



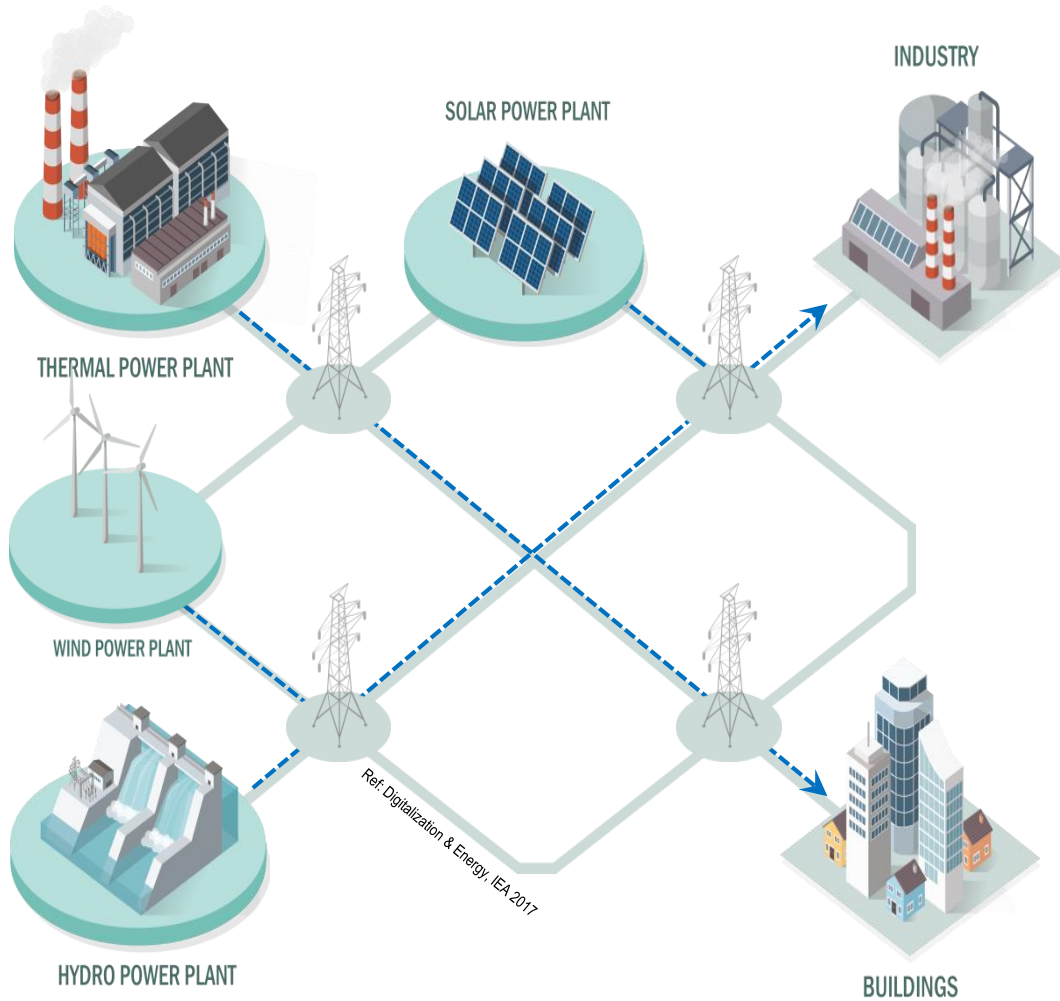
**GEODE Spring Seminar
Brussels 29 May 2018**

