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The time is now: smart charging of electric vehicles

Electrification Academy Webinar

Jaap Burger
Senior Advisor
jburger@raponline.org

Dr. Julia Hildermeier
Associate
jhildermeier@raponline.org

Overview

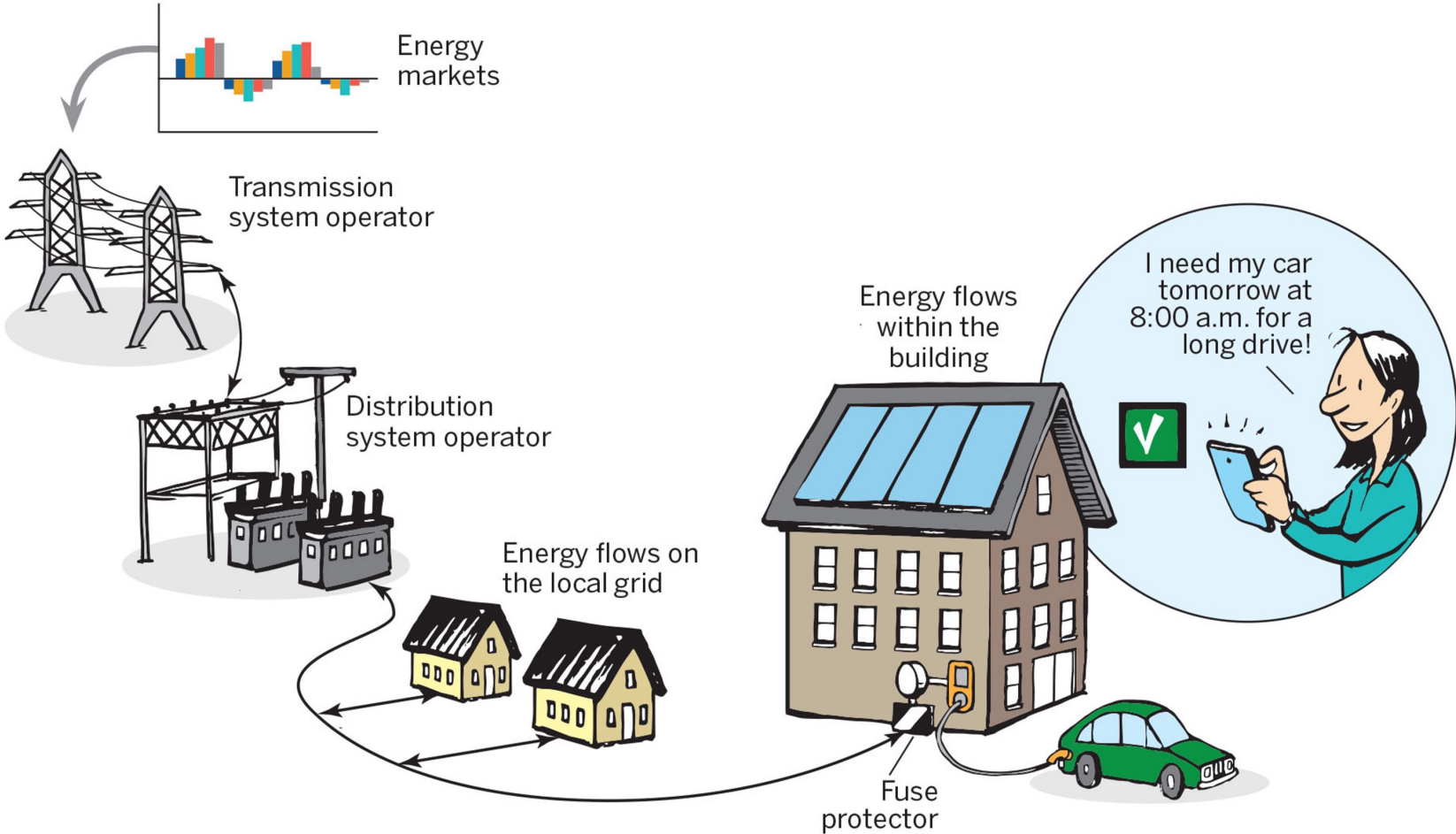
1. What is smart charging?
2. Tariffs for smart EV charging – Key findings
3. Policy recommendations

