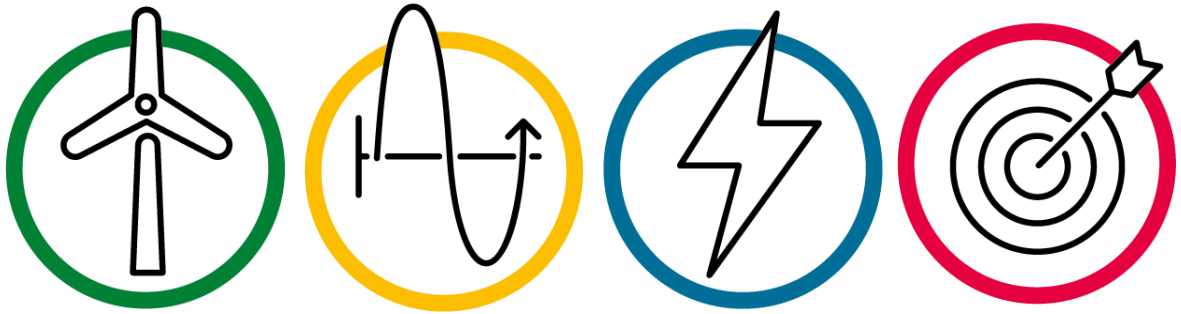
TOP 3: „Digitalisierung & Datenökosystem“

Luxemburgische Energiedatenplattform “Leneda”



Simeon Hagspiel

Ministerium für Energie und Raumentwicklung, Luxemburg

Luxemburgs Nationale Energiedatenplattform

Vorstellung im Rahmen der Plattform Klimaneutrales Stromsystem

21. Juni 2023

LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de l'Énergie et de l'Aménagement du territoire

Département de l'énergie

Agenda

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1. Luxembourg's electricity and gas market
2. National energy data platform "Leneda"

Luxembourg’s electricity and gas market

Luxembourg's electricity and gas market

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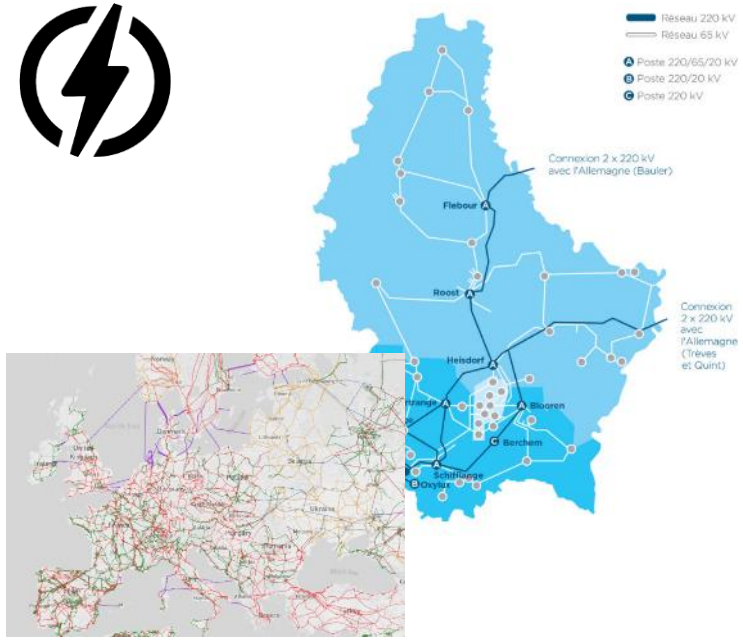
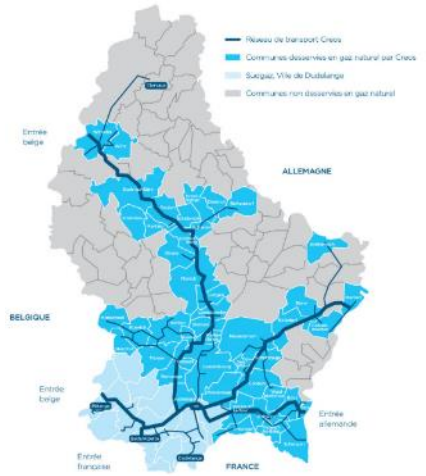