Overall DSOs' tasks and functions under the CEP framework

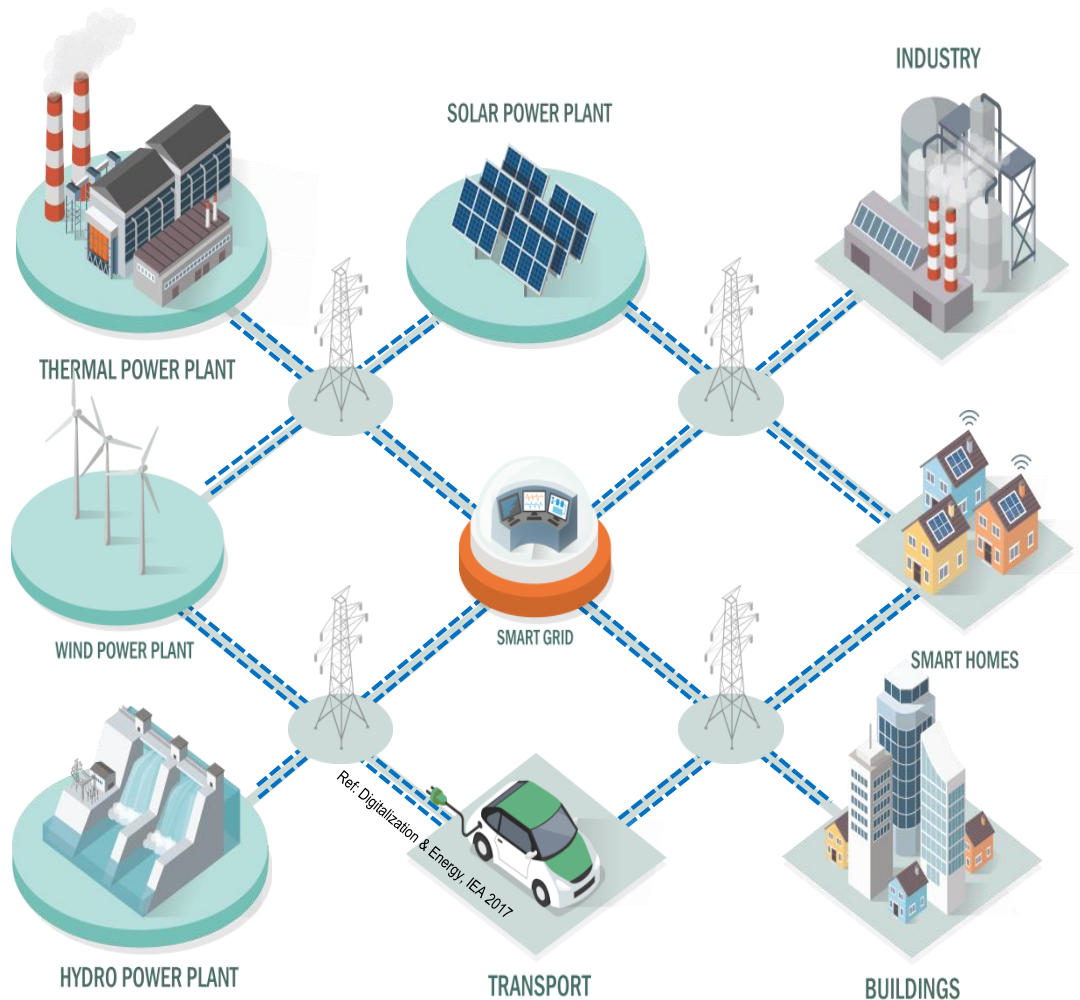
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DG ENER B3- Retail Market. Directorate for Internal Market
European Commission

Content

- What are the current trends and challenges?
- What are the main inputs of the Market Design? How the new 'Clean Energy for all Europeans' package will help to put consumers in the centre of the equation?
- What are the next challenges? Are we prepared for them? How far does the new energy framework go in supporting digital innovation?



Pre-digital energy systems are defined by unidirectional flows and distinct roles



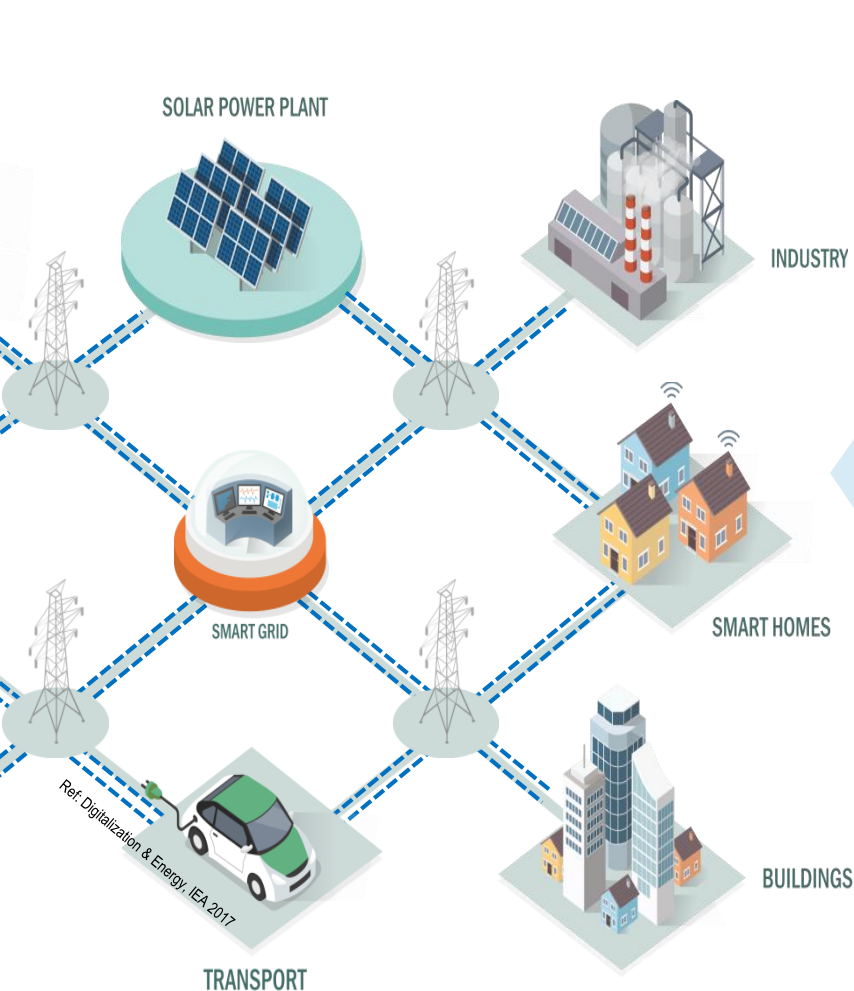
Digital technologies enable a multi-directional and highly integrated energy system

