



Be ♥
The
CHANGE

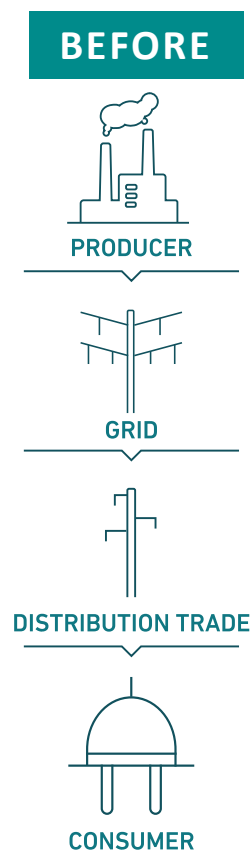


DEVELOPMENT TOWARDS THE DIGITAL ENERGY SYSTEM

Christian Adelhardt

*Business Development,
Energinet DataHub*

DIGITALIZATION IS KEY FOR THE FUTURE INTEGRATED ENERGY SYSTEM

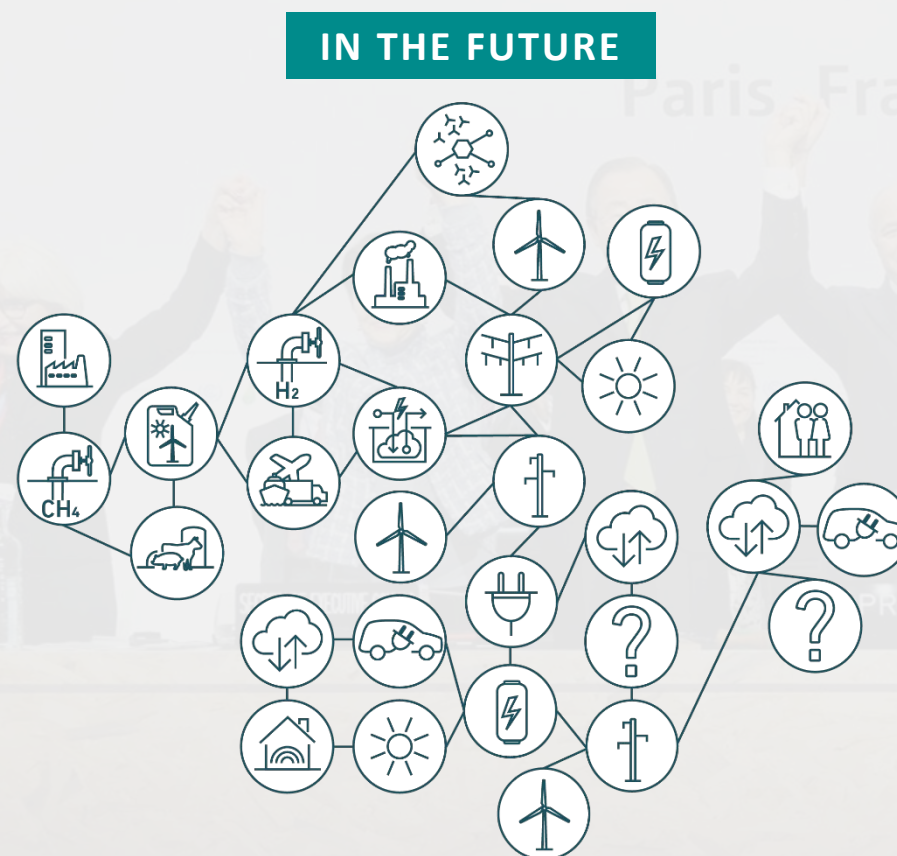
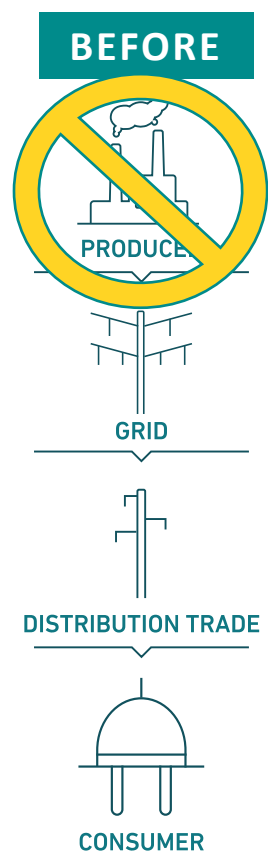