	2016	2017	2018	2019	2020	2021
National consumption (GWh)	6 522	6 546	6 611	6 555	6 262	6 549
National peak (MW)	1 085	1 095	1 085	1 103	1 092	1 113
National generation (GWh)	763	875	933	1 043	1 208	1 209

Close cooperation between Germany and Luxembourg

- Joint bidding zone DE-LU
- Treaty of July 10, 1958
  (Vianden pumped storage power plant)
- Pentalateral Energy Forum
- Common reliability standard
- System service contract Amprion-Creos



	2016	2017	2018	2019	2020	2021
National consumption (GWh)	9 132	9 054	8 898	8 880	8 090	8 708
National peak (1000 Nm3/h)	205	206	220	210	214	196

Smart Meters

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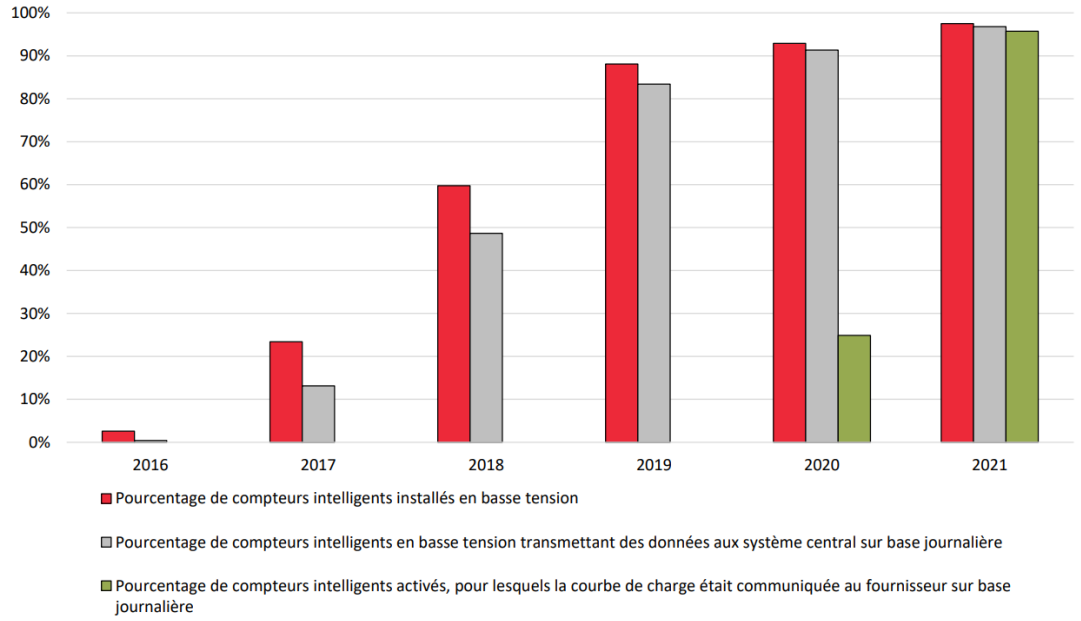
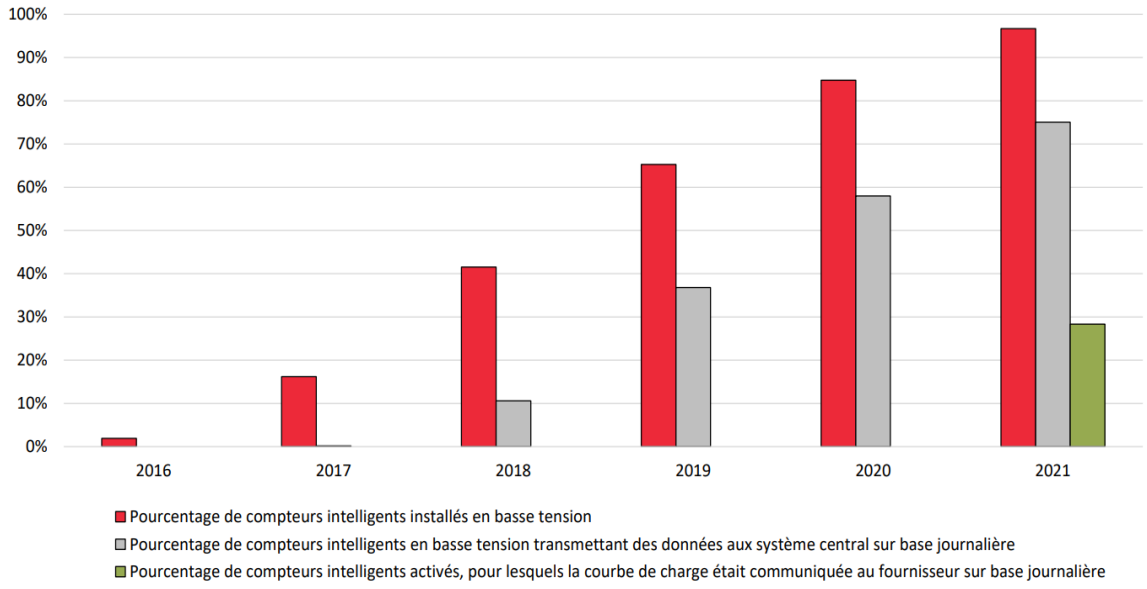
- National smart meter rollout decided in 2012 for electricity and gas
- Legal mandate for all electricity and gas DSOs to set up a common meter reading platform, which is executed and managed by Luxmetering G.I.E, an economic group of interest of the 7 luxembourgish gas and electricity DSO‘s

