



Talking about E:  
5 Desafios da transição  
energética em Portugal

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# Talking about E:

## 5 Desafios da transição energética em Portugal

Scope:

- **Energy transition from the perspective of the energy crisis and the electricity market reform proposed by EC;**
  - Measures to lead the increase of generation of renewables and commercialization;
    - Known-unknown legal challenges

Structure:

- **Challenge 1 – Renewables Targets**
- **Challenge 2 – Marginal Prices and Crisis**
- **Challenge 3 – Power Purchase Agreements**
- **Challenge 4 – Contracts for Differences**
- **Challenge 5 – Energy sharing**



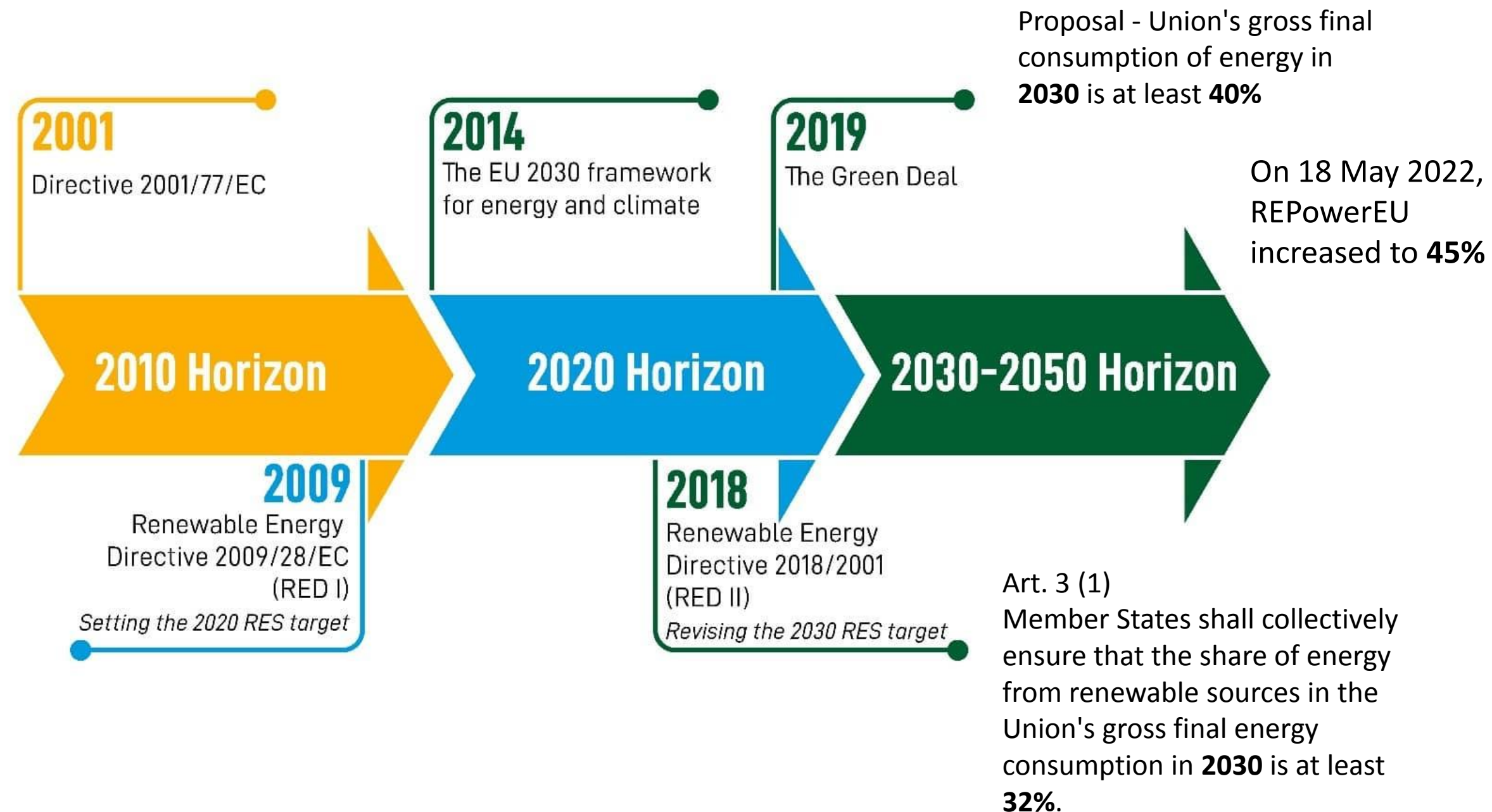
# Challenge 1

## The renewables targets



# Renewables targets

From 2020 Horizon to REPowerEU



- **National Energy and Climate Plans:**

- EU countries set out how they plan to meet these 2030 targets and the general course of their renewable energy policy in [national energy and climate plans](#).
- Portugal review of the NECP is now open for prior consultation