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DIGITALIZATION IS KEY FOR THE FUTURE INTEGRATED ENERGY SYSTEM



Electricity and gas consumers are
~~passive (inflexible)~~ active and flexible

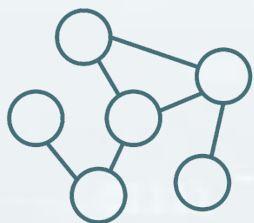
Electricity ~~cannot~~ can easily be stored economically

Green energy needs ~~no~~ subsidies to survive

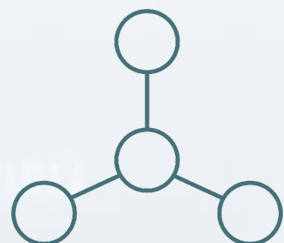
Not everyone receives or wants
~~Everyone receives~~ the same product in
terms of security of supply

WHERE DOES THE HUB COME FROM?

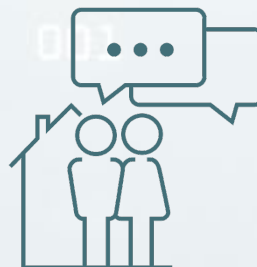
Since 2003 the Danish DataHub has been on a journey



Liberalization
Ground Zero
1999



Centralized Communication
DataHub 1.0
2013



Wholesale Settlement
DataHub 2.0
2016



Hourly Metering Data