Short overview on current actions by key actor

	Infrastructure	Market	Customer
Member states level	<ul style="list-style-type: none"> – Rolling smart metering – Data hubs – Pilot projects – R&D 	<ul style="list-style-type: none"> – Enforcement of 3rd Energy package and recognition of CE4AE package – Market opening: new actors and new services – Spreading acceptance and implementation of near-real time info on consumption 	<ul style="list-style-type: none"> – Consumer awareness and trust – Implementing NIS and GDPR: common minimum level of cyber security and data protection
EU level	<ul style="list-style-type: none"> – PCI and CEF – AFID – Horizon 2020 	<ul style="list-style-type: none"> – Clean Energy package – Network Codes – DSO-TSO cooperation platform – SGTF preparing the ground for further legislation – Standards: M440&490, SAREF and interoperability – Developing good practices for cyber security – Preparing possible labelling BACS, smart appliances and Ecodesign 	<ul style="list-style-type: none"> – NIS Directive – GDPR – e-Privacy Regulation – Citizens' Energy Forum to facilitate exchange of good practices for consumers awareness
Private and Public actors	<ul style="list-style-type: none"> – Integrating service platforms – Pilot projects – Implementing smart metering – Integrating large volume RES – Secure supply 	Emerging number of aggregators, ESCOs and independent suppliers for well-functioning competition in energy market, reliable service and supply for all consumers	<ul style="list-style-type: none"> – Security of supply amidst energy transition – Interoperability and connectivity for smart ready appliances and services – Apps/services in near-real time

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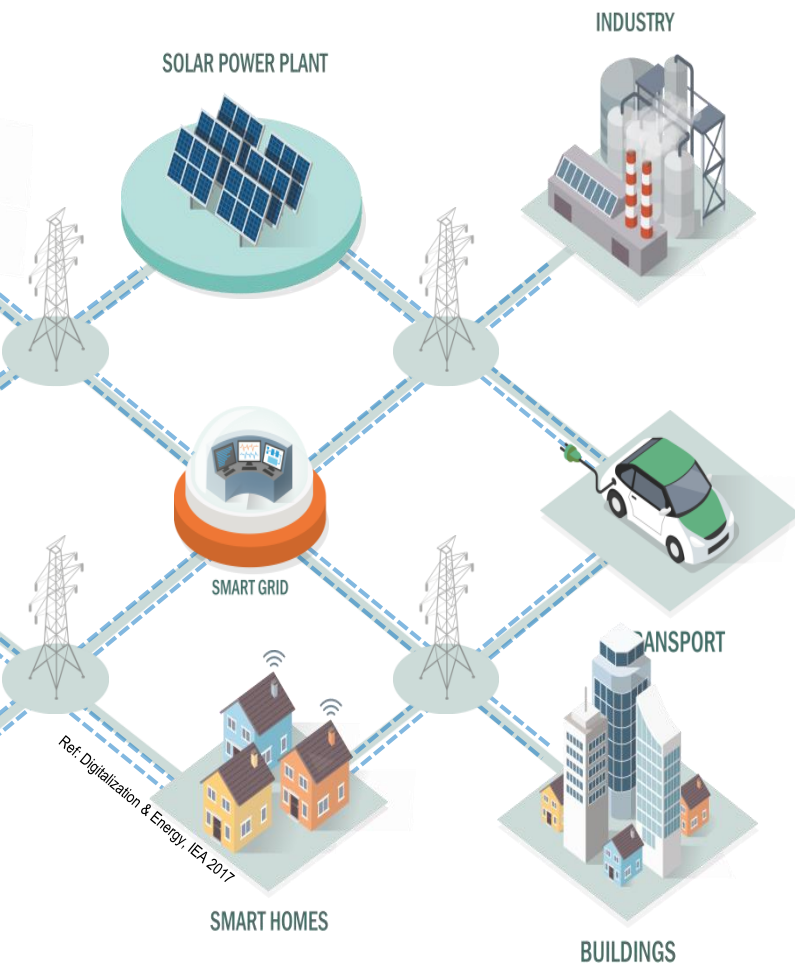


Residential sector

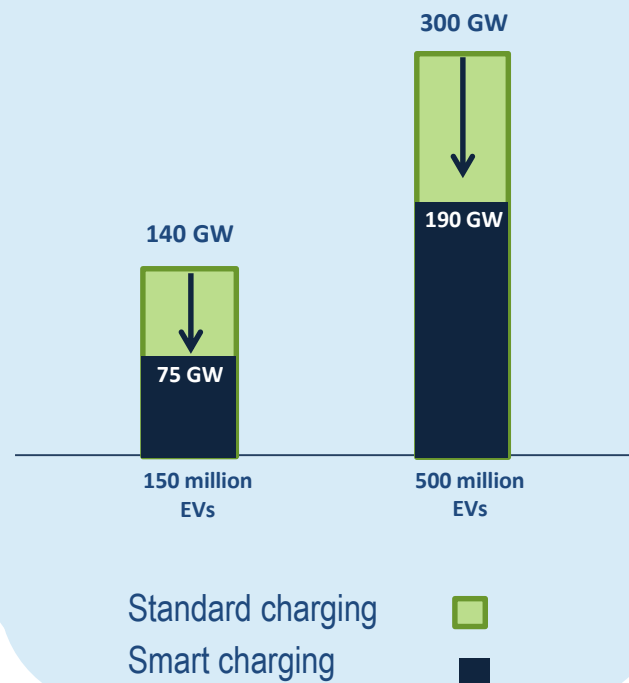


+200 million households and
a few billion of smart appliances
could actively participate in
interconnected electricity systems