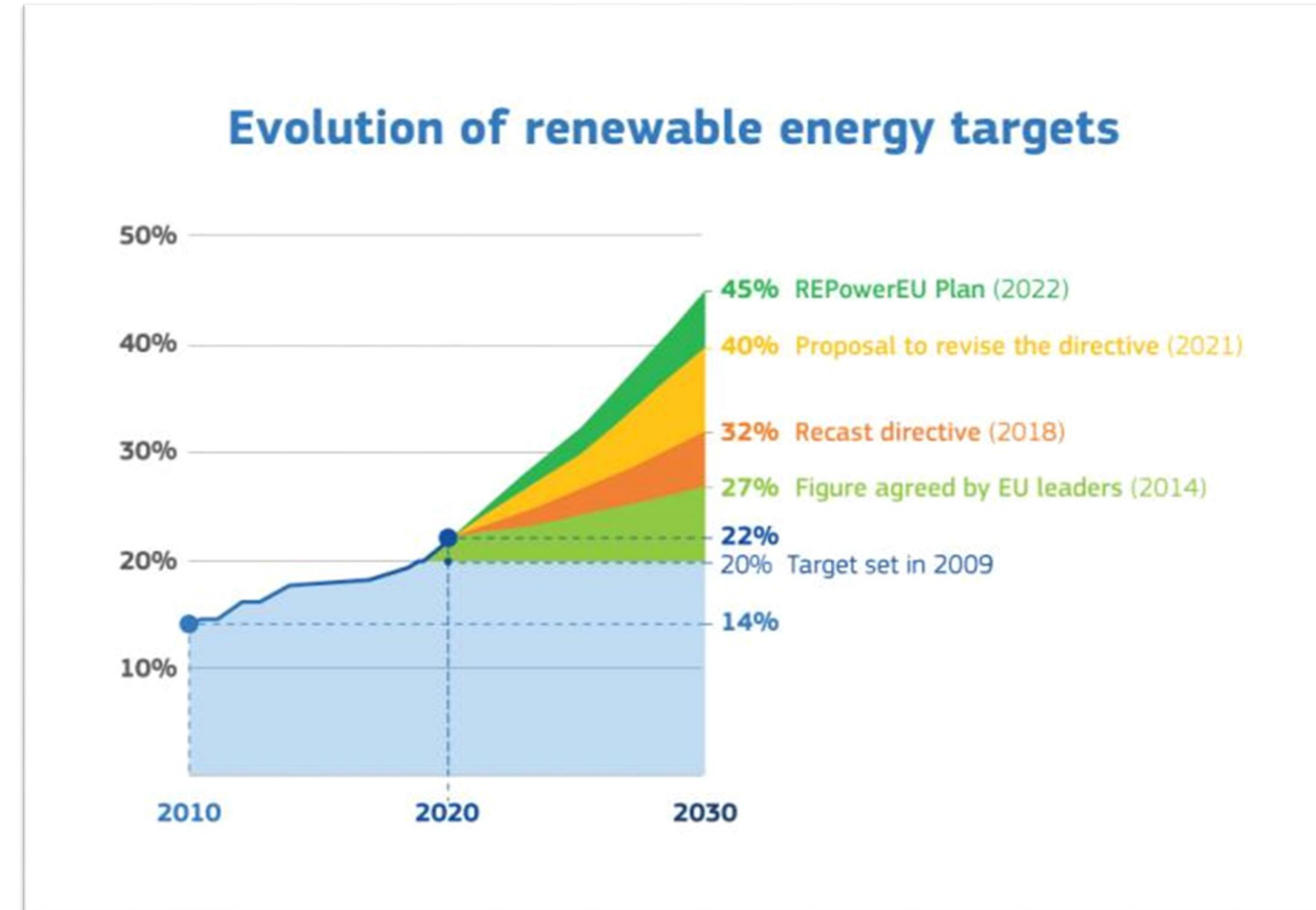
- **RES Support Schemes:**

- RES support schemes are still allowed but must provide (i) incentives for market integration and (ii) responding to market signals in an open, transparent, competitive, non-discriminatory, and cost-effective.
- New State Aid Guidelines.
- Exceptions for small-scale installation projects are possible.