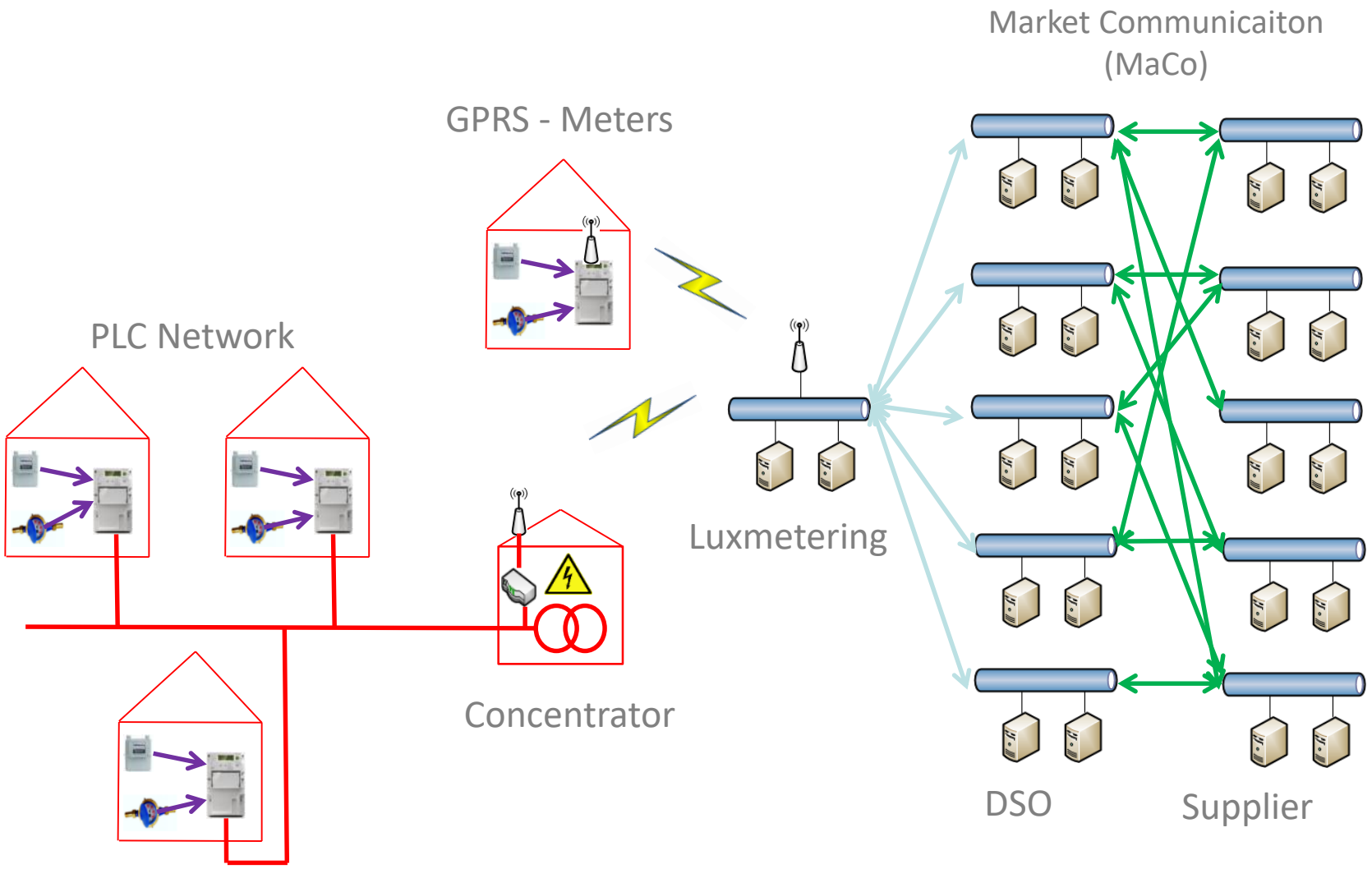
Electricity



Gas



Data flows in the smart metering system



National Energy Data Platform “Leneda”

Context and motivation

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National Energy and Climate Plan (NECP)

Challenges…

- Decarbonisation
- Decentralised generation
- Increased need for flexibility
- …

…and opportunities

- Smart meter rollout
- Dynamic prices
- Energy communities
- …

Requires data and digital infrastructures

➔ **Energy Data Platform**

Objectives of the platform

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Energy Data Platform

Data transparency and empowering of customers

- Render smart meter consumption data accessible and usable for customers and their service providers
- Facilitate decentralised generation and self-consumption
- Ensure data safety and privacy
- Simplify interaction with new market actors

Quality and efficiency of market processes

- Improve efficiency of market processes, including dynamic pricing, aggregation and sharing of energy
- Reduce cost and effort of market communication processes
- Optimised and more secure market functioning
- Increase data quality

Innovation

- Facilitate market entry of new service providers (aggregators, smart charging providers,…)
- Facilitate innovative new services (sector coupling, flexibility services …)

Legal framework

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- The **law on the organisation of the electricity market mandates the national TSO** to develop and deploy the data platform
- Legal provisions are **centered around data availability and protection,** and define:

Objectives	Data	Access	Modalities
