



European Union Agency for the Cooperation
of Energy Regulators

The EV revolution and the changing European power market: How to make this *'the right match'* going forward?

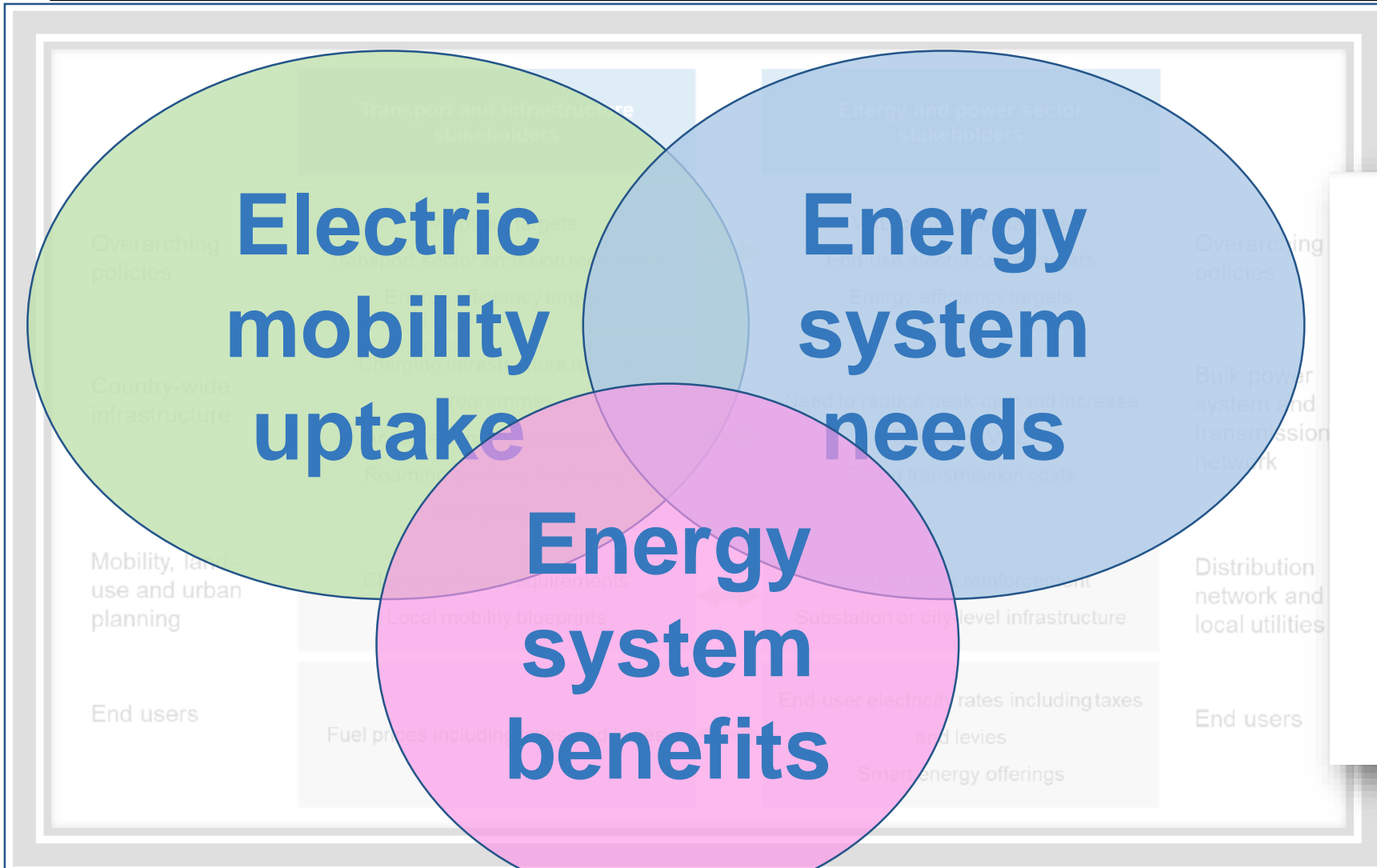
Joint Informal Council of Transport and Energy
Ministers - 22 September 2021 - Brdo Congress
Center, Slovenia