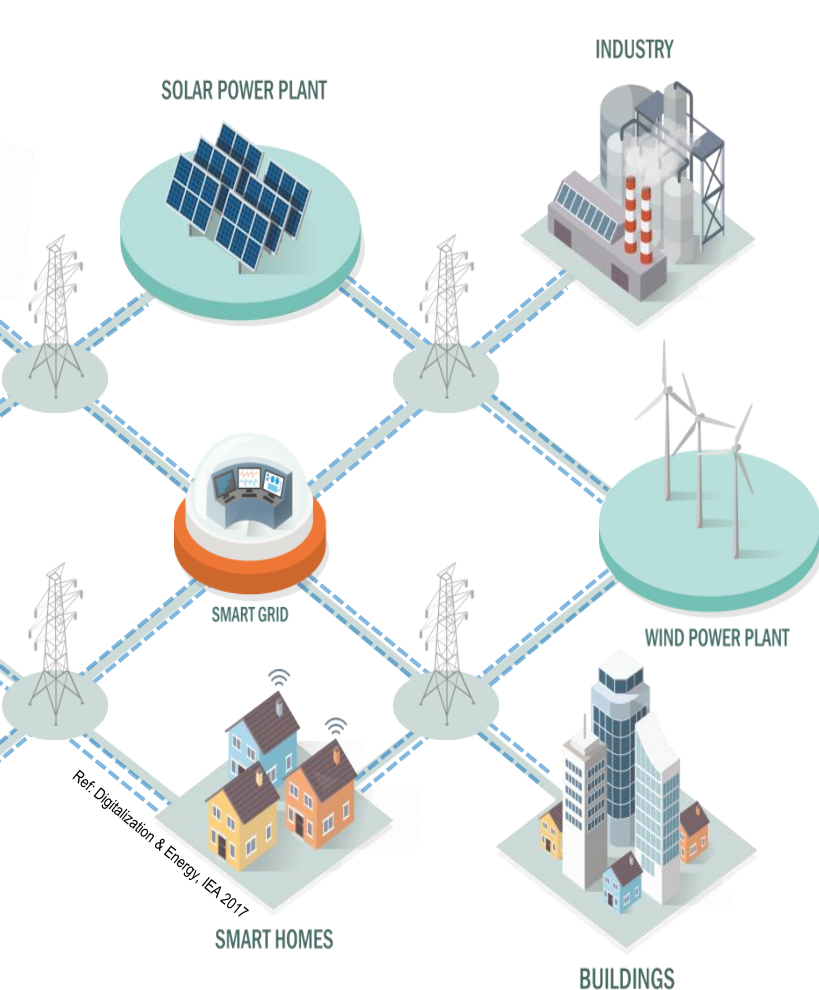
Demand response programs could provide 50 GWe by 2030 of flexibility and leading to net benefits of 5,6 bn EUR per year



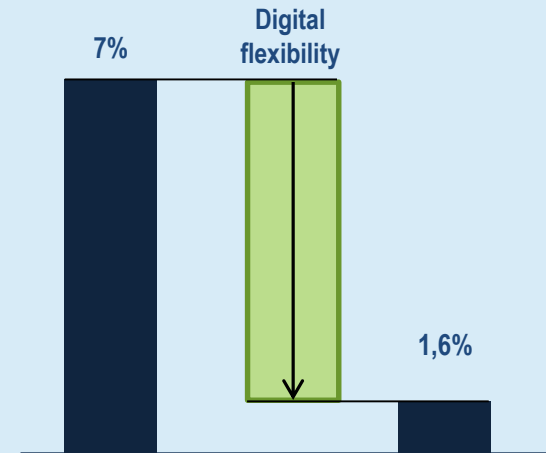
EVs standard vs smart charging Capacity requirement



EVs smart charging would provide further flexibility, saving between EUR 100-280 billion