DataHub 2.0
2020



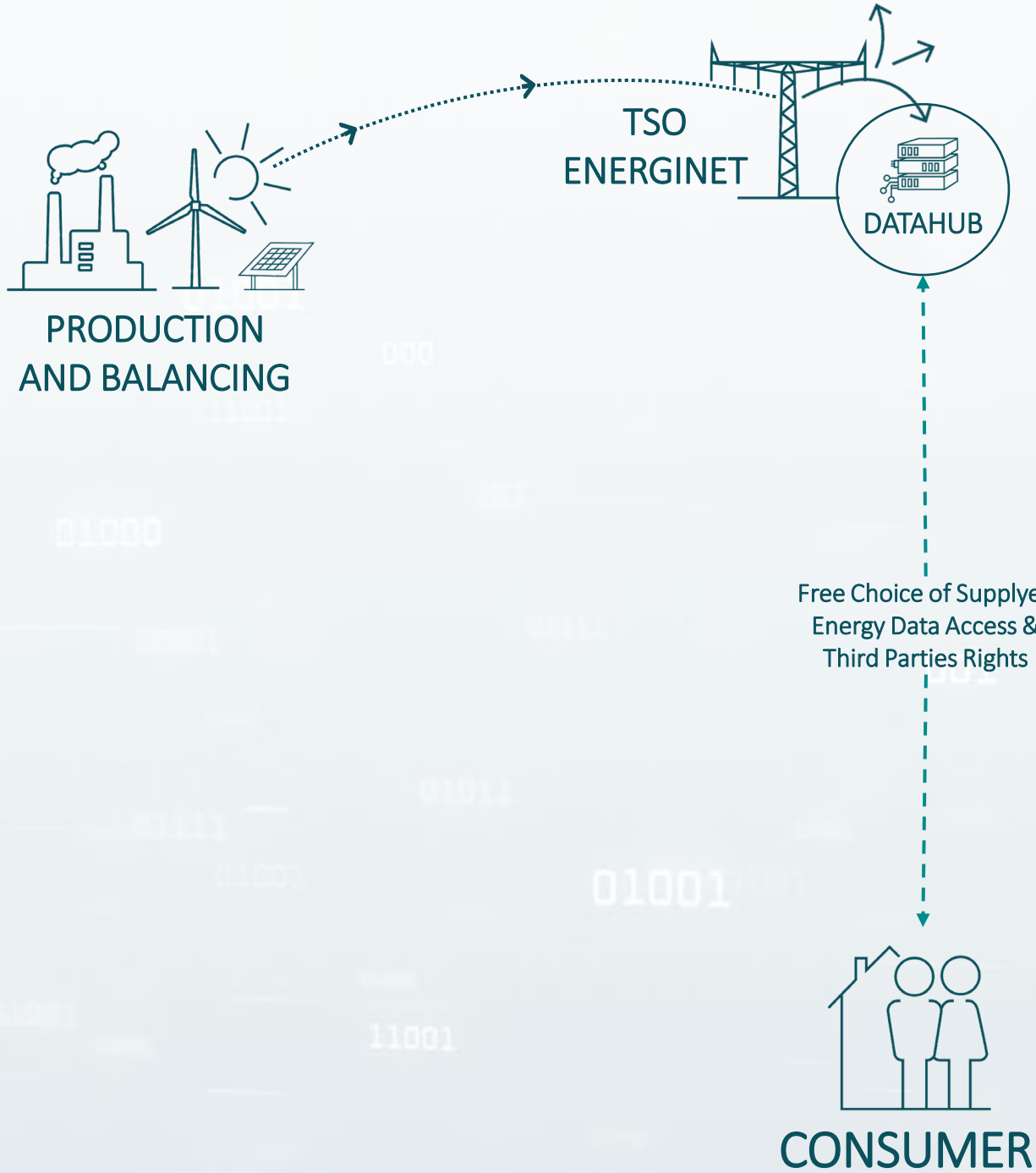
Setting Data free
DataHub 3.0
2024

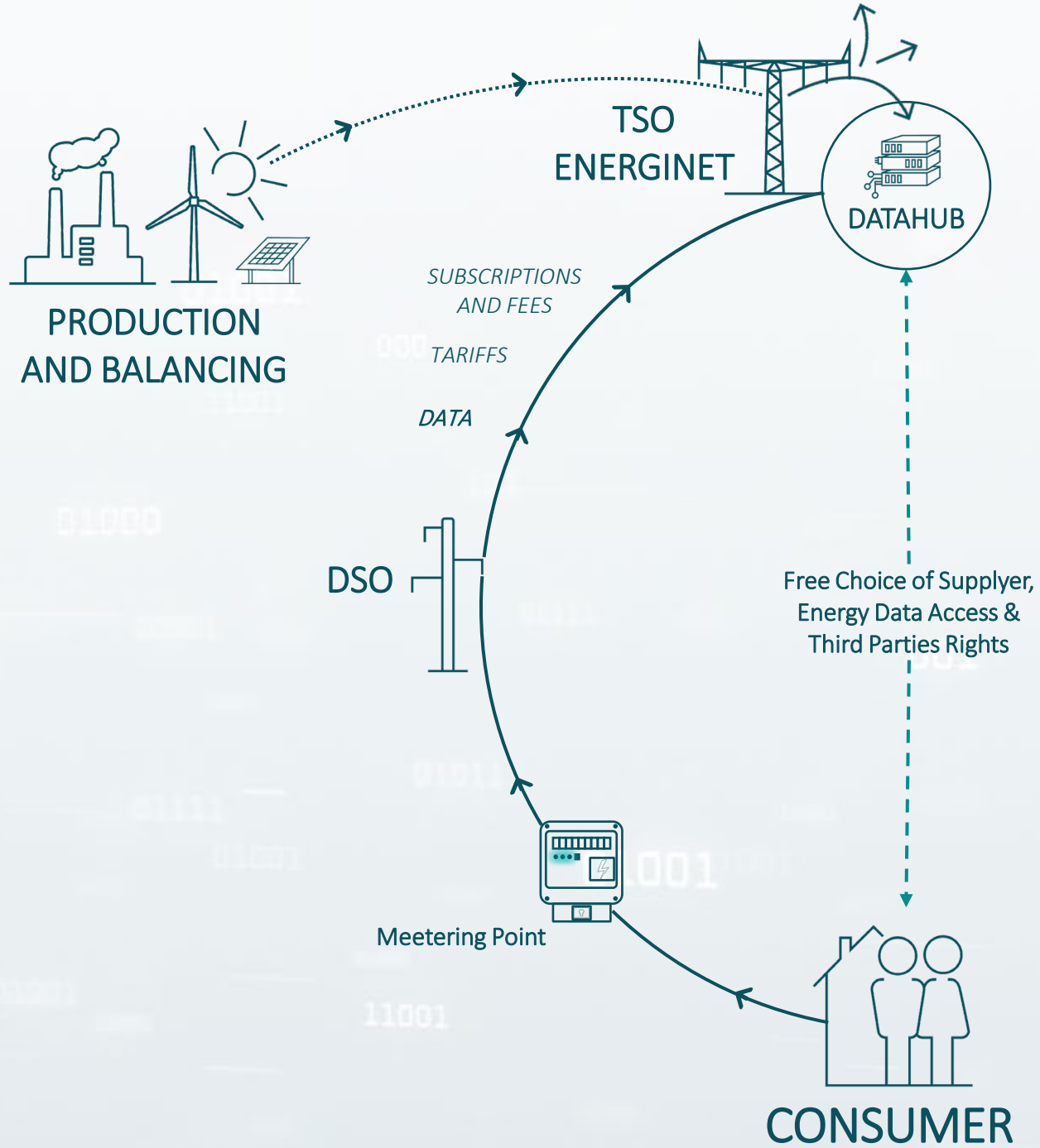


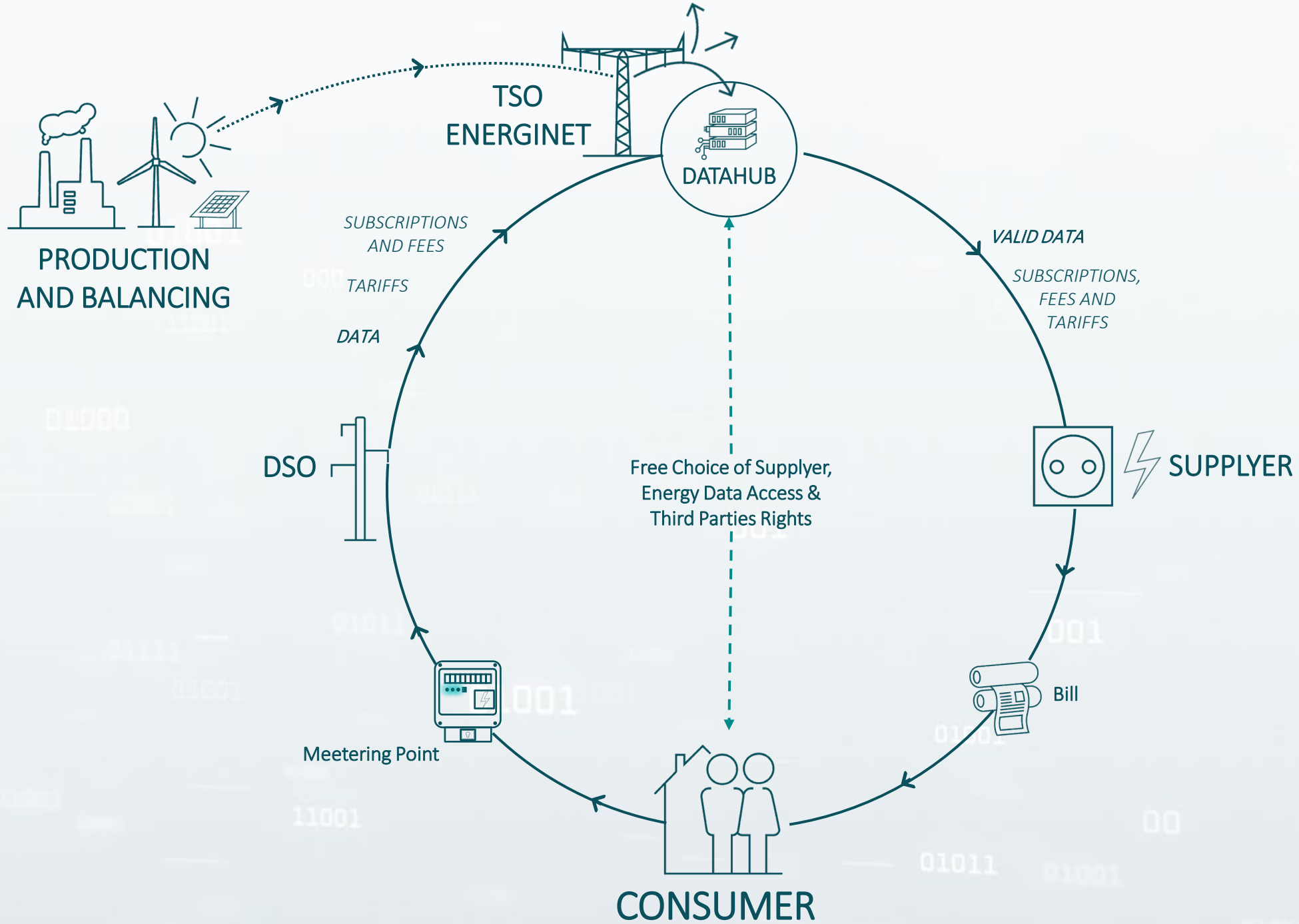
Free Choice of Supplier,
Energy Data Access &
Third Parties Rights