•Central repertoire of energy data allowing secure and convenient access for those who have the right to access •Exchange platform to handle market communication processes •Statistics	•Master client data •Technical data •Metering data •National register of production units •Other non-personal data supporting the market	•Companies: MaCo •Clients: individual secured access (incl creation of national energy ID) •Authorities (Ministry, Regulator, Statistical Office) •Open data	•Objective to provide market services and optimize benefits for all stakeholders •First version to be operational on 1st of July 2023 to grid operators and suppliers •Dedicated regulatory framework

Project phases and implementation plan

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Initiation (pre 2019)

- Smart Meter rollout as a perquisite for the data platform
- Concept development at authority level:
  - Definition of objectives
  - Determination of basic functionalities and responsibilities
  - Legal mandate for the TSO to develop and deploy the platform

Conception (2020-2021)

- Concept paper by TSO Creos
- Scrutiny by authorities and stakeholders
- Refining of legal framework

Phase 1 Large customers & generators (2022-2023)

- Dedicated project team at Creos
- Lean development approach in cooperation with external providers
- Phase 1 Scope:
  - All MV an HV customers
  - All producers (incl. small PV)
  - All energy community members
  - Soft go-live in the second half of 2023
- Data cleaning before onboarding is a core part of the project

Phase 2 Full rollout (2024-2026)

- Data ramp-up through gradual onboarding of remaining customers
- Development of market communication hub functionalities
- All customer data to be on the platform by mid 2026

Phase 3 Additional functionalities (2027+)

- Additional functionalities to be defined based on market needs
- Possible functionalities:
  - Grid usage billing through platform
  - Settlement and clearing
  - Guarantee of origin management