Christian Zinglensen, ACER Director

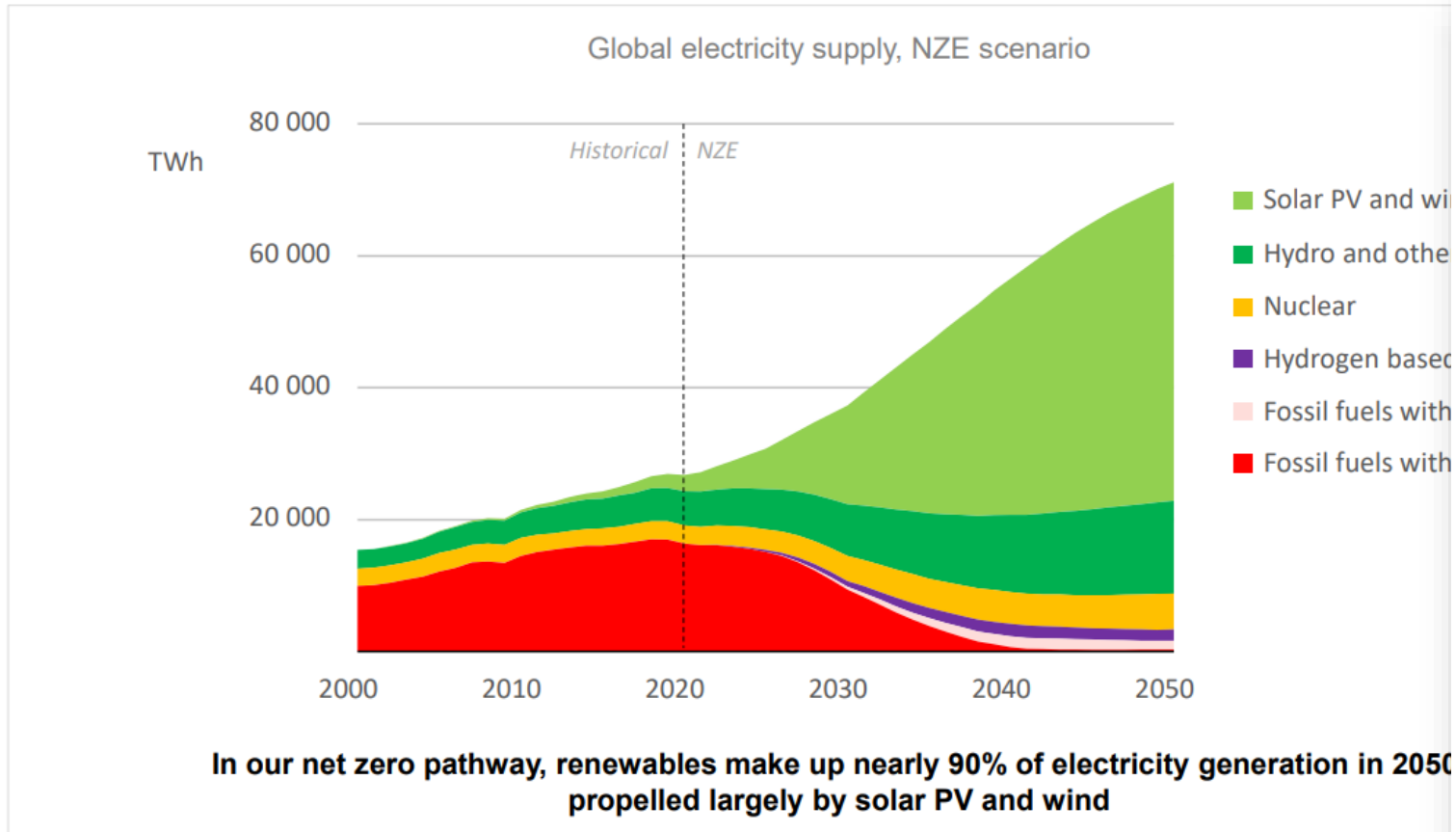
Starting with a simple truth: What you see matters.



Many interlinkages. 'Sweet spots' are possible.

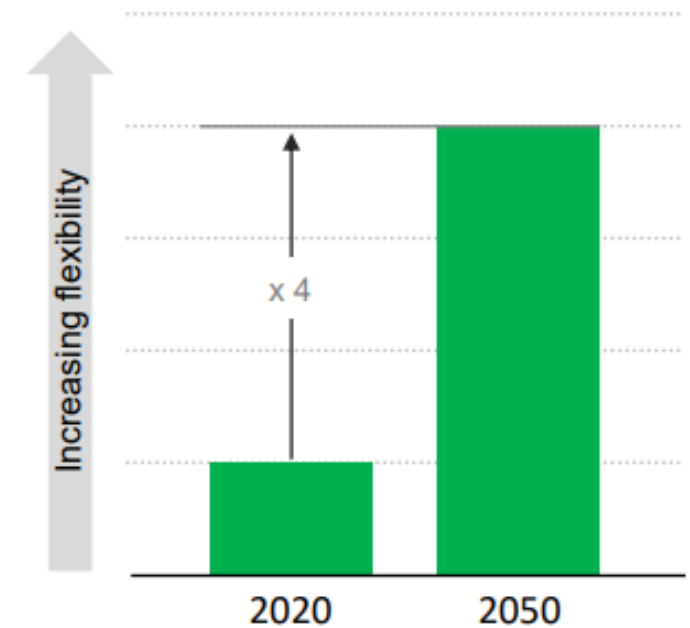


Electricity leads the way to net zero



iea

Electricity system flexibility needs



» Continental Europe Synchronous Area Separation on 08 January 2021

ICS Investigation Expert Panel » Final Report » 15 July 2021
Main Report

Energy Source Oil & Gas industry + Add to myFT

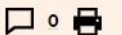
Why Europe needs to come together to pull off its green transition

Plus, what to look for this US earnings season and which Olympics was
the most sustainable?



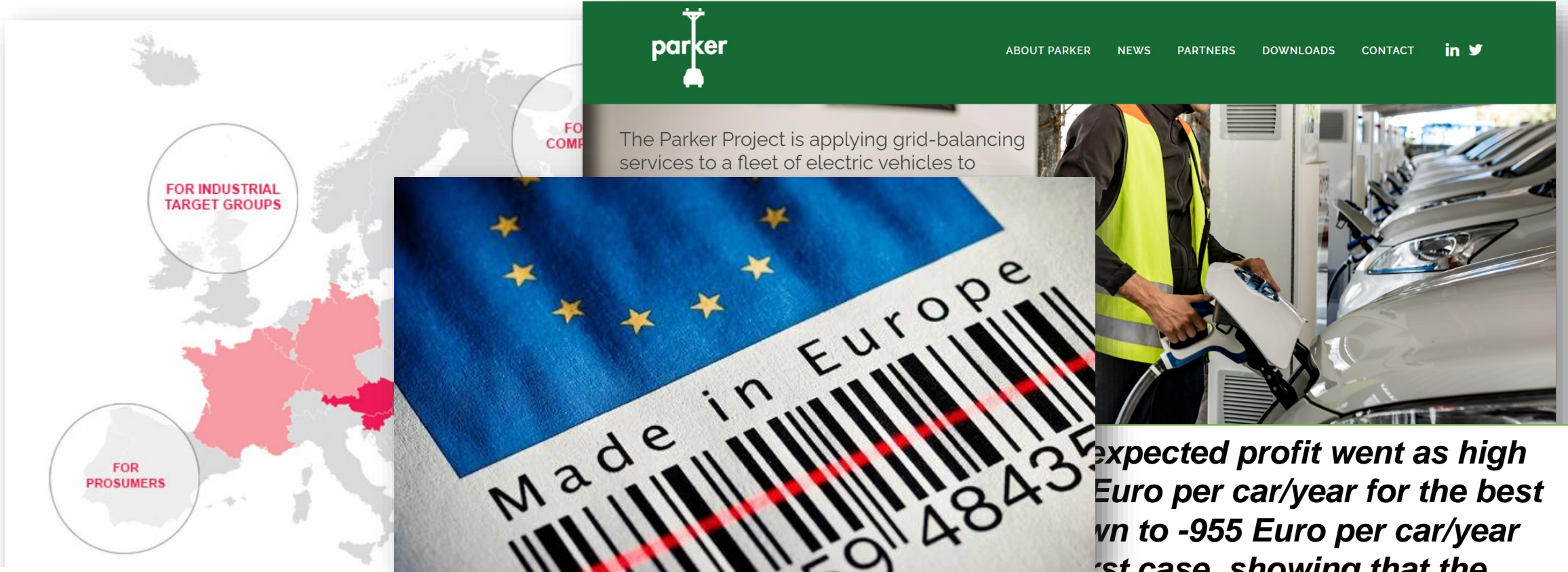
An ambitious energy transition is likely to rely on further integration of energy markets across Europe © Bloomberg