# Legal challenge known-unknown

## State Sovereignty under Article 194(2)

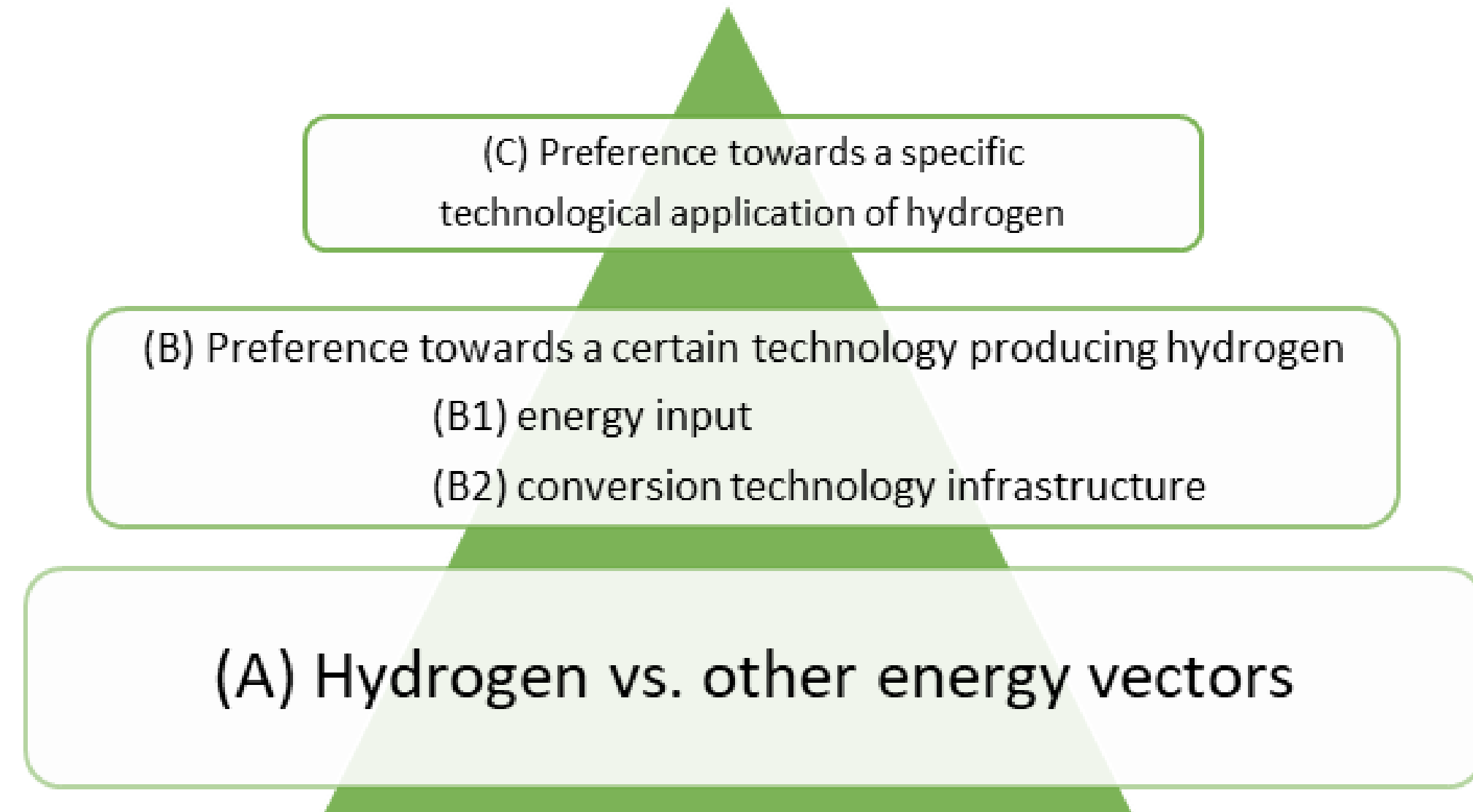
- **Known legal challenge – increasing the tension between Article 194(2) and 192(2)(c) TFEU**
  - Article 194(2) – Member State's right to determine the conditions for exploiting its energy resources, it is choice between different energy sources, and the general structure of its energy supply, without prejudice to Article 192(2)(c).
  - Article 192(2)(c) – special legislative procedures to approve measures significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply.
- **CJEU's precedents**
  - Cases T-356/15 Austria v Commission EU:T:2018:439, judgement of 12 July 2018;
    - C-594/18 P Austria v Commission EU:C:2020:742, judgement of 22 Septembre 2020;
  - Case C-5/16 Poland v Parliament and Council EU:C:2018:483, judgment of 21 June 2018.



# Legal challenges unknown-unknown

## Technological neutrality

- **Neutral Or Not? Measuring Technology Bias In The European Hydrogen Framework (Porcari, Almeida and Thomas, Forthcoming)**
  - The draft RED III and Delegated Regulation are less neutral than RED II.
  - In particular, it is not neutral under parameter (B2) because it only considers hydrogen produced by electrolysis: “as a principle, liquid and gaseous fuels of non-biological origin are considered renewable when the hydrogen component is produced in an electrolyzer that uses renewable electricity”.
  - Proportionality principle.