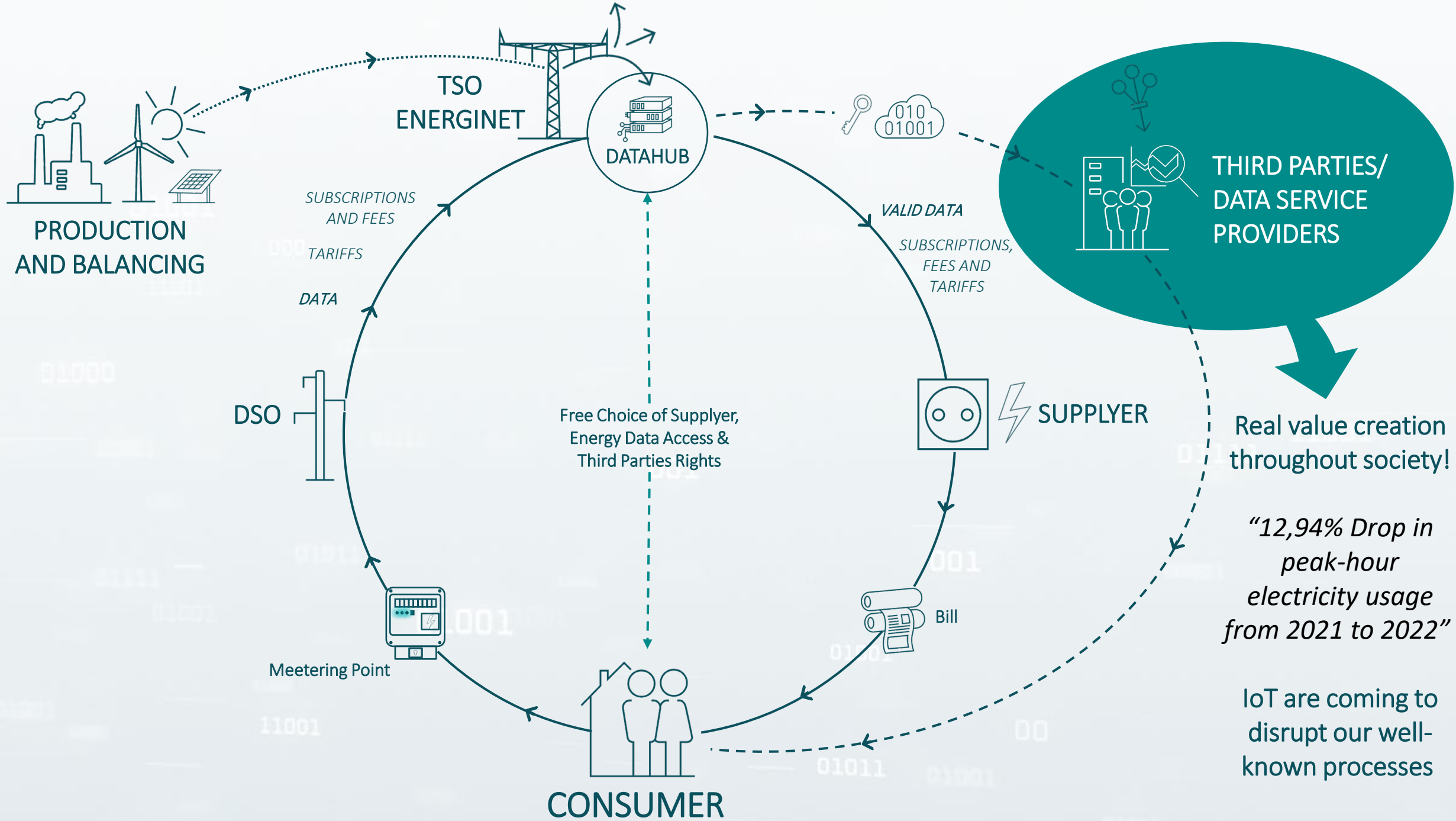


CONSUMER











THE OPEN SOURCE MISSION

DataHub 3.0 / Green Energy Hub 

Open Source or Public Source






THE NEW DATAHUB 3.0

WHY OPEN SOURCE?

Energinet has chosen to develop the Green Energy Hub to support the green transition towards renewable energy. By sharing it in an Open Source project, we hope others will join too.

WE HOPE TO:

- **Scale** the number of resources contributing 
- **Improve** the speed and quality of development 
- **Accelerate** and open the innovation of services 