Myles McCormick, Justin Jacobs and Amanda Chu JULY 22 2021



Note: The Investigation Expert Panel's report of 15 July 2021 is available via the joint ACER-ENTSO-E press release issued the same day, see [LINK](#). Commentary by the ACER Director in the Financial Times *Energy Source* of 22 July 2021, see [LINK](#).

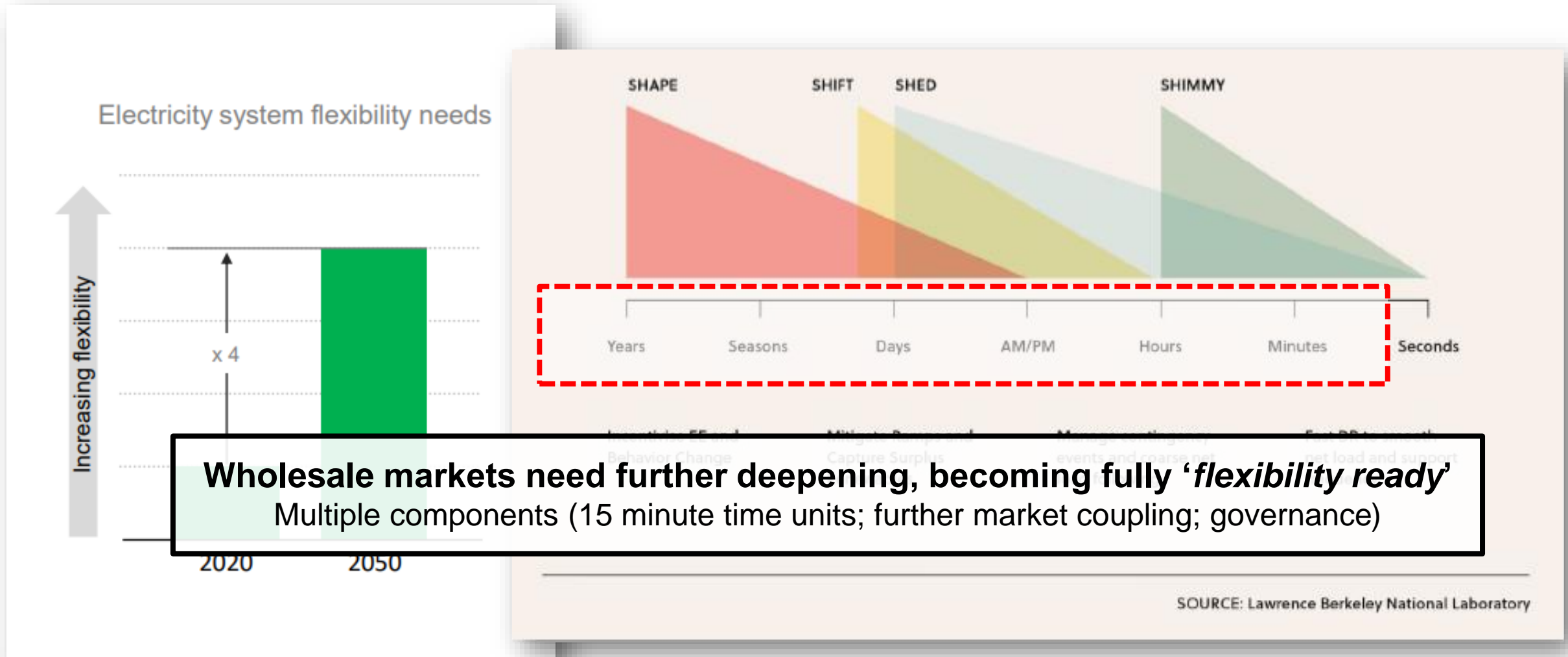
System benefits can help drive e-mobility uptake.



“... The FutureFlow project results show that up to 23% of balancing energy can be saved by connecting flexibility markets in Austria, Hungary, Romania and Slovenia.”

... expected profit went as high as 1,000 Euro per car/year for the best case, but fell down to -955 Euro per car/year for a worst case, showing that the business case is highly sensitive to a number of factors.”

So what's the catch ...? (1/3)



Note: Figure from Zsuzsanna Pató of the Regulatory Assistance Project in *Foresight*, December 2020 ([LINK](#)). As regards further deepening of wholesale markets, a key initiative to be dealt with via comitology in 2022 is the revision of the 'CACM' network code (Capacity Allocation and Congestion Management), a process referred to as 'CACM 2.0'. For further information, see the supportive documents for the June 2021 Florence Forum discussions (agenda item 5.3), this via the following [LINK](#).