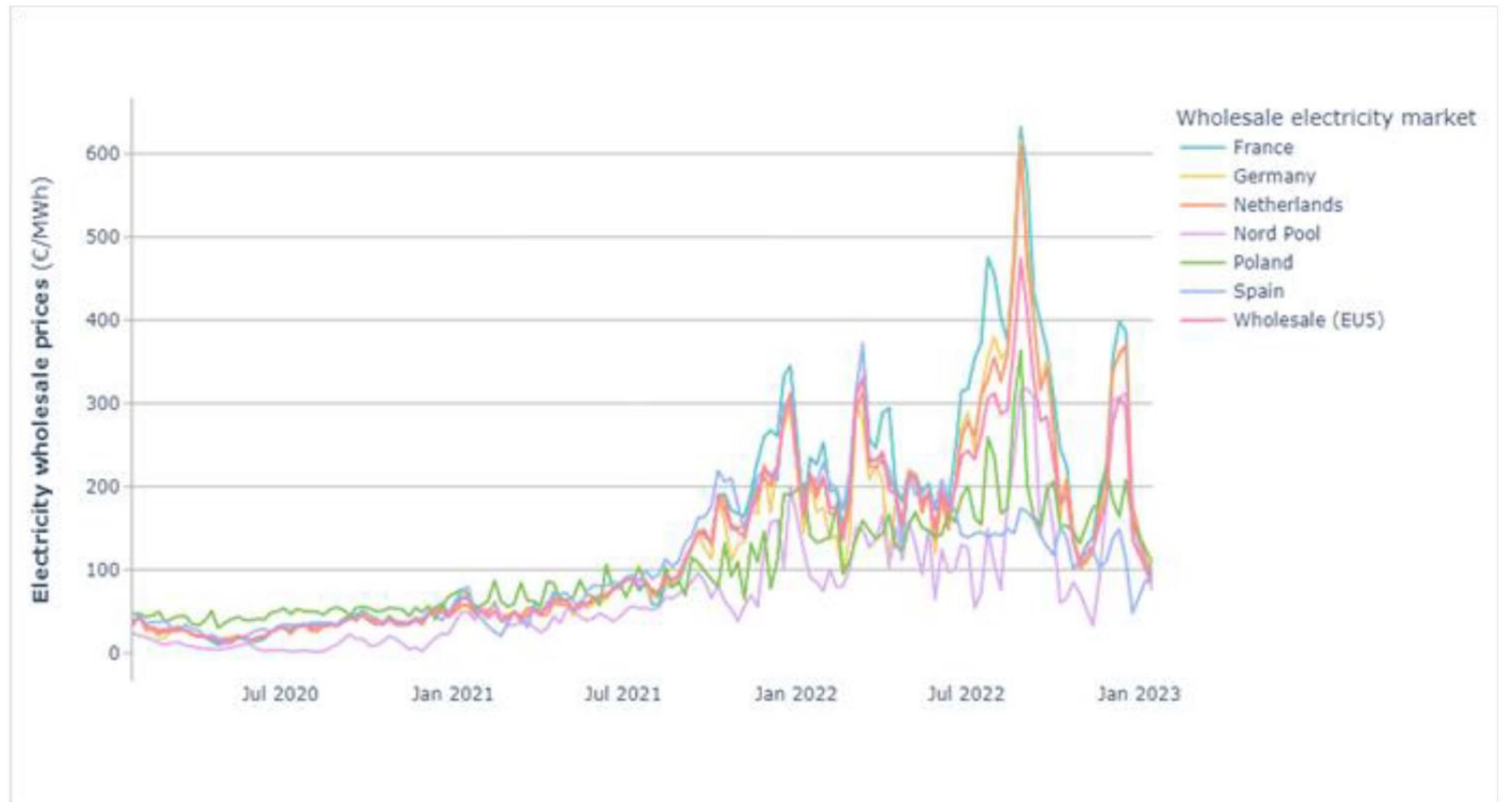
# Challenge 2

## Marginal Prices

# Marginal Prices

The known reasons for the skyrocket in electricity spot markets prices

- **The EU – mostly**
  - Prices started rising rapidly in the summer of 2021 when the world economy picked up after COVID-19 restrictions were eased;
  - Russia's invasion of Ukraine and its weaponization of energy sources by withholding capacities from spot markets have led to substantially lower levels of gas delivery and increased disruptions of gas supply, further driving up the gas prices;
  - The EU security of supply's reliance on imported natural gas.





# Marginal Prices

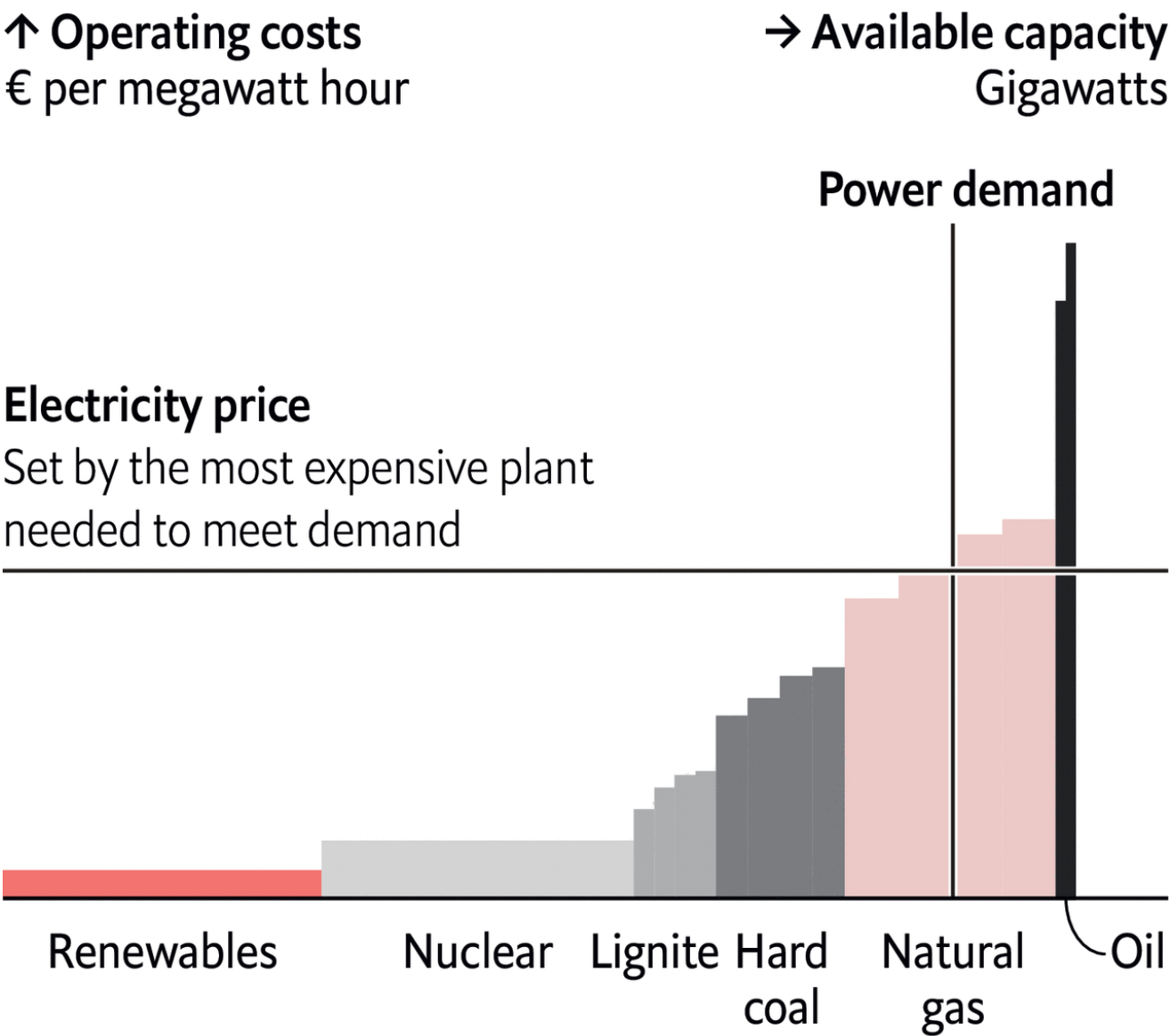
The known-unknown reasons for the skyrocket in electricity spot markets prices