1

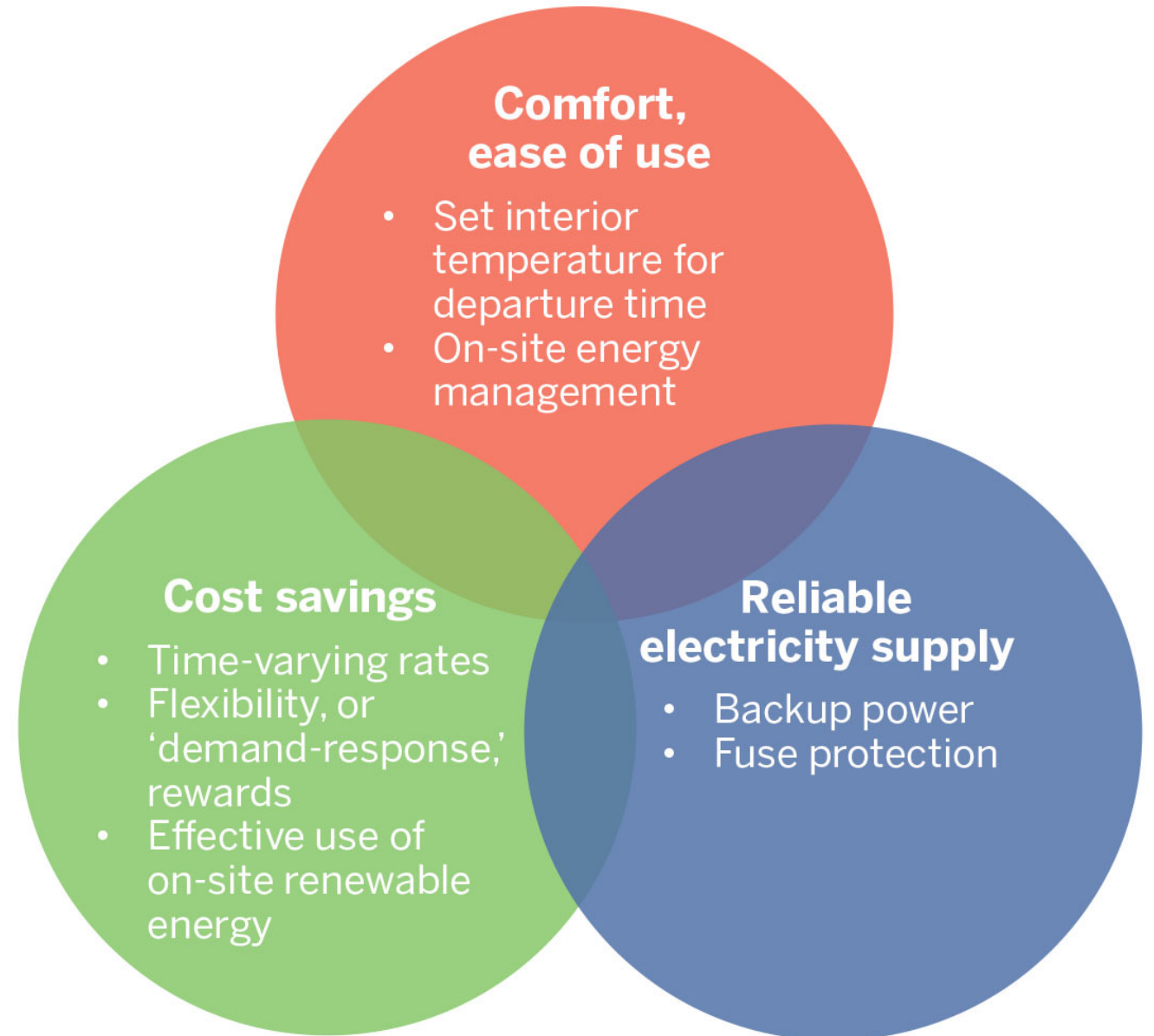
Benefits of smart charging for users and the energy system



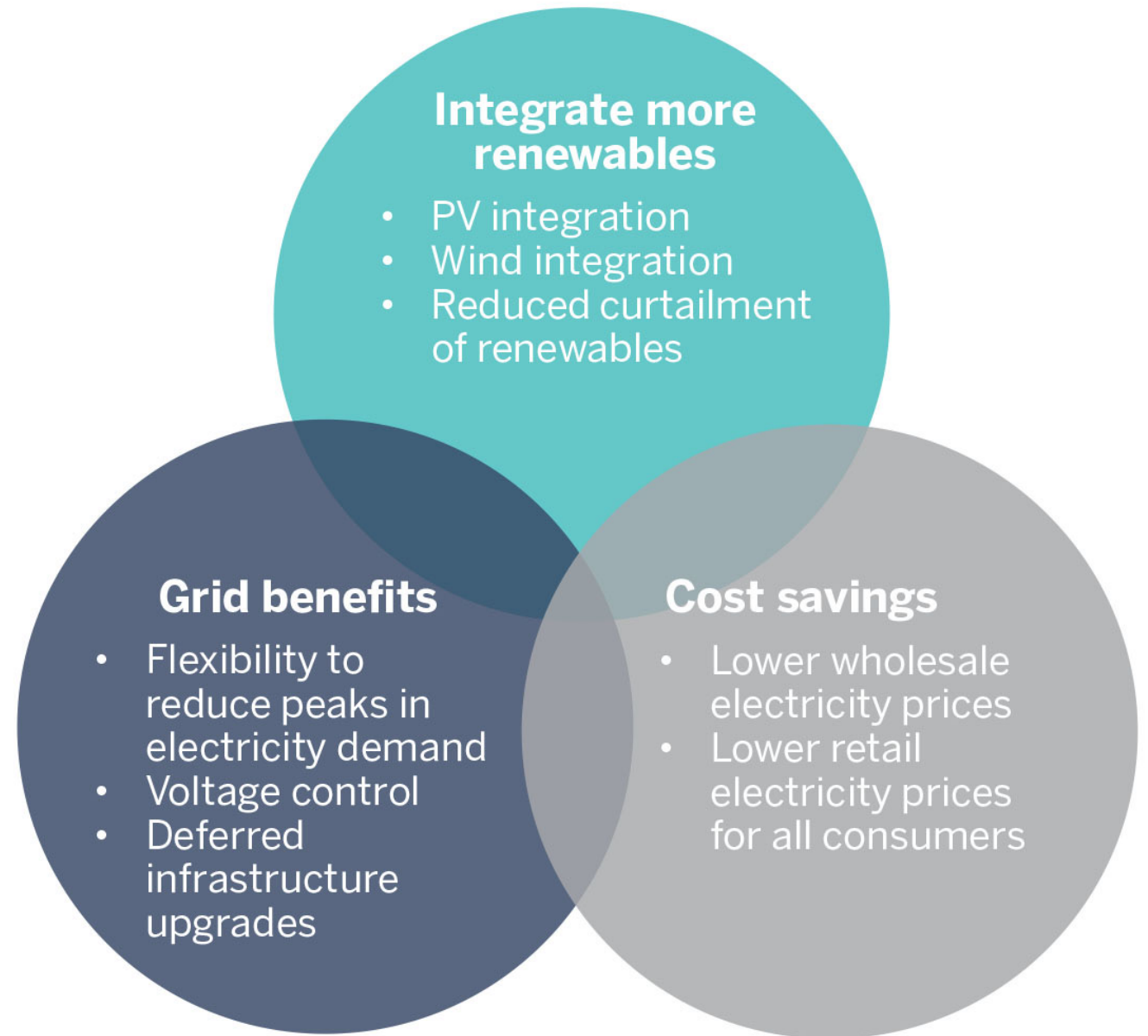
What is smart charging?