So what's the catch ...? (2/3)

Relevance*

Regulation and market design



- Complex, lengthy and discriminatory **administrative** and **financial requirements**
- Adequacy of the **legal framework** to enable new entrants and small actors
- Restrictive requirements in **prequalification**, **product characteristics** and other features of **market design*****



- **End-user price regulation****
- Unavailability or little incentive to contract **dynamic retail prices****
- Restrictive requirements to participate in **capacity mechanisms** and **interruptibility schemes**

Market structure and performance



- Insufficient **competition** in the **retail market**

Network services and operations



- Lack of incentives to consider **non-wire alternatives**
- Lack of transparency in **information provided by System Operators (SOs)****

Relevance*

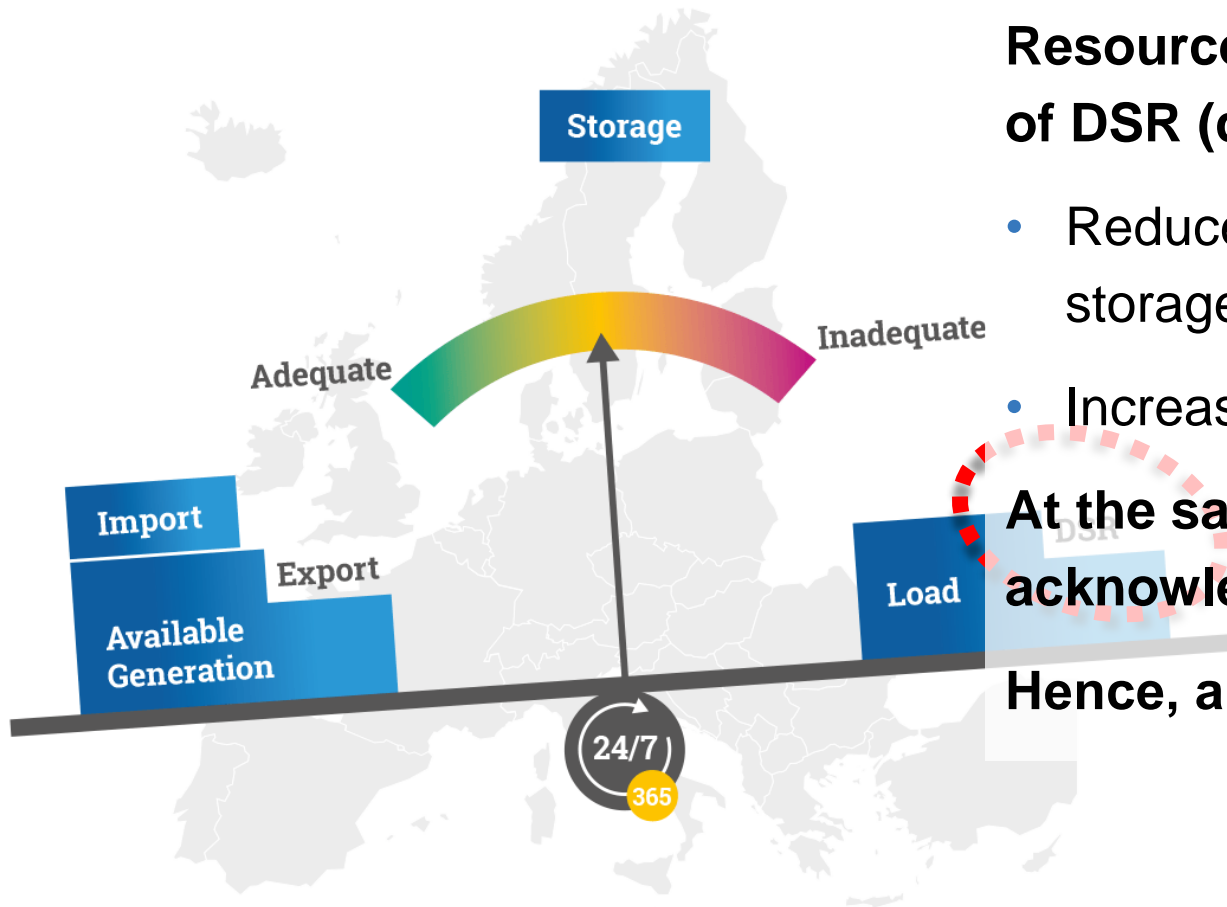
A key provision in the draft **Renewables Directive** (part of the *Fit-for-55* package): “... *Member States shall ensure that **the national regulatory framework does not discriminate against participation in the electricity markets, including congestion management and the provision of flexibility and balancing services, of small or mobile systems such as domestic batteries and electric vehicles, both directly and through aggregation.**”*”

- Complex, lengthy and discriminatory administrative and financial requirements
- Adequacy of the legal framework to enable new entrants and small actors
- Restrictive requirements in pre-qualification, product characteristics and other features of market design**
- End-user price regulation**
- Unavailability or little incentives to consumers to engage in DSR (demand-side response)
- Restrictive requirements in balancing schemes
- Insufficient competition
- Lack of incentives to consider non-vehicle alternatives
- Lack of transparency in information provided by System Operators (SOs)**

A number of barriers exist for new entrants and smaller players. These can hamper e-mobility participation - and thus also e-mobility uptake (given lower remuneration levels), e.g. via:

- New and small players facing requirements that restrict their participation in **balancing markets**.
- Some Member States lacking sufficient **competition in retail markets** and/or **insufficient incentives for consumers** to engage in DSR (demand-side response).
- In some Member States, the extensive application of **end-use price regulation** can be a barrier to entry and participation.
- Prequalification or product requirements may hinder **participation in capacity markets** in those Member States where such markets are deemed necessary.