- **Marginal prices** - When MWh of gas increased by 100 Euros, a new normal in 2022, the price of electricity produced from natural gas increased by 200 EUR per MWh, and so too all the electricity traded in power exchanges.
  - The European Commission argues that most public consultation respondents consider that short-term markets are functioning well and do not see an alternative to the marginal pricing model. Liquidity and a level playing field are, however, quoted as weaker elements.
- **Known-unknown legal challenges** - Marginal price might violate EU competition law, Article (Esposito & Almeida 2018, and forthcoming)

## Priced on merit

Generic supply curve (merit order)

Not to scale



Sources: Clean Energy Wire; *The Economist*

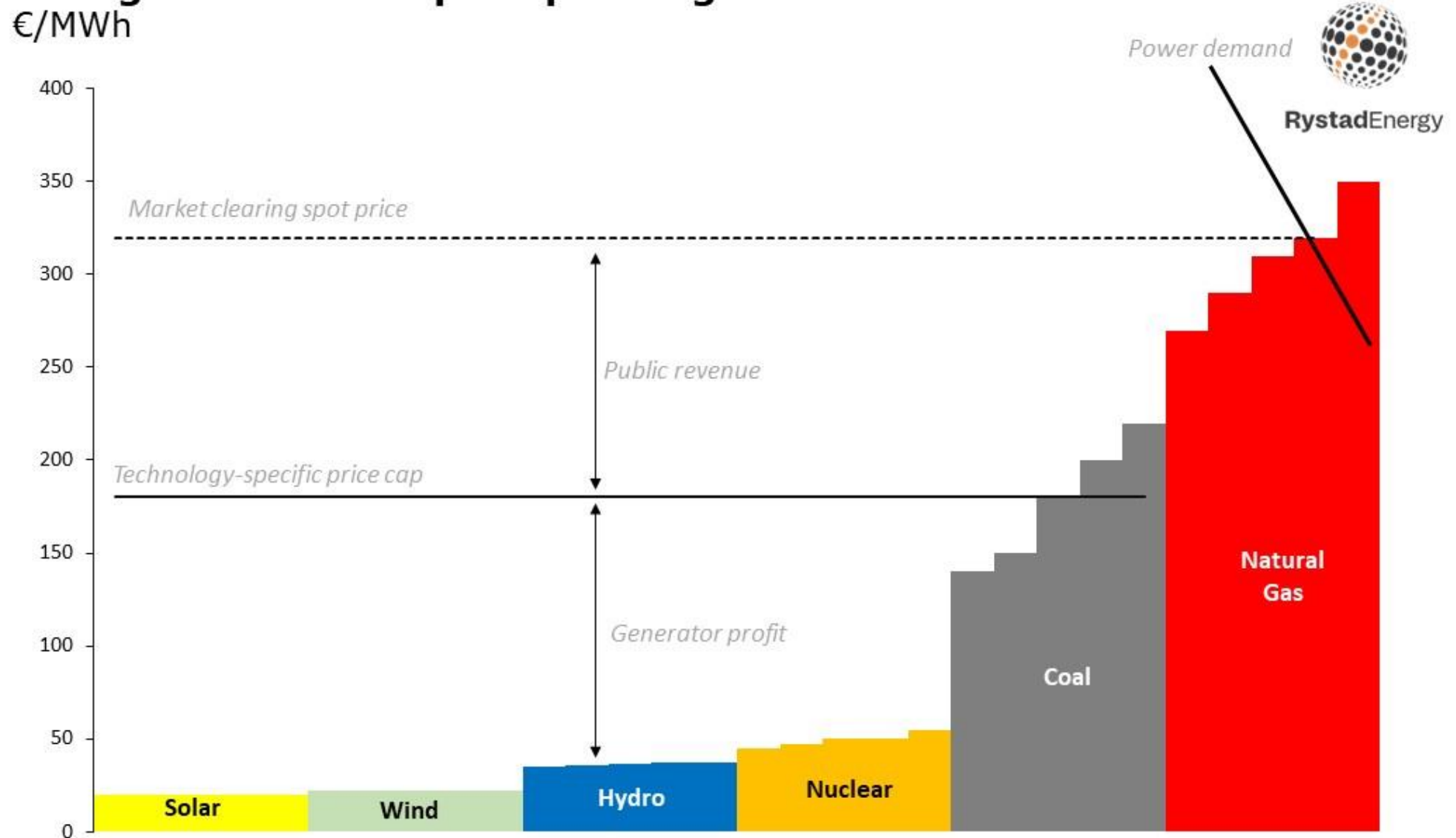
# Marginal Prices

## Emergence measures

- On 30 September 2022, the Council of the European Union agreed to impose a **cap on the price market for inframarginal** and an EU-wide windfall profits tax on fossil fuel companies to collect and redistribute the energy sector's surplus revenues to final consumers.
  - The Regulation caps the market revenues at EUR 180/MWh for electricity generators, including intermediaries, that use inframarginal technologies, such as renewables, nuclear, and lignite to produce electricity.
- Known legal challenges** - measure is a tax, which competence is reserved for national governments, and contests the use of the EU Treaty's Article 122 (Exxon vs. Council)