Regular stakeholder exchanges

Three levels of development

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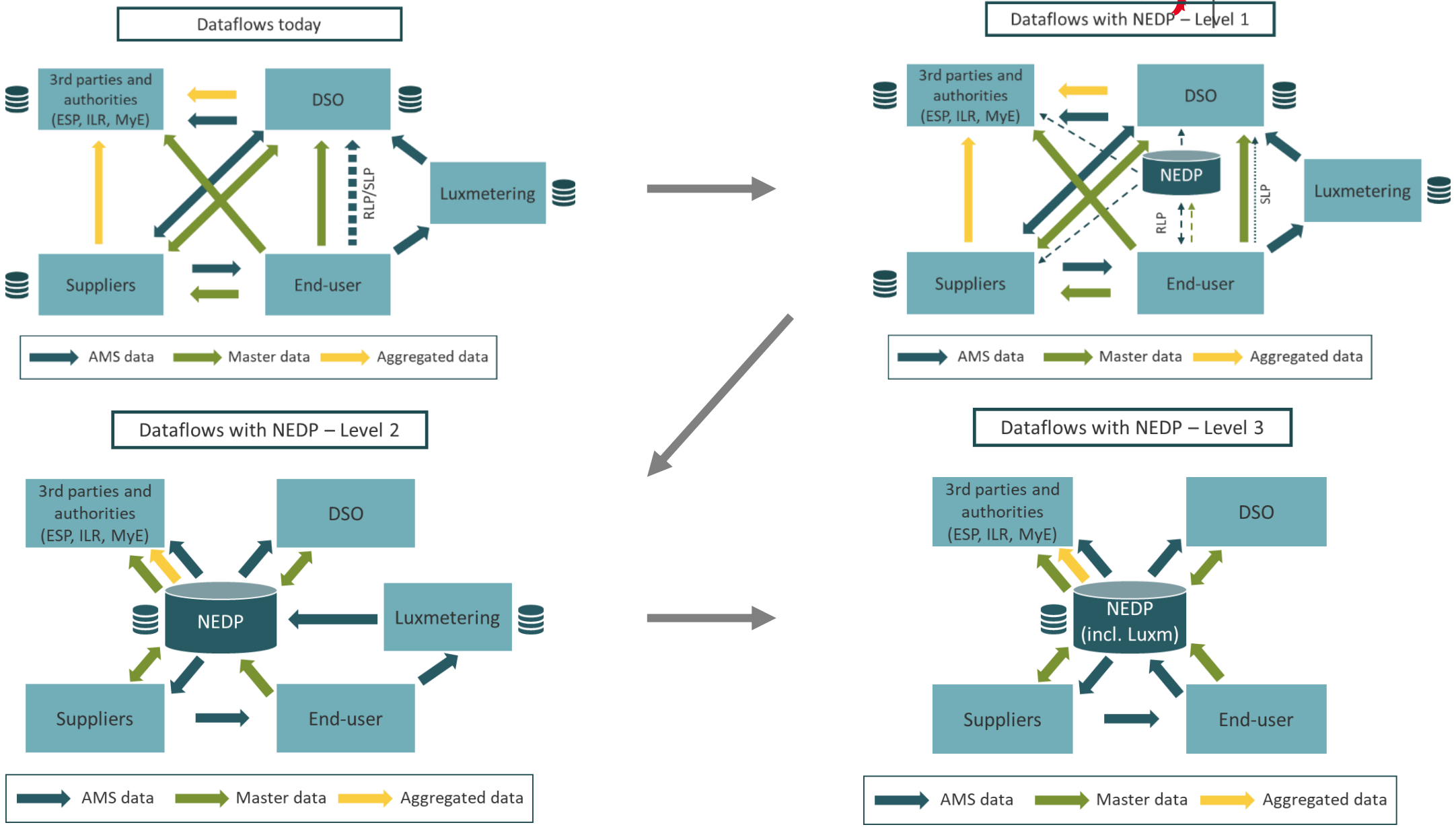

