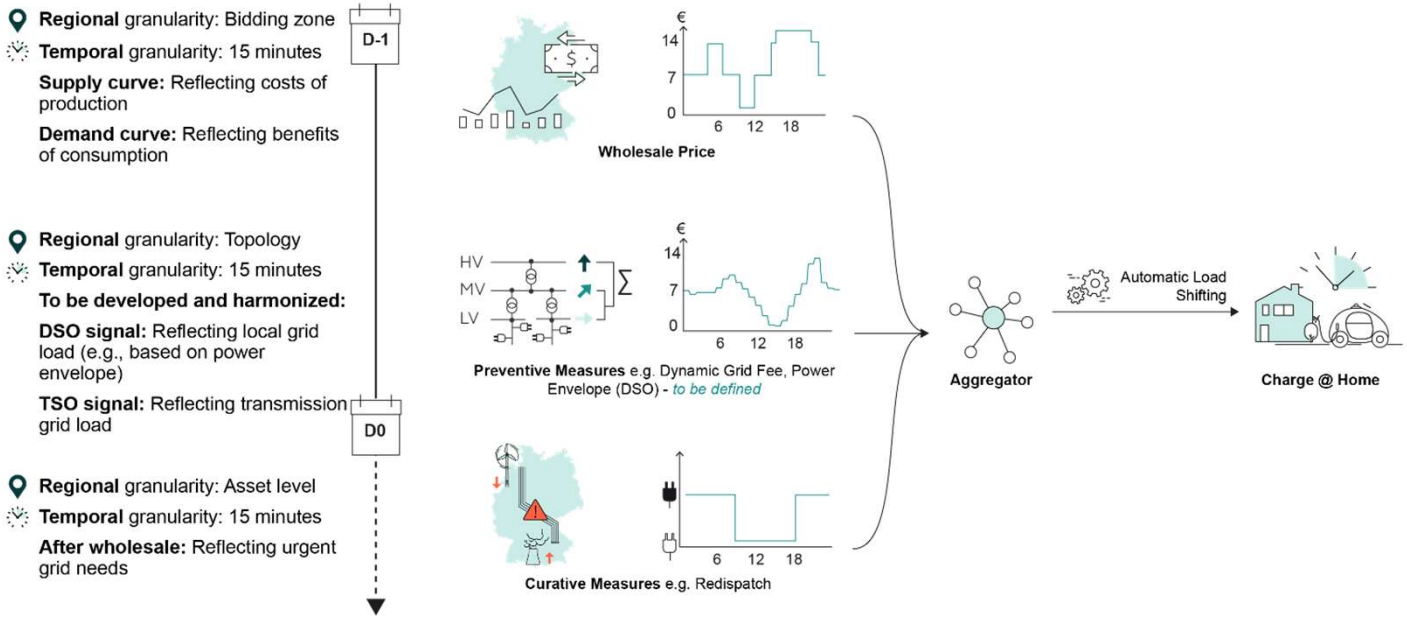
ENERGINET

TSO-DSO KOORDINATION

TSO'en køber fleksibiliteten – og brænder DSO'ernes net af.


12:00
High RES supply +
low load =
EV charges
Load
6 12 18
EHV
380/220 kV
HV
110 kV
MV
10 kV
LV
0,4 kV
Supply
Load
18:00
Low RES supply +
high load =
EV discharges
Load
6 12 18
03:00
Low RES supply +
low load =
EV charges
Load
6 12 18
07:00
Med. RES supply +
growing load =
EV discharges
Load
6 12 18