## Non-gas revenue cap for power generation\*

€/MWh



Source: Rystad Energy power solution

\*Merit order for illustration purposes only, and does not represent a realistic technology comparison

# Challenge 3

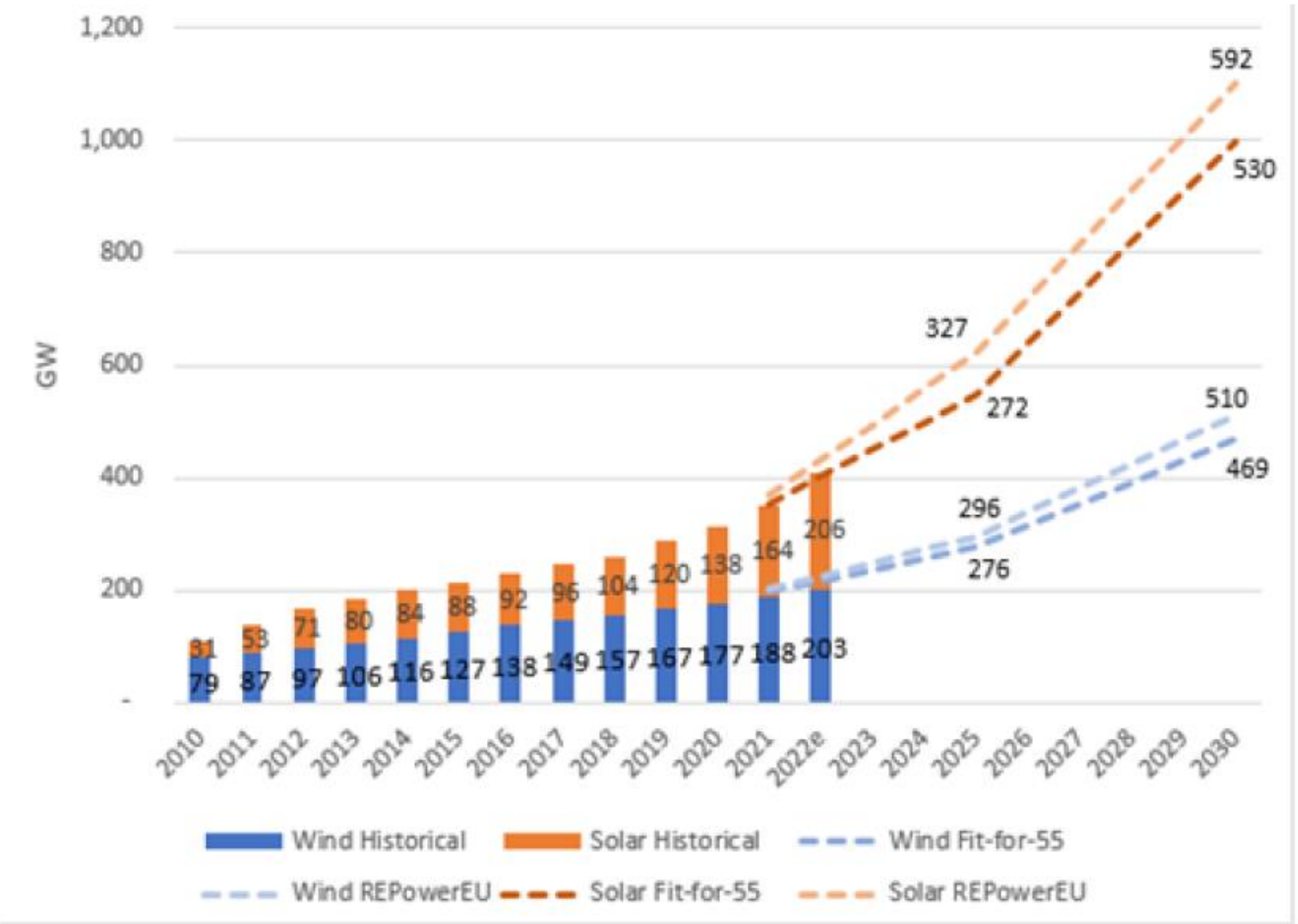
## Electricity reform and PPAs



# Electricity reform

## Expected share of renewable electricity

- According to the European Commission Staff Working Document implementing the REPowerEU plan, 592 GW of solar PV capacity and 510 GW of wind capacity are required by 2030 to achieve the 69% share of renewable electricity modeled by the Commission (a gap of 693 GW of capacity);
- CEER report found that the **volume of supported renewable** electricity increased from 257 GW in 2018 to **269 GW in 2019 (a total of 287 GW)**;
- A large share of RES generation has therefore received RES support schemes;
- Electricity market reform relies strongly on PPAs, CfD, and sharing to fill **693 GW** of capacity by 2030.