User benefits



System benefits

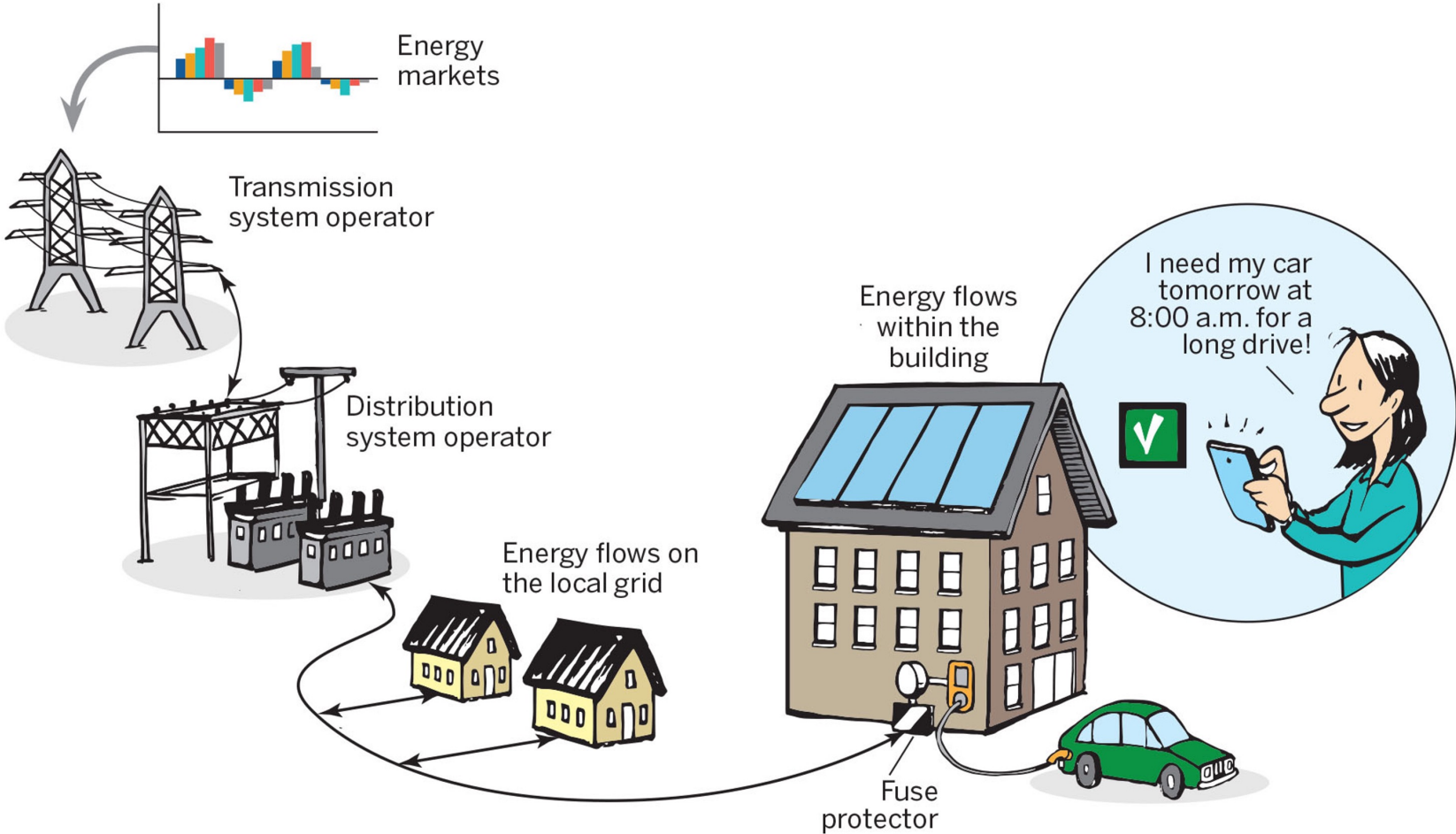


2

Smart tariffs & services

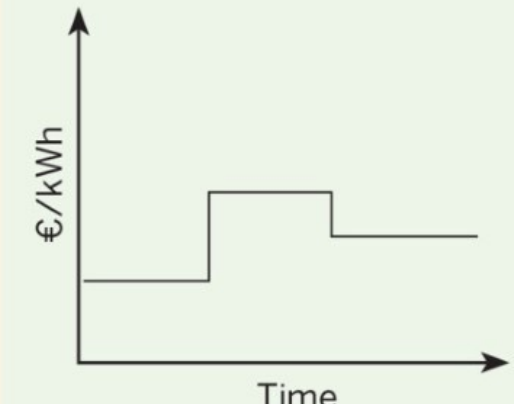
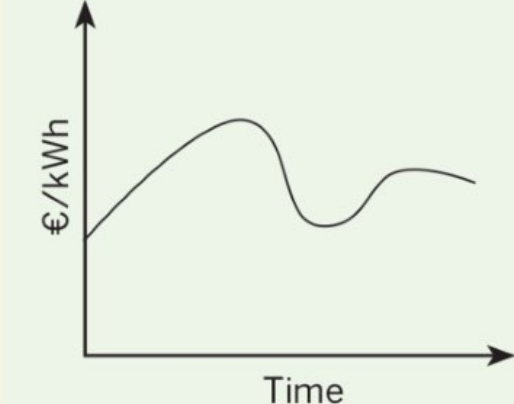


Smart tariffs and services



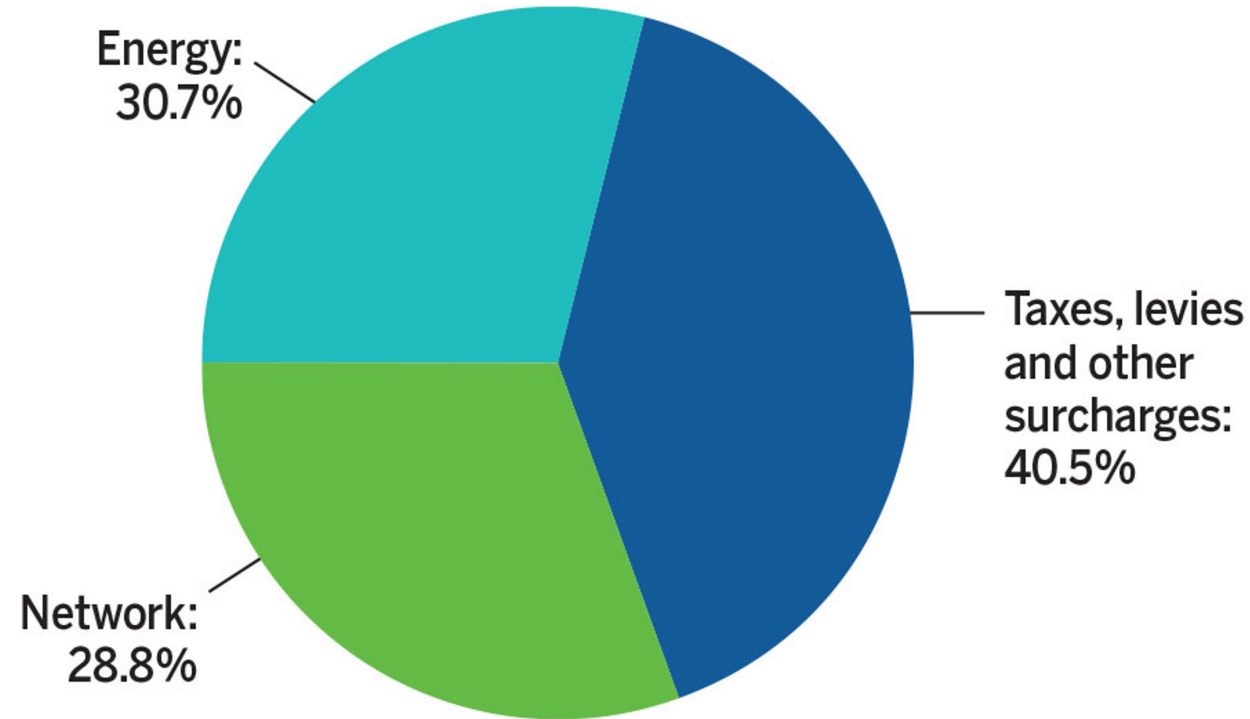


Tariffs

Type of tariff	Nature of pricing	Illustrative graphical representation
Static TOU pricing	Static	 <p>The graph shows a step function representing price over time. The vertical axis is labeled '€/kWh' and the horizontal axis is labeled 'Time'. The price starts at a low level, then jumps to a higher level for a period, and then jumps to a medium level for the remainder of the time.</p>
Real-time pricing	Dynamic	 <p>The graph shows a smooth, fluctuating curve representing price over time. The vertical axis is labeled '€/kWh' and the horizontal axis is labeled 'Time'. The price starts at a low level, rises to a peak, falls to a trough, and then rises to a secondary peak before ending.</p>