So what's the catch ...? (3/3)

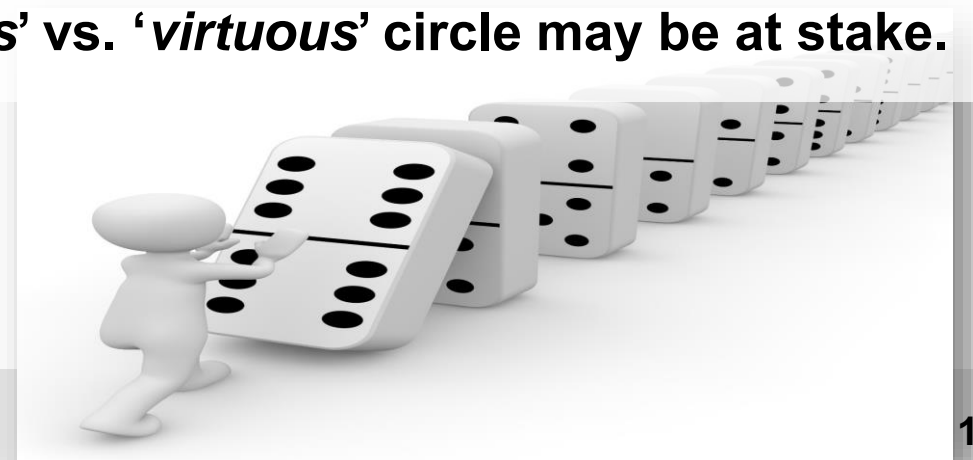


Resource adequacy studies can incorporate the benefits of DSR (demand-side response) e.g. via:

- Reduced need for investment (in network, generation or storage).
- Increased resilience to extreme events.

At the same time, DSR uptake may be held back if not acknowledged in adequacy assessments.

Hence, a '*vicious*' vs. '*virtuous*' circle may be at stake.



Charging infrastructure: A 'moving picture'.

NEWS REVIEWS COMPARE EVS

INSIDEEVs

Home > Volkswagen > News

Enel X And VW To Install Over 3,000 Fast Charge

The two will form a joint venture to build and operate the network.



Enel X a

Electric vehicles + Add to myFT

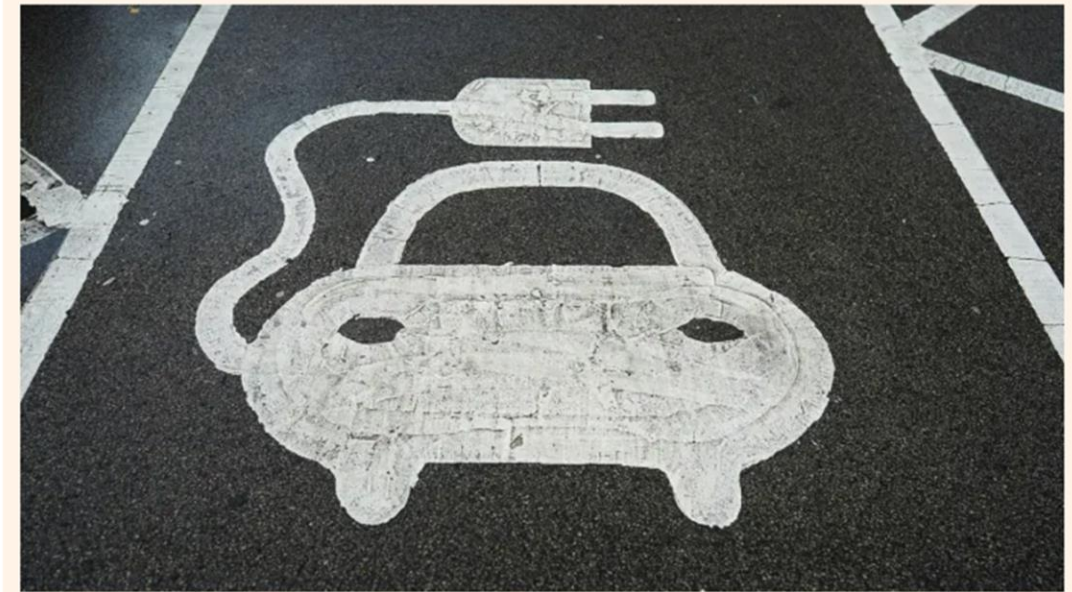
Shell offers to install 50,000 electric vehicle charging points in UK

Push by energy group could give it a third of public charging market by 2025


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UK regulator to lower grid connection costs for EV charging

Ofgem promise will help motorway services and local authorities installing hubs for electric car users



The cost for new connections needed to deliver high speed charging is a 'major barrier' to ensuring there are enough charging points at motorway service stations © Bloomberg