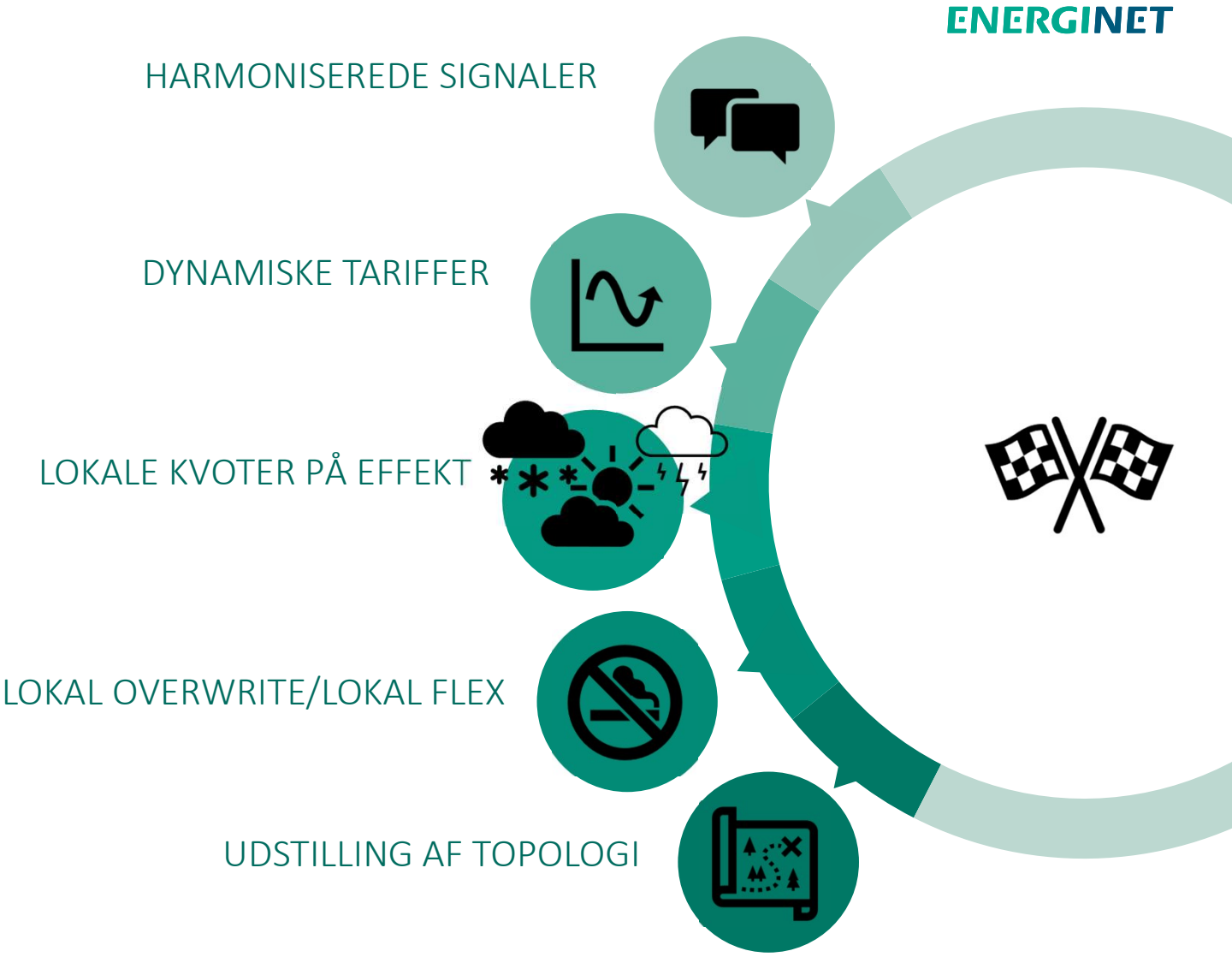
LØSNINGEN



… ER IKKE PÅ PLADS

VEJEN DERHEN

Muligheder – ikke facit



JERES VURDERING AF LØSNINGERNE

Hvilke er bedst i dansk kontekst?

… og hvilke passer dårligt ind?

Savner I nogle løsninger?

RAPPORTENS MÅLSÆTNINGER

1. Multi apartment setup
2. Technical concept
3. Investigate new sharing concepts

DANSK KONTEKST

Indeholder rapporten noget, Danmark dårligt kan rumme?

Hvordan er ambitionsniveauet?

Hvor ville I starte, hvis I skulle implementere energideling sammen med V2G i DK?

PAUSE

Vi starter igen 14:38

INDHOLD I LEVERANCE AF B2B GUIDE

INDHOLD I LEVERANCE

VORES FÆRDIGE B2B GUIDE

Detaljegrad?
Emner?
Afgrænsning?

INDHOLD I LEVERANCE

One-pager: Hvad skal nævnes for at rammesætte opgaven

OPSAMLING VED CDL

ENERGINET