Various types of benefits

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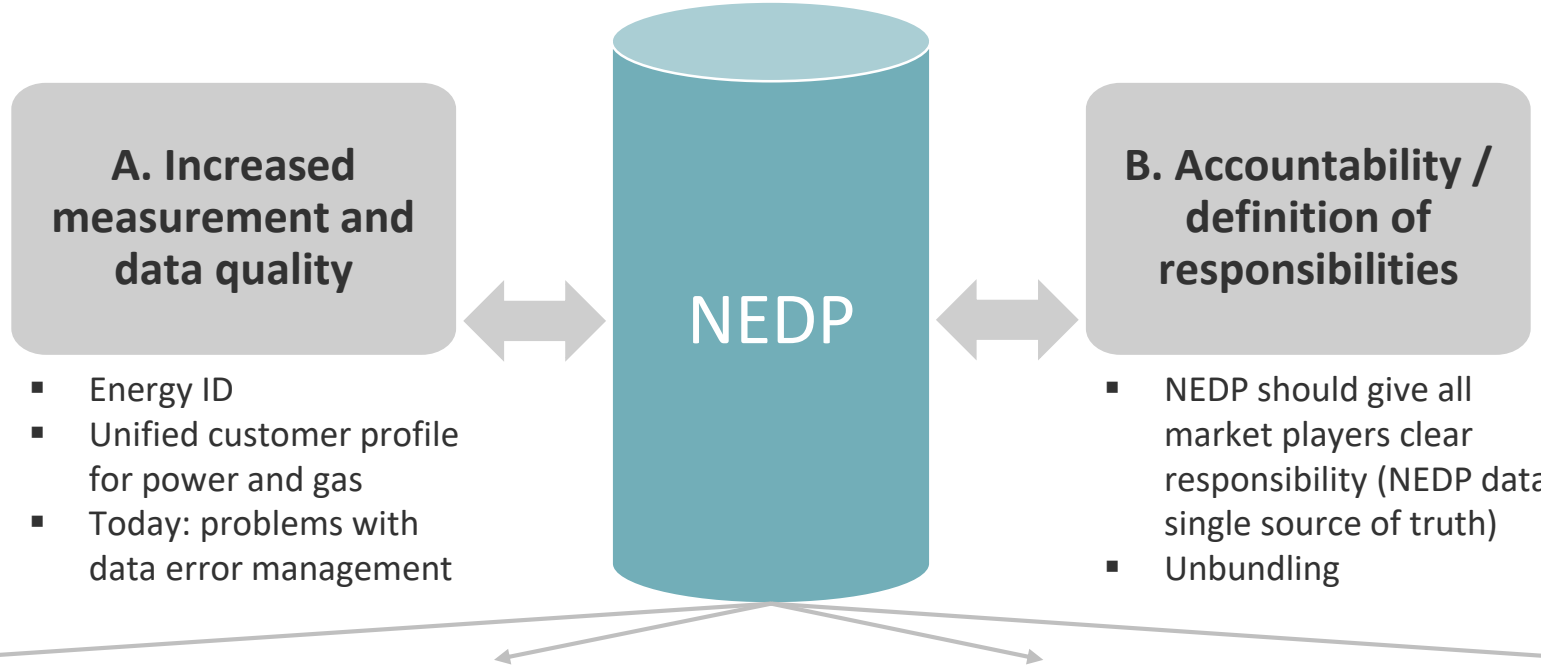

1. Process / cost transparency / operational efficiency	**2. Implementation of standards and automation of processes**	**3. Facilitation of competition in the end-user market**	**4. Empowerment of end-users / market functioning**
5. Centralized basic data analytics functions	**6. Security improvements**	**7. EU cross-border harmonisation**	**8. Reduced ICT investment costs**

All stakeholders benefit, but in different ways

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	1. Process/cost transparency/ operational efficiency	2. Implementation of standards and automation of processes	3. Facilitation of competition in the end-user market	4. Empowerment of end-users/market functioning	5. Centralized basic data analytics functioning	6. Security /privacy improvements	7. EU cross-border harmonisation	8. Reduced ICT investment costs
End-users	+	O	++	++	O	+	O	O
DSOs	+	++	O	+	++	++	+	++
Suppliers	++	++	+	+	+	++	+	++
Authorities	+	O	O	O	++	O	O	+

Thank you!