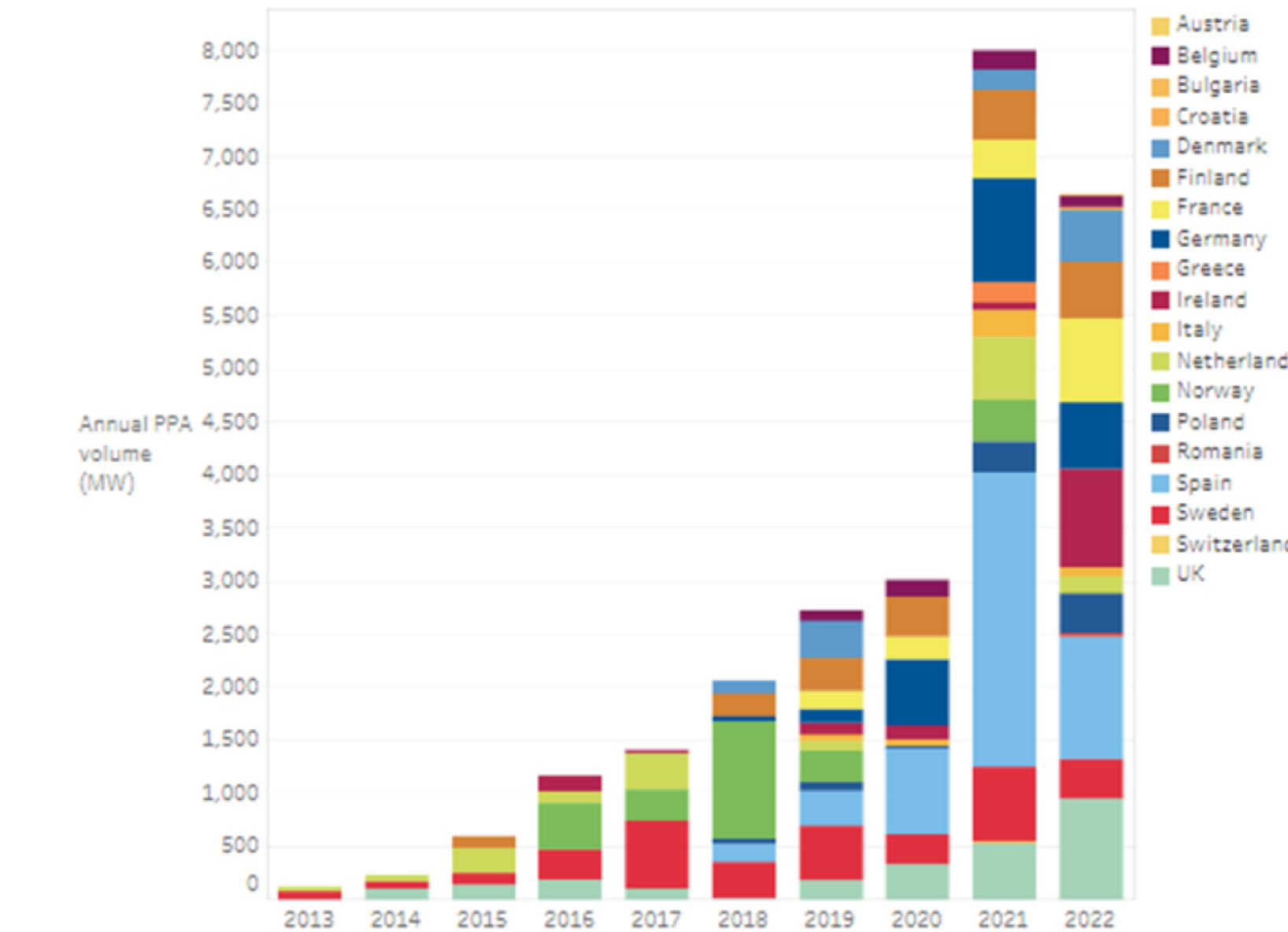


Source: Eurostat (NRG\_INF\_EPCRW), Wind Europe, Solarpower, PRIMES for years 2025 and 2030 (linearly interpolated in between)

# Electricity reform

## Power Purchase Agreements (PPAs)

- The overall volume of renewables **PPAs** in Europe (including the UK or Norway) has reached 8 GW in 2021, early data for 2022 indicate a first-ever drop in the volume of such deals (to below 7 GW).
- Barriers - the risks associated with a payment default by the potential buyer remain a key obstacle for the signature of PPAs.
- It is overoptimistic to think that PPAs would be the key instrument to fill the GAP of 693 GW of capacity.