Curtailment of solar PV and wind



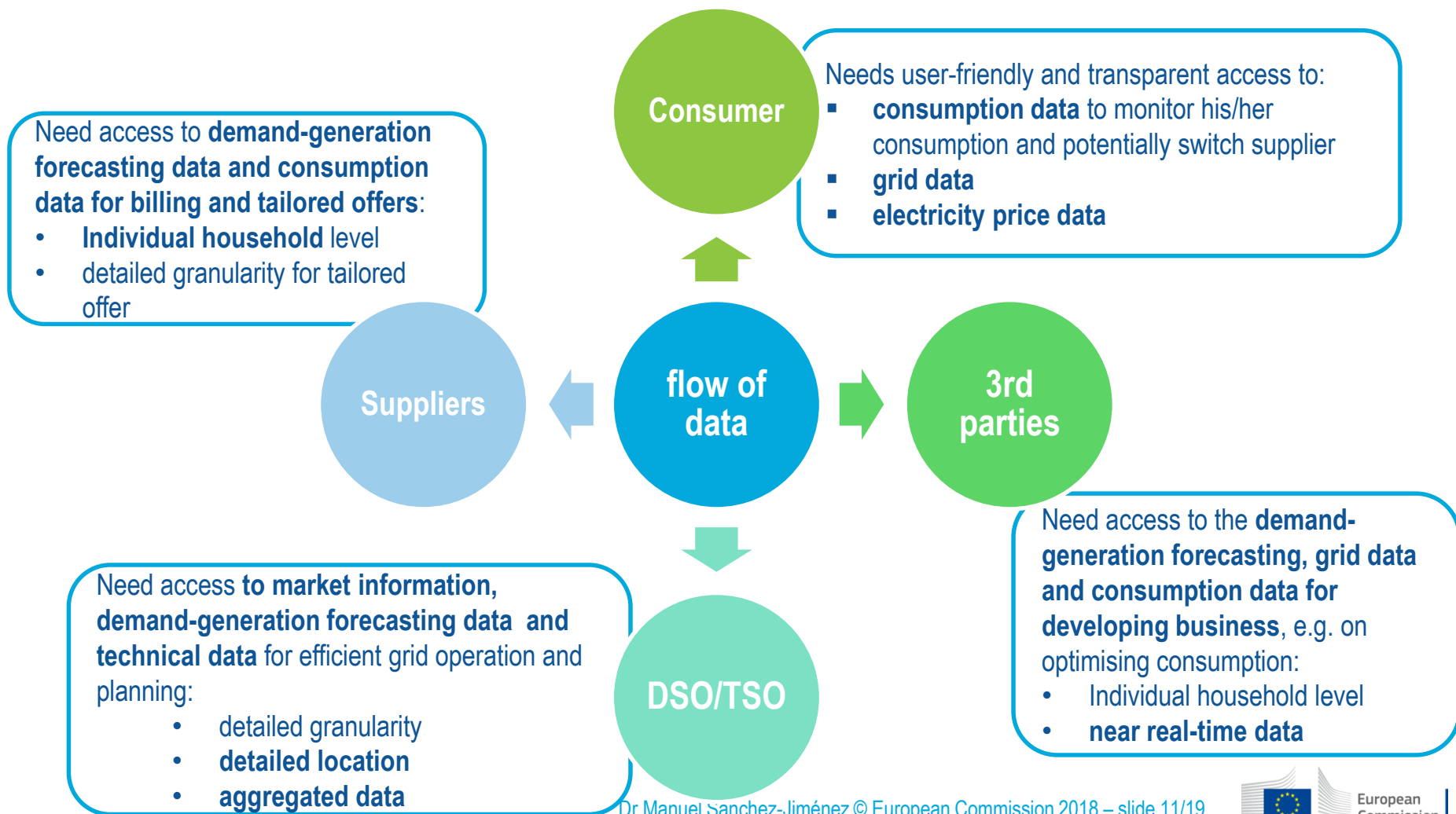
Flexibility markets can help to integrate variable renewables by enabling grids to better match energy demand in times when the sun is shining and the wind is blowing.



Blockchain could help to facilitate peer-to-peer electricity trade within local energy communities

Data exchange and new business can facilitate the deployment of Active Consumers and Local Communities, making it easier to store and sell surplus electricity to the grid