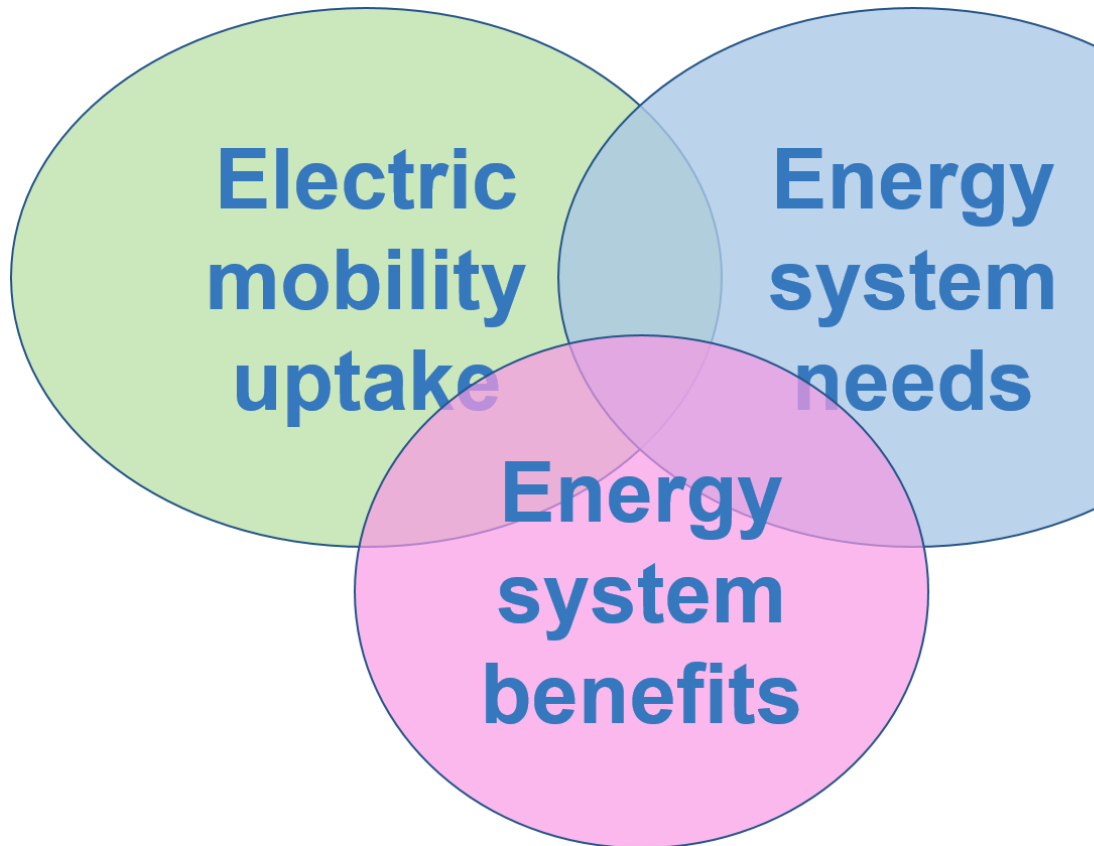
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Tesla to open Supercharger network to other automakers in Europe next year

Posted July 15, 2021 by [Charles Morris](#) & filed under [Fleets and Infrastructure](#), [Newswire](#), [The Infrastructure](#).



Heavy criticism of the lack of charging infrastructure in the UK, particularly for driving long distances © Anthony Upton/PA





- E-mobility uptake and wider energy system needs have the **potential to positively reinforce** each other.
- This, however, is not a given as it **depends on certain policy and regulatory choices**.
- **Wholesale markets need further deepening**, becoming 'flexibility ready' (15 minute time units; market coupling; governance).
- Barriers to **entry and participation will be key to address** by policymakers and regulators (a new priority area for ACER).
- Similarly, **EVs contribution to resource adequacy** should be factored in, 'levelling the playing field'. European-level adequacy assessment is key to unleash wider potential.
- **Charging infrastructure** can be tackled in several ways (approaches to cost socialisation as one example). A role for regulatory 'best practice'.
- **ACER stands ready** to further contribute.