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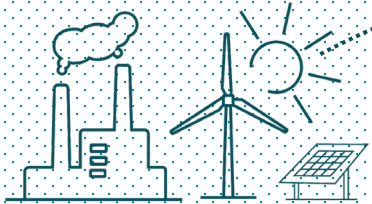
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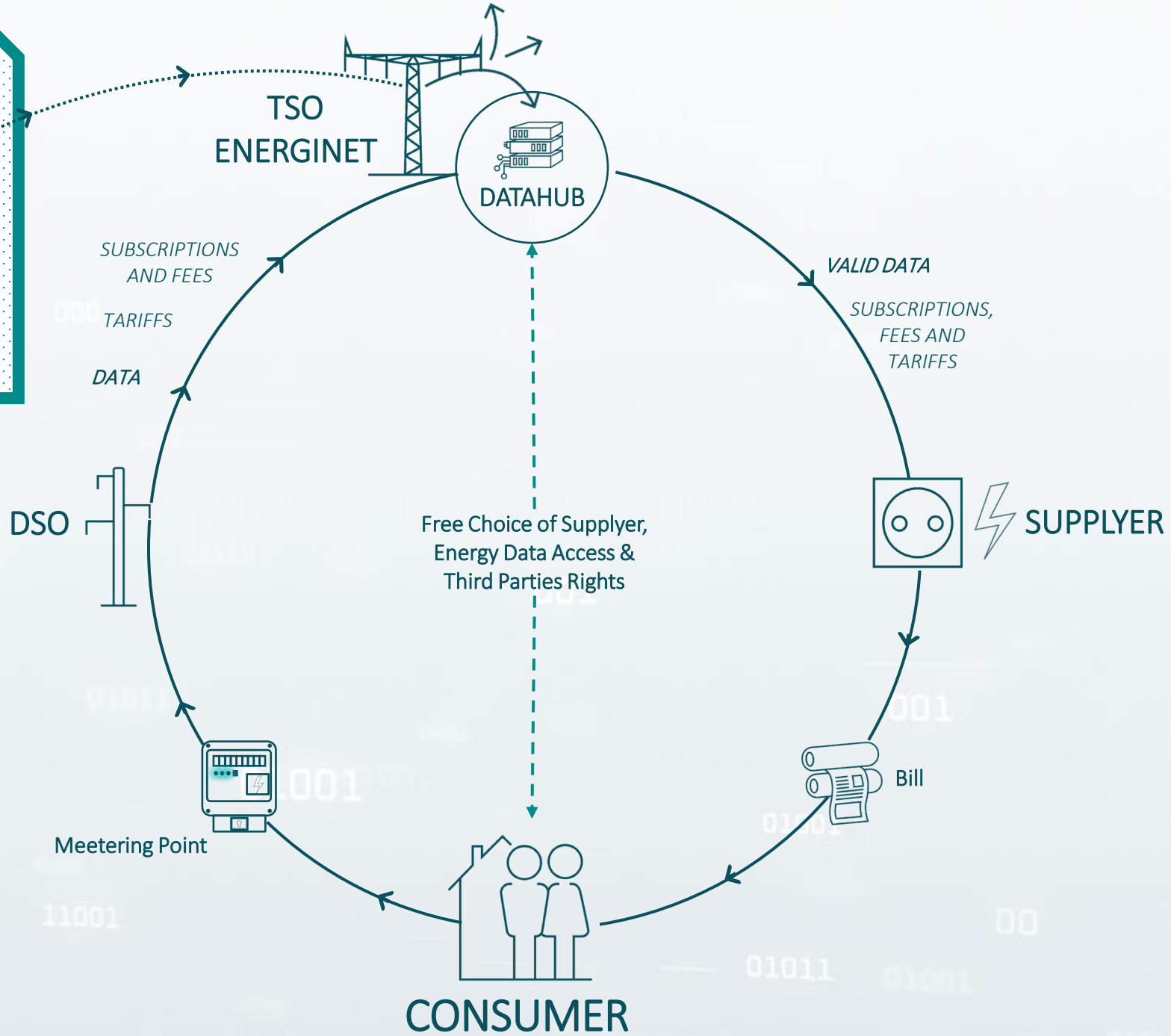


CIM

COMMON GRID MODEL
EXCHANGE STANDARD



PRODUCTION
AND BALANCING



CIM

COMMON GRID MODEL
EXCHANGE STANDARD



PRODUCTION
AND BALANCING

TSO
ENERGINET

CIM
Effective way to follow the
changes in the market rules

VALID DATA

SUBSCRIPTIONS,
FEES AND
TARIFFS

Communication between Datahub and the Actors is based on
following IEC standard:

- ✓ IEC 62325
- ✓ IEC 62325-301: Common information model (CIM) extensions for markets
- ✓ IEC 62325-351: CIM European market model exchange profile
- ✓ IEC 62325-451-1: Acknowledgement business process and contextual model for CIM European market
- ✓ IEC 61968
- ✓ IEC 61970
- ✓ IEC 62361-100: CIM profiles to XML schema mapping