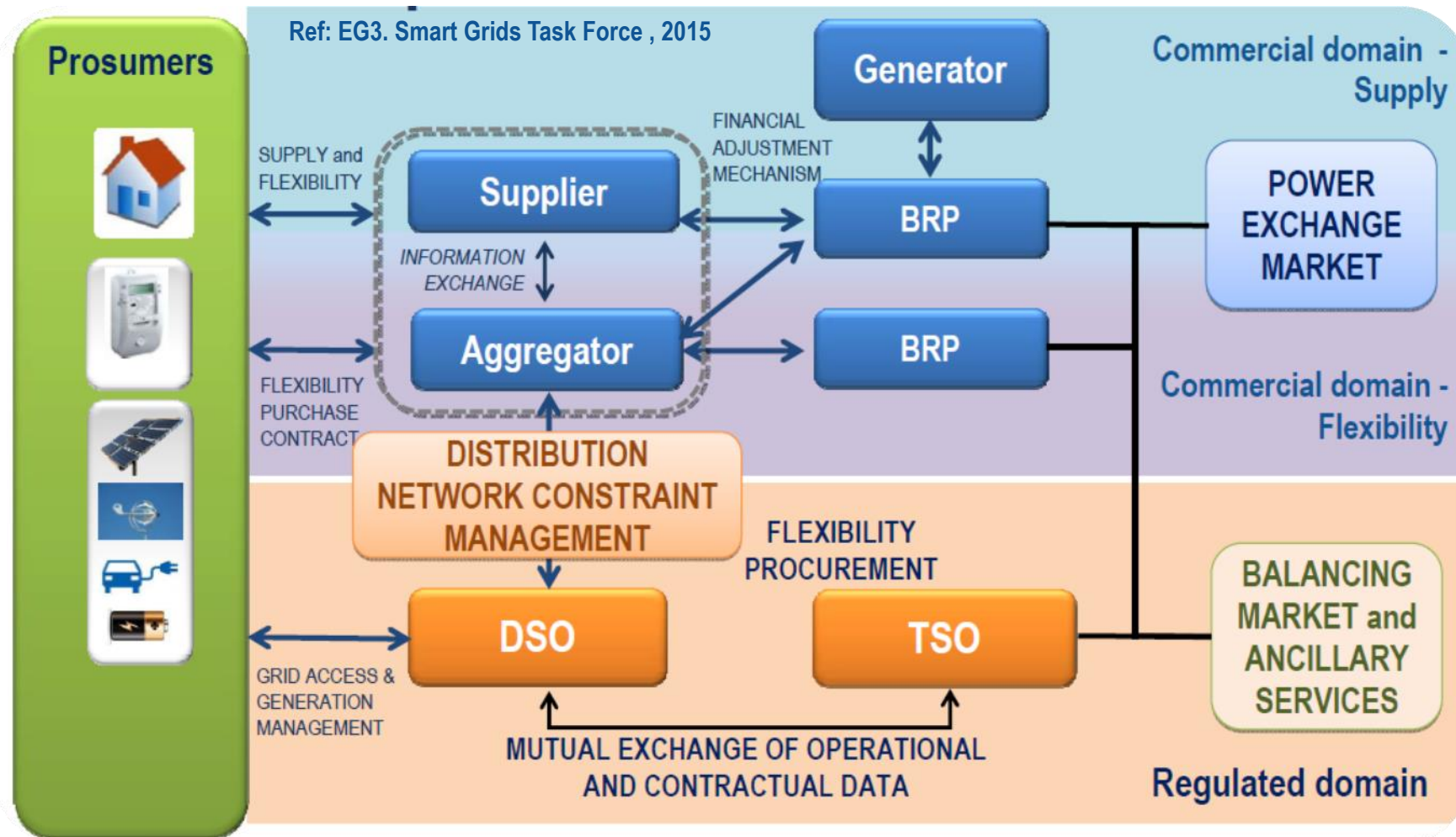
The new CEP provides sound framework towards easy, transparent and non-discriminatory access to data



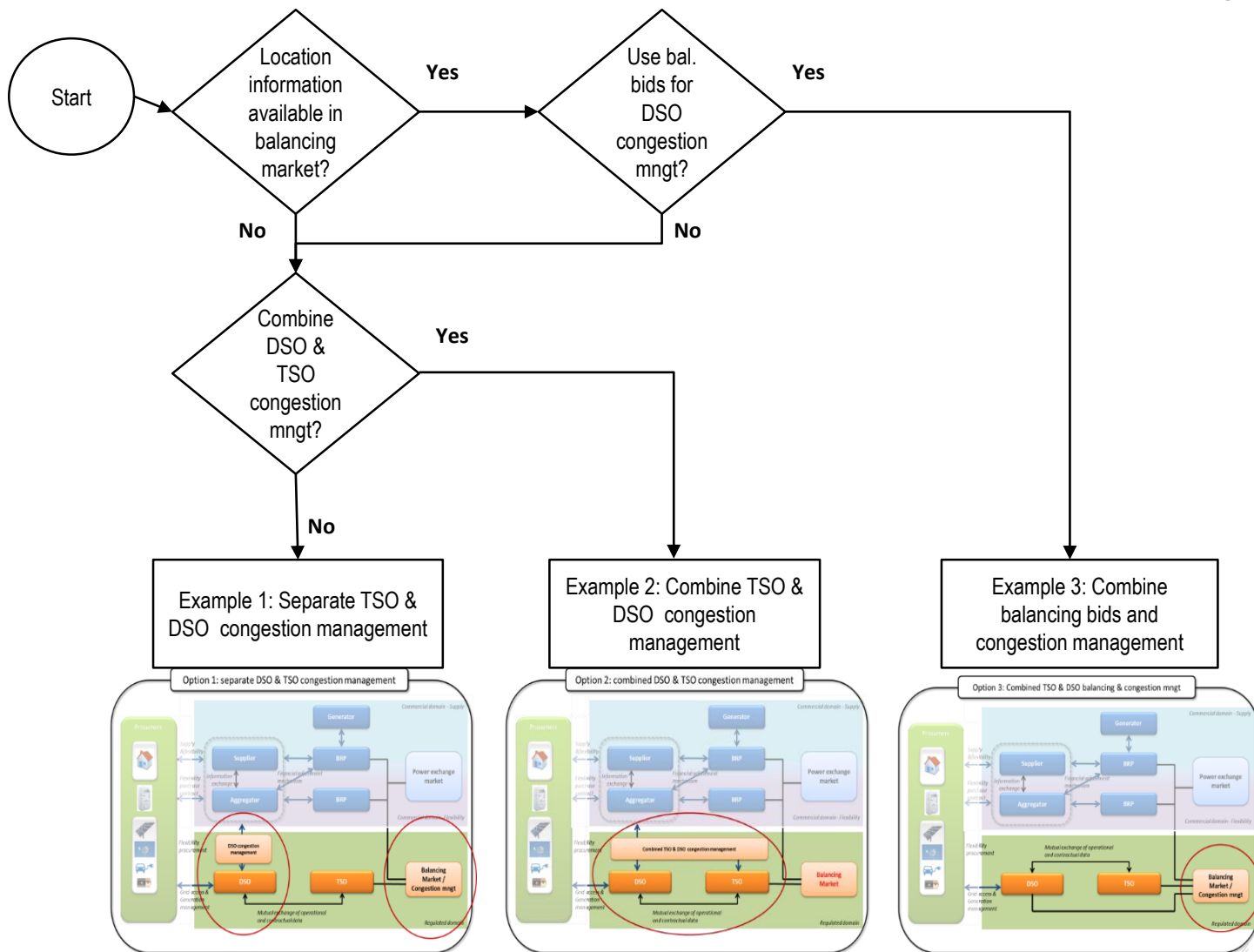
CEP promotes the use of flexibility services