**Thank you for the opportunity.
Looking forward to the discussion.**

*Follow-up questions or comments are also welcome via
director@acer.europa.eu*



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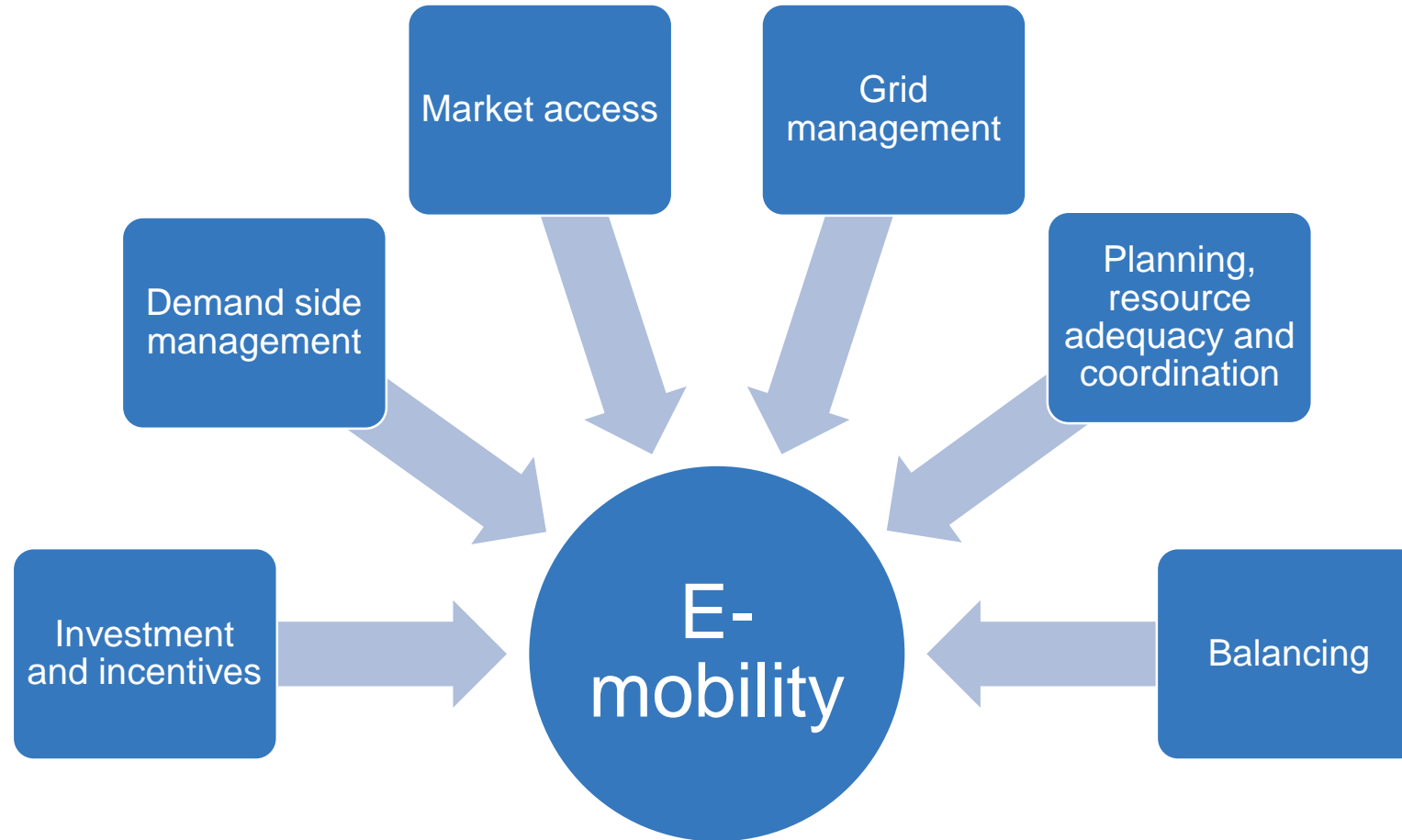
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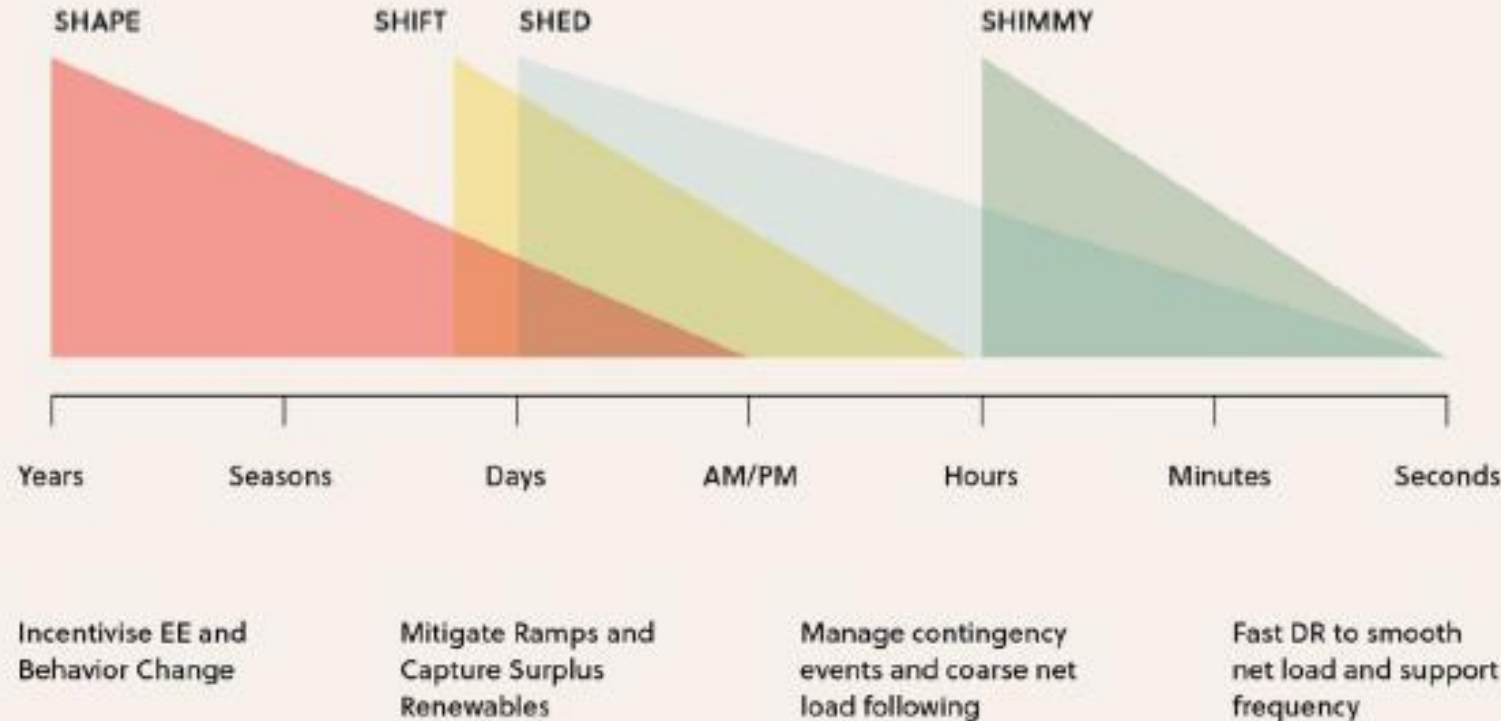
Back-up slides



- **Supporting the integration of energy markets in the EU** (by common rules at EU level). Primarily directed towards transmission system operators and power exchanges.
- **Contributing to efficient trans-European energy infrastructure**, ensuring alignment with EU priorities.
- Monitoring the well-functioning and transparency of energy markets, **detering market manipulation and abusive behaviour.**
- Where necessary, **coordinating cross-national regulatory action.**
- Governance: **Regulatory oversight is shared** with national regulators. **Decision-making** within ACER is collaborative and joint (formal decisions requiring 2/3 majority of national regulators). **Decentralised enforcement** at national level.



'Flexibility' ever more crucial. EVs a key asset.



SOURCE: Lawrence Berkeley National Laboratory

ACER's role is, inter alia:

- To monitor and assess barriers to market entry, including for new entrants and small players (e.g. demand side response and aggregators)
- To initiate changes to the current set of network codes and guidelines to enhance demand side flexibility.