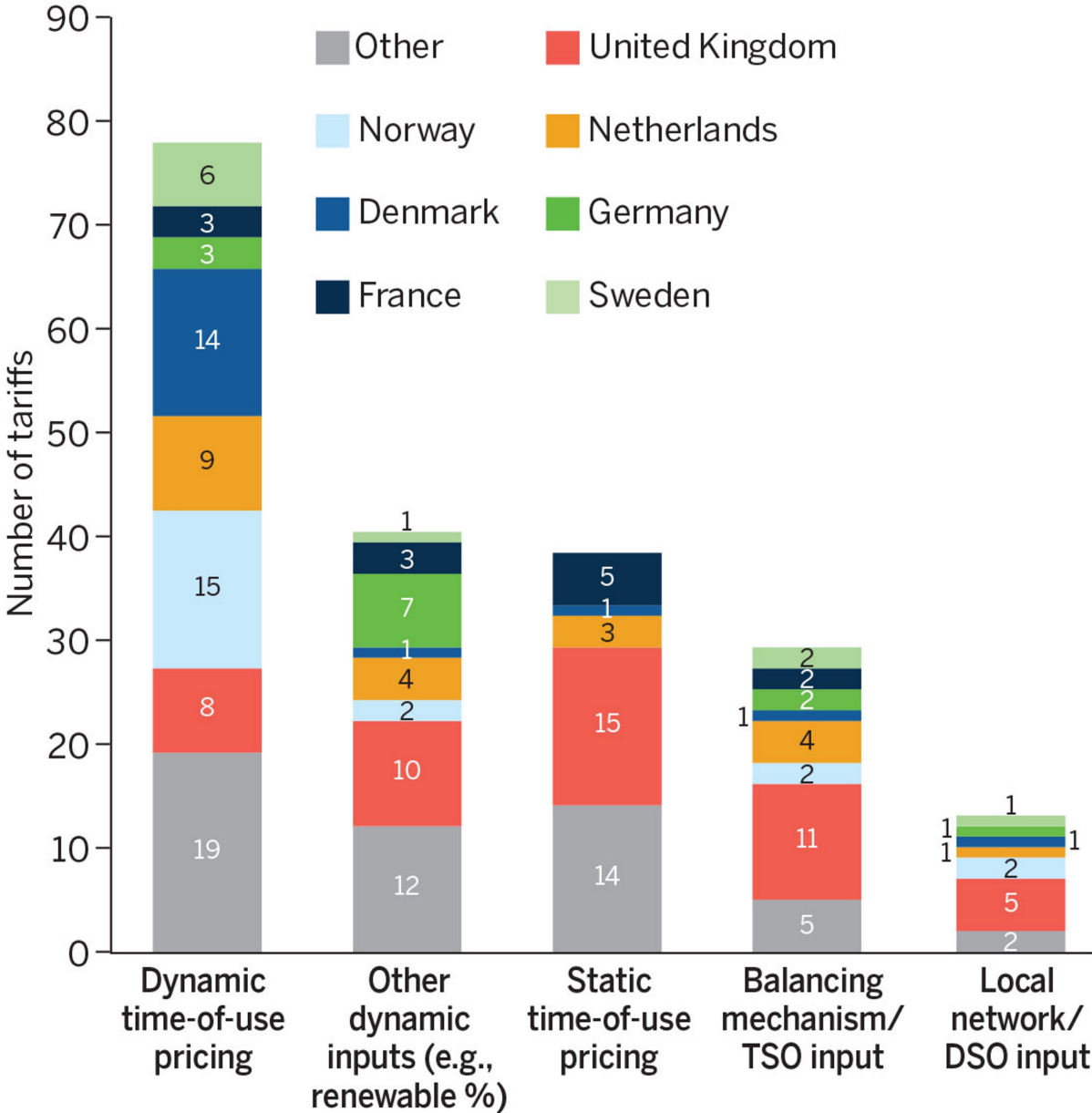
Source: IRENA 2019

Tariffs

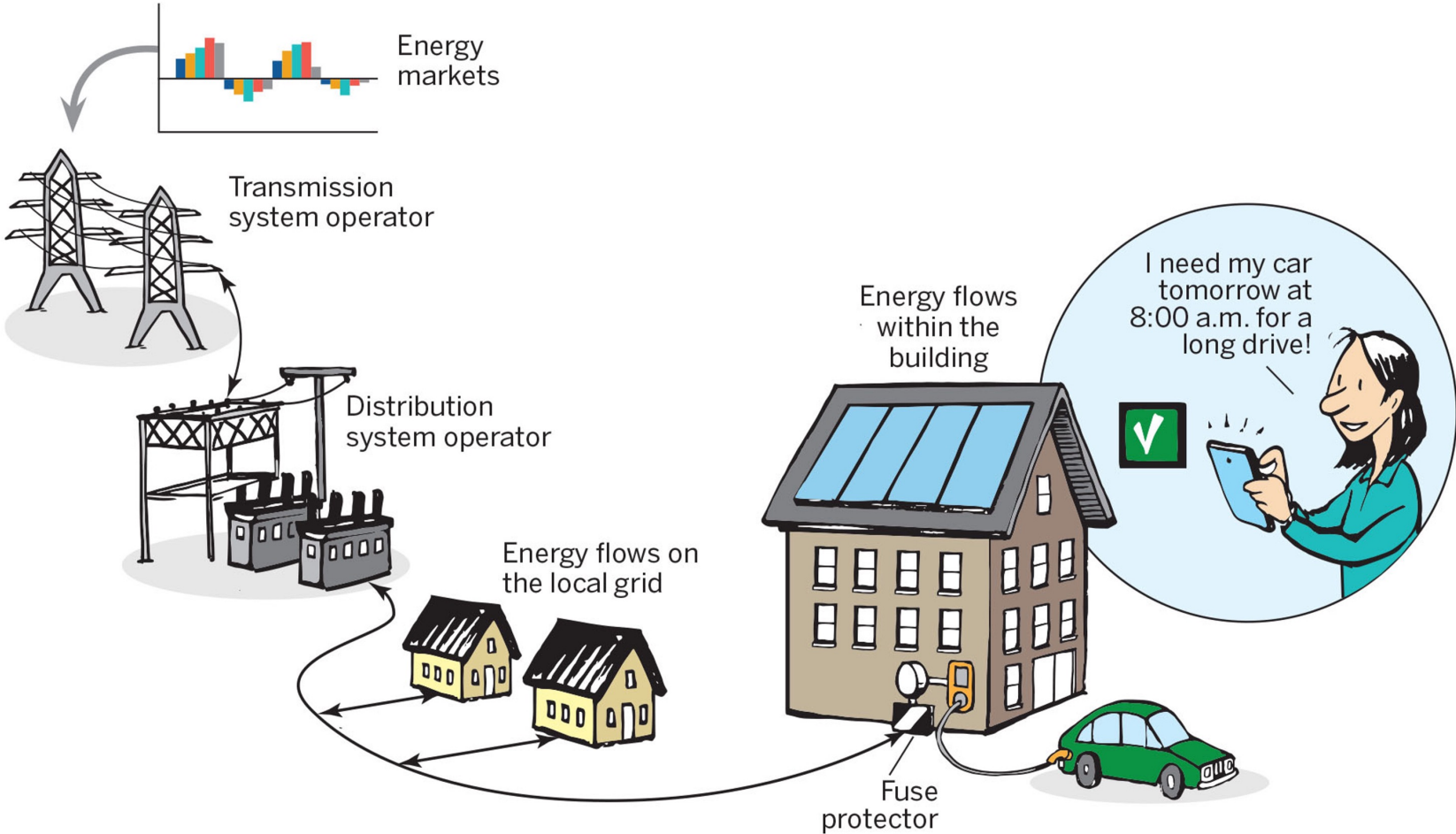


Source: Agency for the Cooperation of Energy Regulators and Council of European Energy