- Allow DSOs to procure flexibility services from distributed energy resources (demand response, local generation, storage and EVs) in order to manage local congestions and solve technical problems (e.g. power quality issues)
- Member States or/and National Regulator Agencies to define the exact regulatory framework, including incentives for DSOs and appropriate remuneration
- Procurement through market based procedures, with definition of required products and technical modalities → level playing field for flexibility providers
- Ask for distribution network development plans, transparent network development with emphasis on RES integration and innovative network solutions

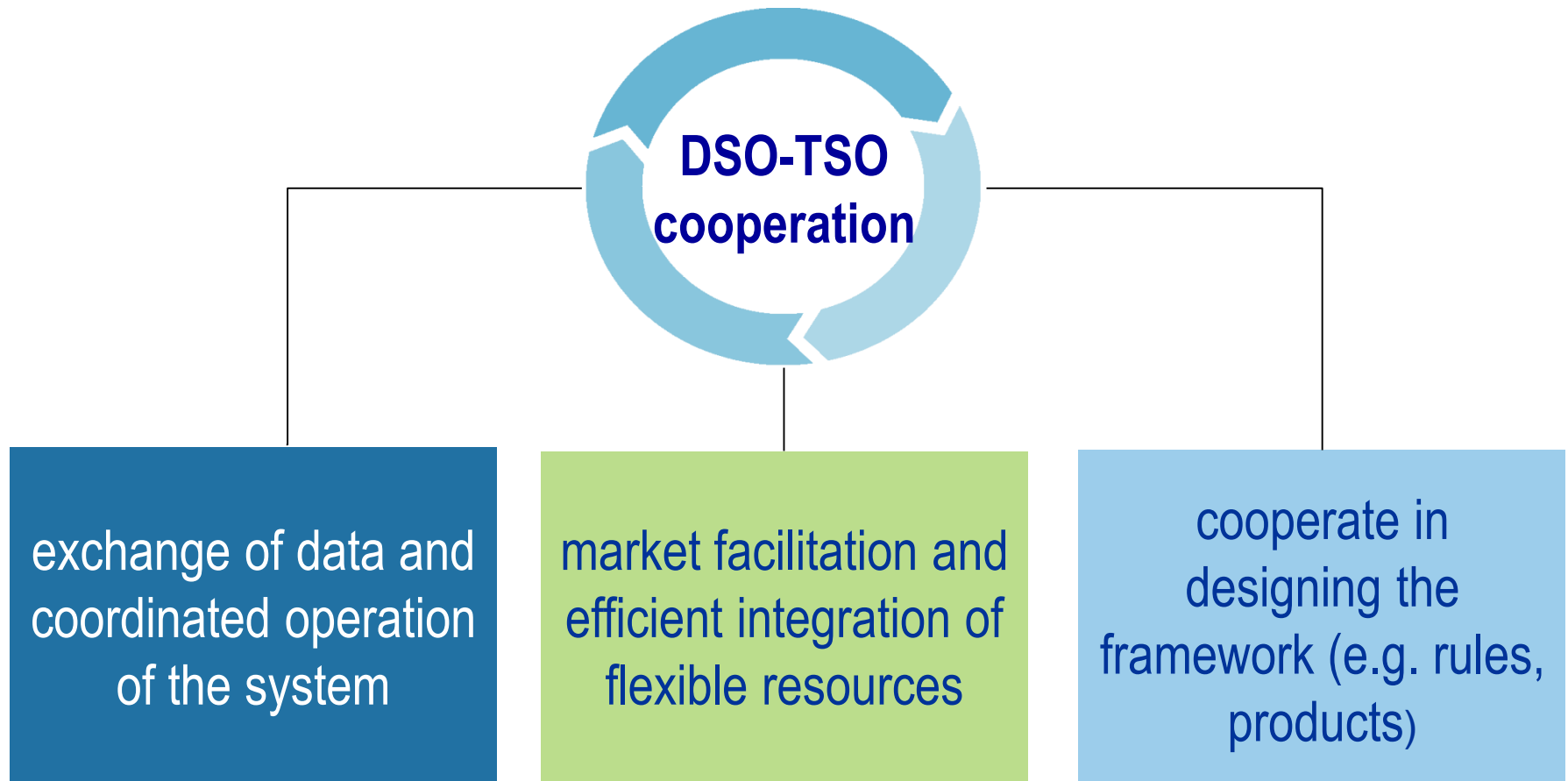
Clean Energy package puts consumers in the centre