SUBSCRIPTIONS
AND FEES

TARIFFS

DATA

DSO

Free Choice of Supplier,
Energy Data Access &
Third Parties Rights

SUPPLIER

Bill

Meetering Point

CONSUMER

CIM (COMMON INFORMATION MODEL)

– THE USE IN A DATAHUB CONTEXT IS NEW

The new Danish Schemas is built as close to IEC-CIM as possible

- Technical – Schemes standard has changed from ebIX to CIM XML and CIM Json
 - Prices as timeseries – earlier it was as master data
 - The possibility to send in measure in smaller time intervals (before it was for a whole day)
 - Timestamp on timeseries (to handle crossing messages, with a process-ID)
- There is about 50 schemas that covers master data, aggregation, prices, timeseries with more.

COORPORATION WITH NMEG (NORDIC MARKET GROUP FOR ELECTRICITY TRADING)



Statnett
FINGRID

ENERGINET



*Denmark participates in the
development of schemas based
on IEC-CIM for eSett*

CASE: EV's ARE COMING (PLUG AND PLAY IoT)



We need to start the dialogue – yesterday!



Photo by Ralph Hutter on Unsplash

EVs are coming --> let's harvest the potential!



Christian Adelhardt
"Driving Data-Driven Business Development in the Green Transition of our Energy System"

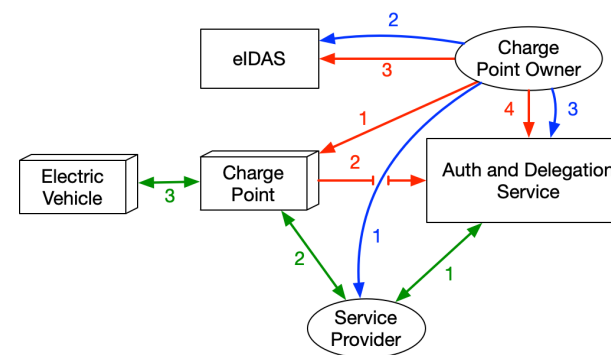
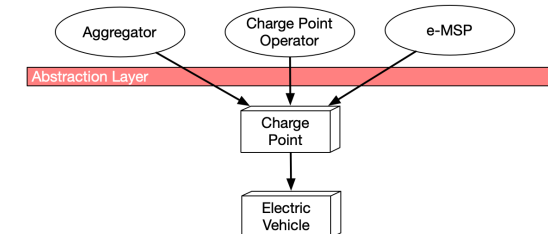
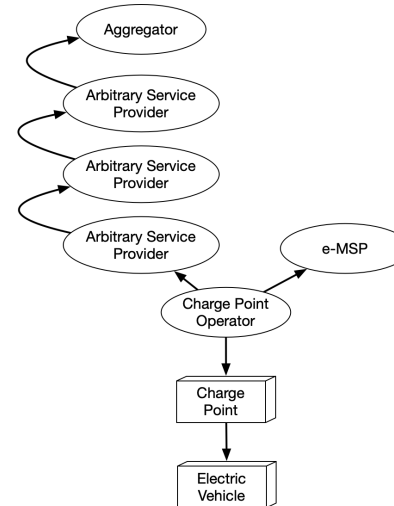
1 artikel

30. august 2023

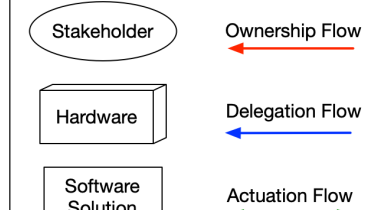
Abn Forenklet læser

How can digitization aid the green transition and foster synergy between our transportation- and energy systems?

The path to a renewable energy future is not just about adopting cleaner sources – it's about revolutionizing how we harness and balance these resources. As weather-dependent renewables become central to our energy mix, the challenge of maintaining a stable grid grows. This is where the power of IoT, data spaces, and digital technology comes into play.



Legends





100% GREEN ENERGY
DEMANDS
COOPERATION

ENERGINET