Regulators. (2021). *Annual report on the results of monitoring the internal electricity and natural gas markets in 2020.*

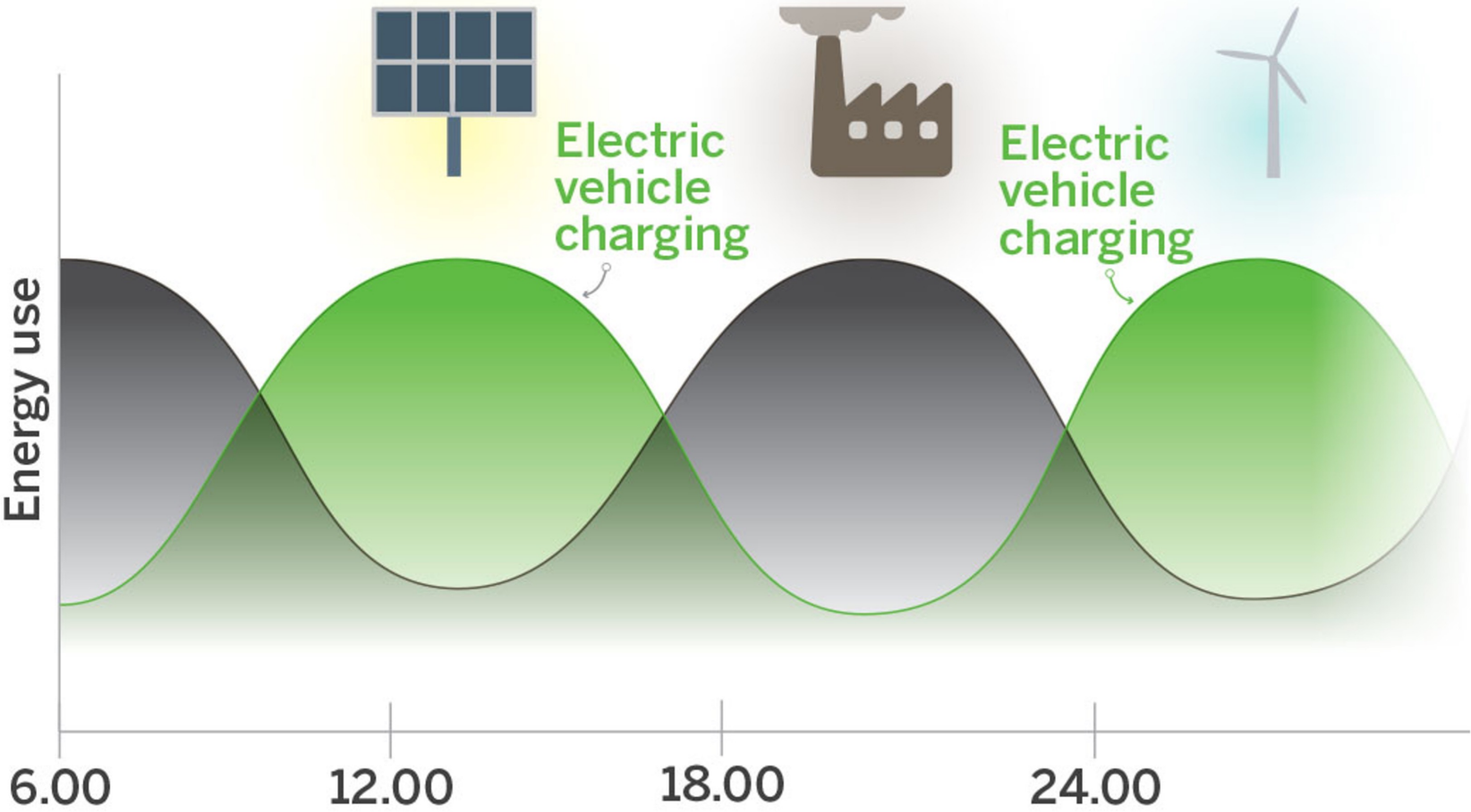
139 Smart tariffs and services found across Europe