Examples of possible CM/BM acquisition, under analysis



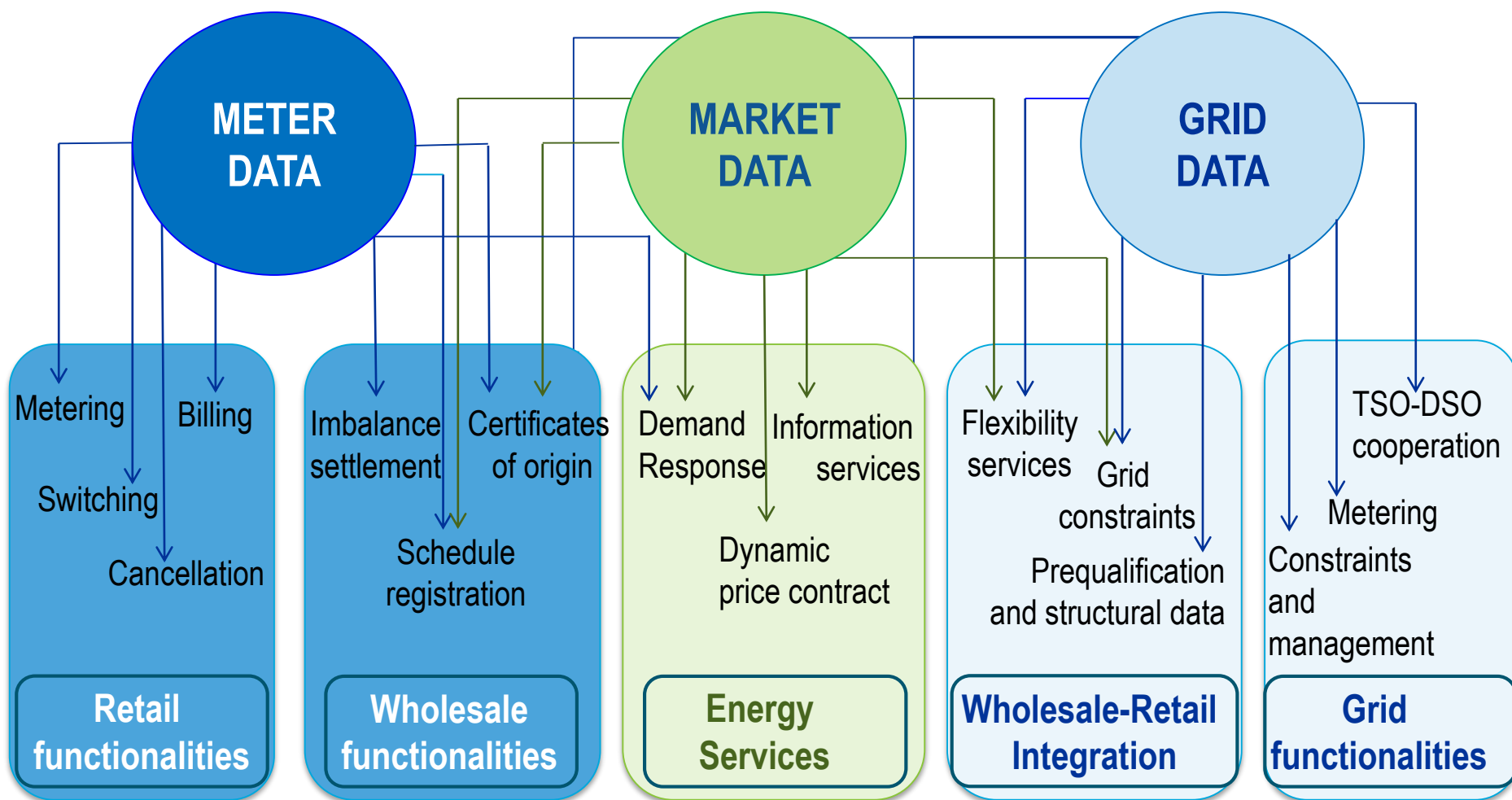
Main challenges for TSO-DSO to implement the CEP



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Data types and related processes covered in the present/upcoming electricity market model



Rethinking tomorrow's energy system

- Looking ahead towards a secure, competitive and cleaner European energy market, a future-proof regulatory framework shall also ensure that:
 - existing operators can adapt their business models and create new business,
 - start-ups and tech companies are attracted to the energy sector,
 - facilitate the digitalisation process and create real incentives for innovative solution-providers

- It calls for actions to develop and implement:
 - new data processing infrastructures (or service-platforms) which guarantee cost-effective investments and add value to both grid operators and grid users
 - Cybersecurity, Interoperability and synergies with other sectors
 - power electronic technologies and emerging disruptive technologies to overcome physical restrictions and further integrate distributed energy resources



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