ACER

Report on Distribution Tariff Methodologies in Europe

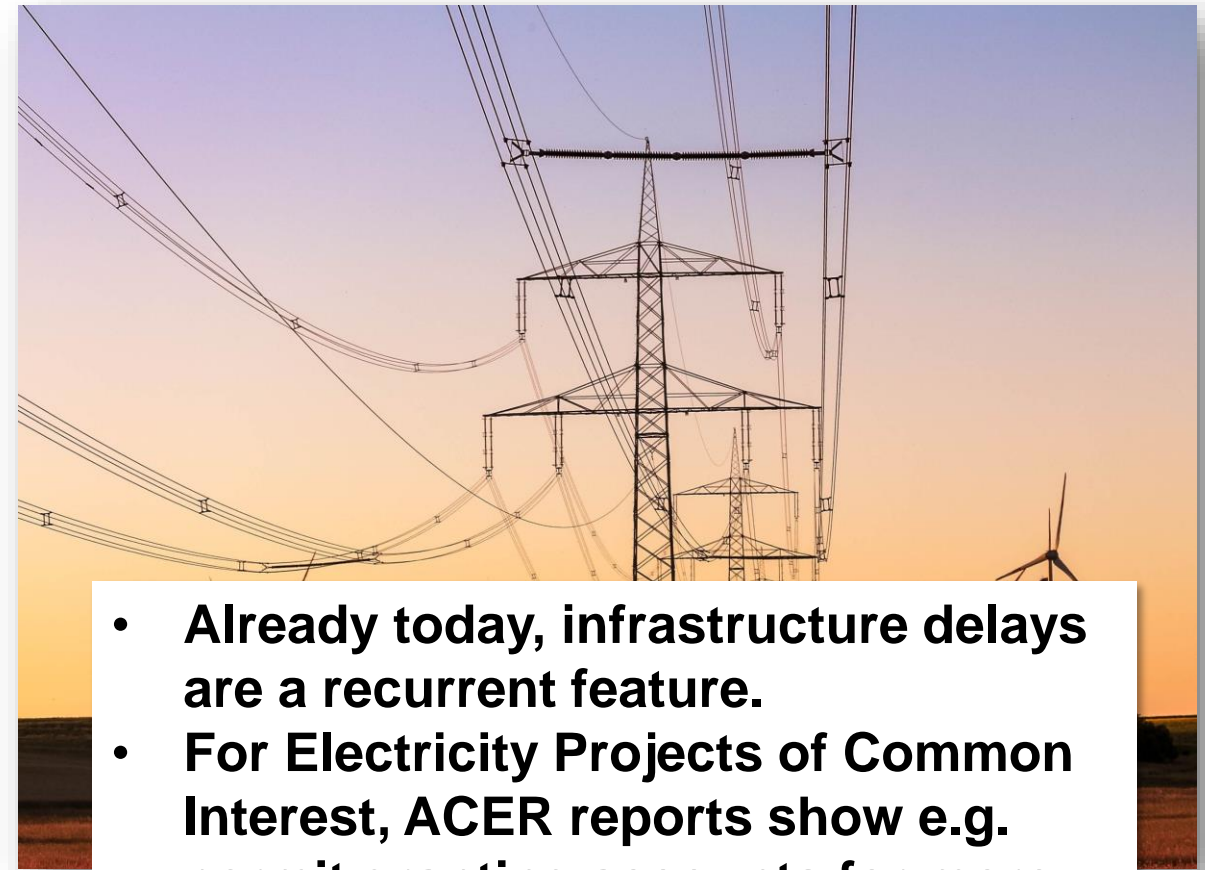
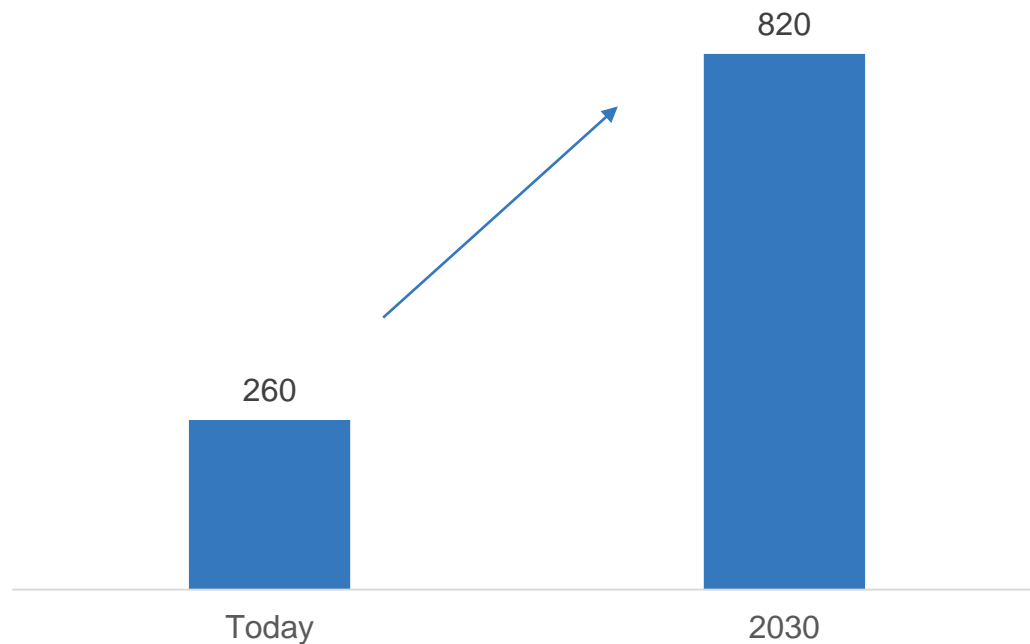
February 2021

“... With distributed generation, increasing demand from e.g. electric heating and EVs, increasing capability of resources to respond to time signals, **time-of-use gains in importance.**

Time-of-use tariffs, especially for larger consumers, can be a **useful tool for reducing system peak-load**, which is a main driver for network investments, thereby **promoting network efficiency. ...**”

Scaling up infrastructure is a challenge.

Yearly global estimated T&D investment in USD (to net zero pathway)



- **Already today, infrastructure delays are a recurrent feature.**
- **For Electricity Projects of Common Interest, ACER reports show e.g. permit granting accounts for more than 40% of delays.**