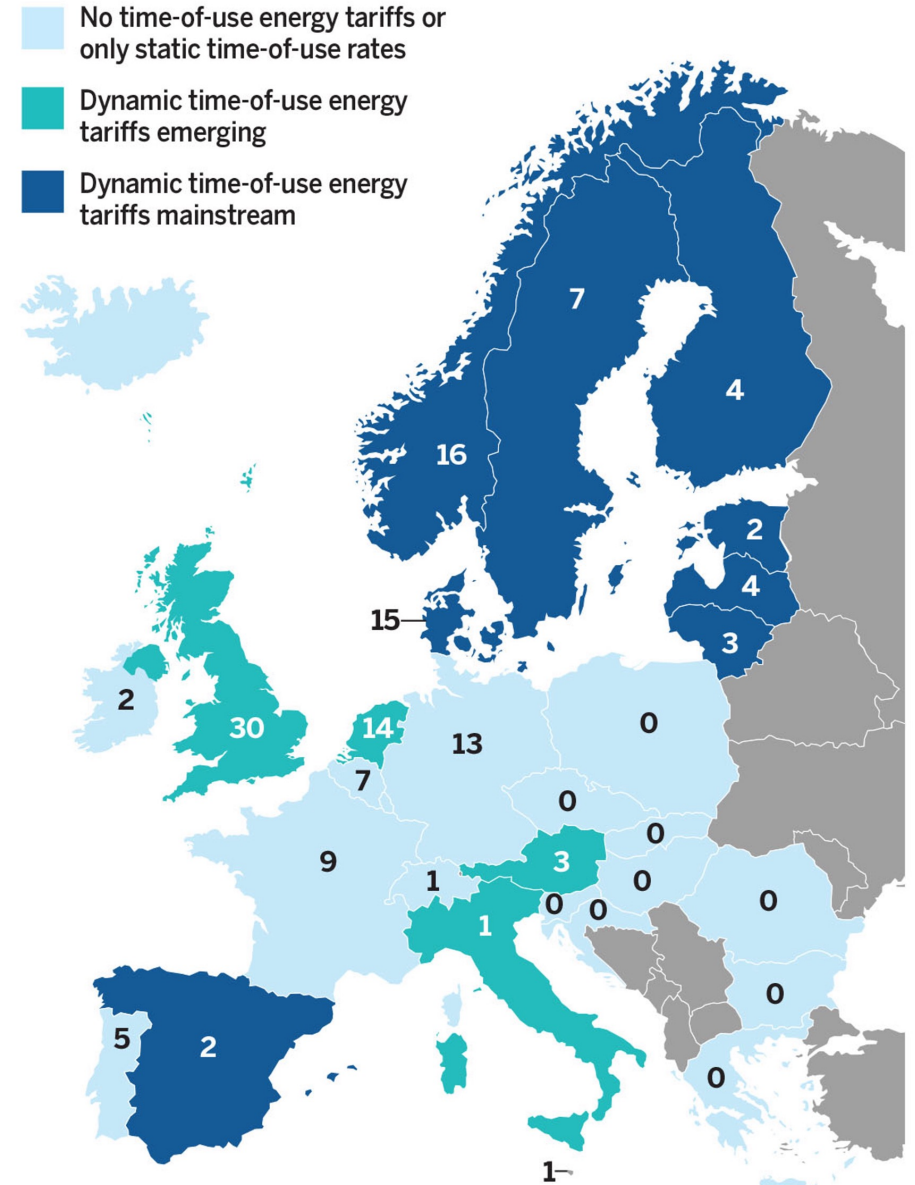
Smart tariffs and services



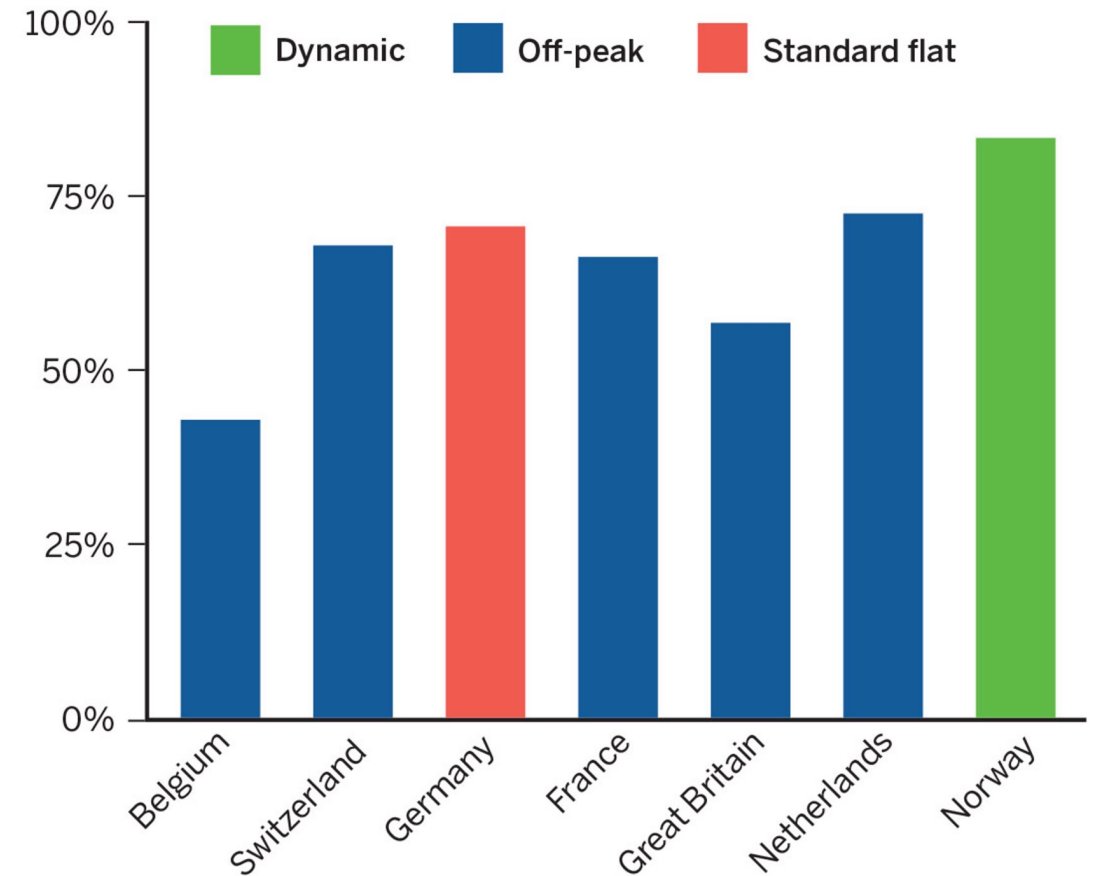
When's the best time to charge?