: *Windeurope Intelligence platform*

# Challenge 4

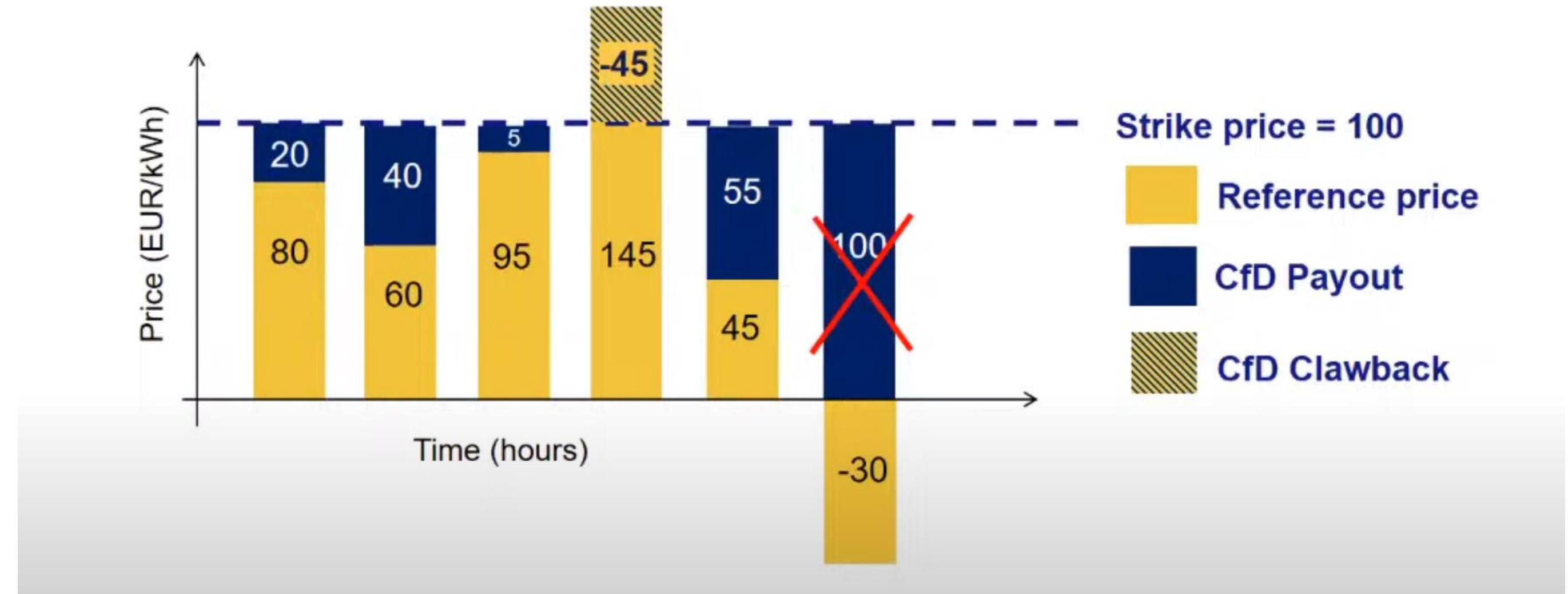
## Electricity reform and CfDs



# Electricity reform

## Contract for Differences (CfDs)

- Contract for Difference was first designed as a transitional measure;
- A CfD entitles the beneficiary to a payment equal to the difference between a fixed 'strike' price and a reference price, such as a market price, per unit of output (also known as a sliding premium);
- One-sided CfDs aim to guarantee a minimum price to the producer. This type of contract would, therefore, not address the challenge of excessive remuneration in a high-price environment since there would be no limitation on the revenues (Closer to feed-in premium?);
- Two-way CfDs involve payback from beneficiaries to the State for periods during which the reference price exceeds the strike price (back to FiT?)
- **Unknown-known legal issues:**
  - CfDs might violate the criteria of RED II (and RED III) for renewable schemes concerning the need for market signals;
  - Many CfDs have territorial restriction clauses.



# Challenge 5

## Electricity reform and Energy sharing

# Electricity reform

## Energy sharing

- Under the current legal framework, consumers without private ownership rights over suitable space have limited possibilities to engage with renewables directly, they need to either find consensus with their neighbors to install solar PV on the roof of their multi-apartment building (collective self-consumption) or be able to invest in an energy community.
- In some Member States, wider energy-sharing schemes allowing for collective self-consumption of off-site generation facilities within a local perimeter started emerging<sup>51</sup> but not in most as such schemes are not explicitly recognised at EU level.
  - in Portugal where energy can be shared between 2-20 km radius depending on voltage levels where the self-consumption unit is connected to. See Decreto-Lei n.º 15/2022, de 14 de janeiro | DRE).
- **Known-known legal issues:**
  - Consumers shall have the right to have injected electricity deducted from their total metered consumption within a set time interval and within the same bidding zone for the purpose of calculating the energy component of their energy bill (back to FiT?).

Year of the data used	2020		2022	
Degree of self-consumption	Collective		Collective	
Generation mix	100% solar	50% solar 50% wind	100% solar	50% solar 50% wind
Self-consumption (%)	39.69	66.12	39.44	65.96
Benefit of self-consumption (€)	272.53	442.04	586.00	930.24
Benefit of surplus energy sold (€)	61.57	33.69	292.30	148.88
Total benefits (€)	334.10	475.72	878.30	1079.12
Investment cost (€)	2234.92	2447.29	2234.92	2488.72
Payback period for constant market conditions (years)	7.22	5.59	2.57	2.33

Source: Marten Ovaere (2023), ‘Collective energy sharing: Cost-Benefit Analysis and Survey Evidence of the Willingness to Invest’.



# Takeway



- **Tremendously challenge - 592 GW of solar PV capacity and 510 GW of wind capacity are required by 2030 to achieve the 69% share of renewable electricity modelled by the Commission.**



- **Balance between the narrow interpretation of the Treaty provides that the Member State's right to determine the conditions for exploiting its energy resources and the EU, and the competence of the Union to pursue a more sustainable energy market, the latter complying with the principle of proportionality.**



- **Ensure emergence measures do not become permanent, with reference to revenue cap.**
- **The contractual design of CfDs and sharing must be monitored to ensure no abuse.**



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Energy justice – Distributional justice concerns unfairness in sharing costs and benefits created by energy development across society.

Who will pay the costs?

# Inaugural Lecture of the Abreu Chair in ESG Impact

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Inaugural Lecture of the Abreu Chair in ESG Impact | February 16th, from 10:00 - 12:00

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Filipe Matias Santos

Head of Legal of the Portuguese Energy Regulatory Authority (ERSE)

Giulia

Assista  
of Law,

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