Tariffs and services distributed unevenly across Europe



Tariffs and services distributed unevenly across Europe

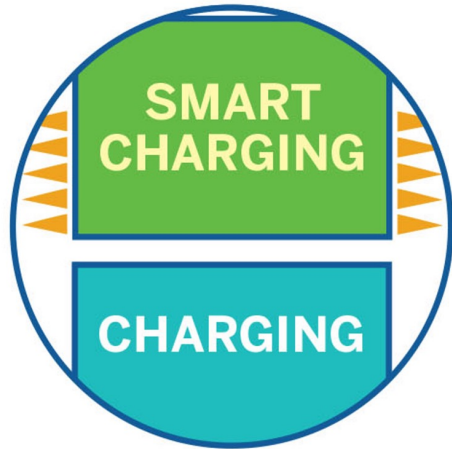


Jedlix. (2022). *A sneak peek into tariff rates across countries.*

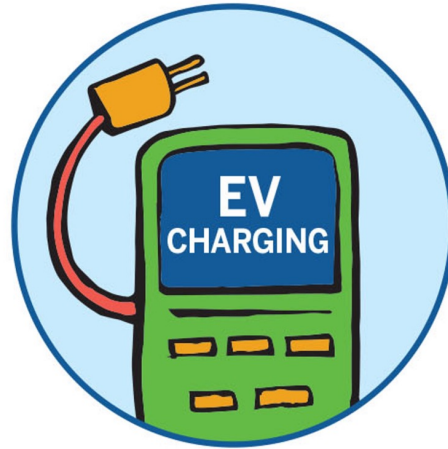
3

How to accelerate smart charging





Make smart charging the default everywhere.



Make public charging smart too.



Empower consumers to make informed choices.



Improve rewards for consumer flexibility.



Stack multiple services for smart charging.



Make local grids 'smart charging ready.'

Key messages

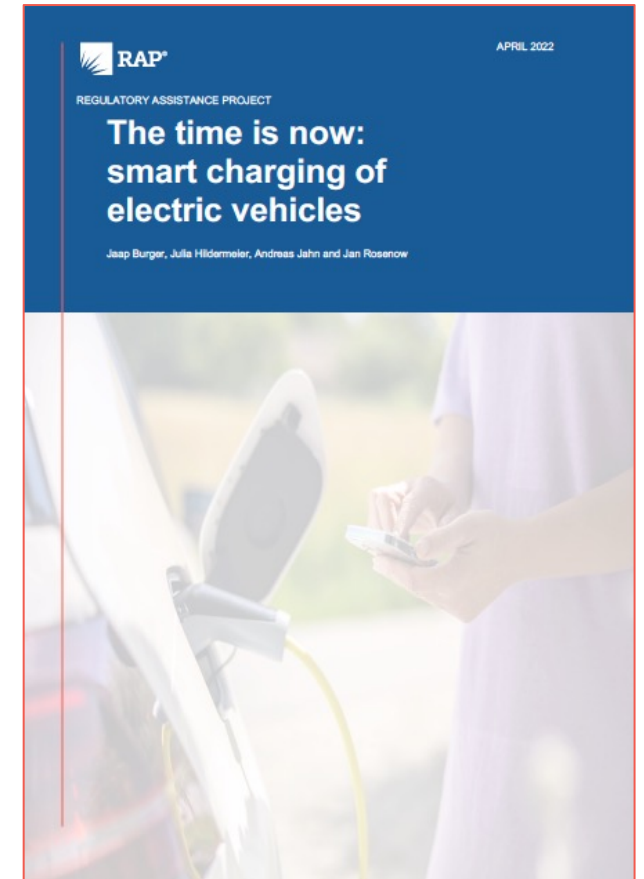
- The key to smart EV charging is making it easy for consumers.
- Smart EV charging should be default everywhere.
- As the EV market grows, smart charging is needed now to save costs and maximise benefits.

4 More information



Resources

- [The time is now: smart charging of electric vehicles](#)
- [Europe needs smart charging of all EVs now](#)
- [EU's buildings directive should give EV owners the right to a smart plug](#)
- [Be strategic with your funding. The essential charging network.](#)
- [Building a market for EV charging infrastructure: A clear path for policymakers and planners](#)



About RAP

The Regulatory Assistance Project (RAP)[®] is an independent, non-partisan, non-governmental organisation dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org



Jaap Burger
Senior Advisor
jburger@raponline.org



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