

# RES-E disputes - an economist's perspective

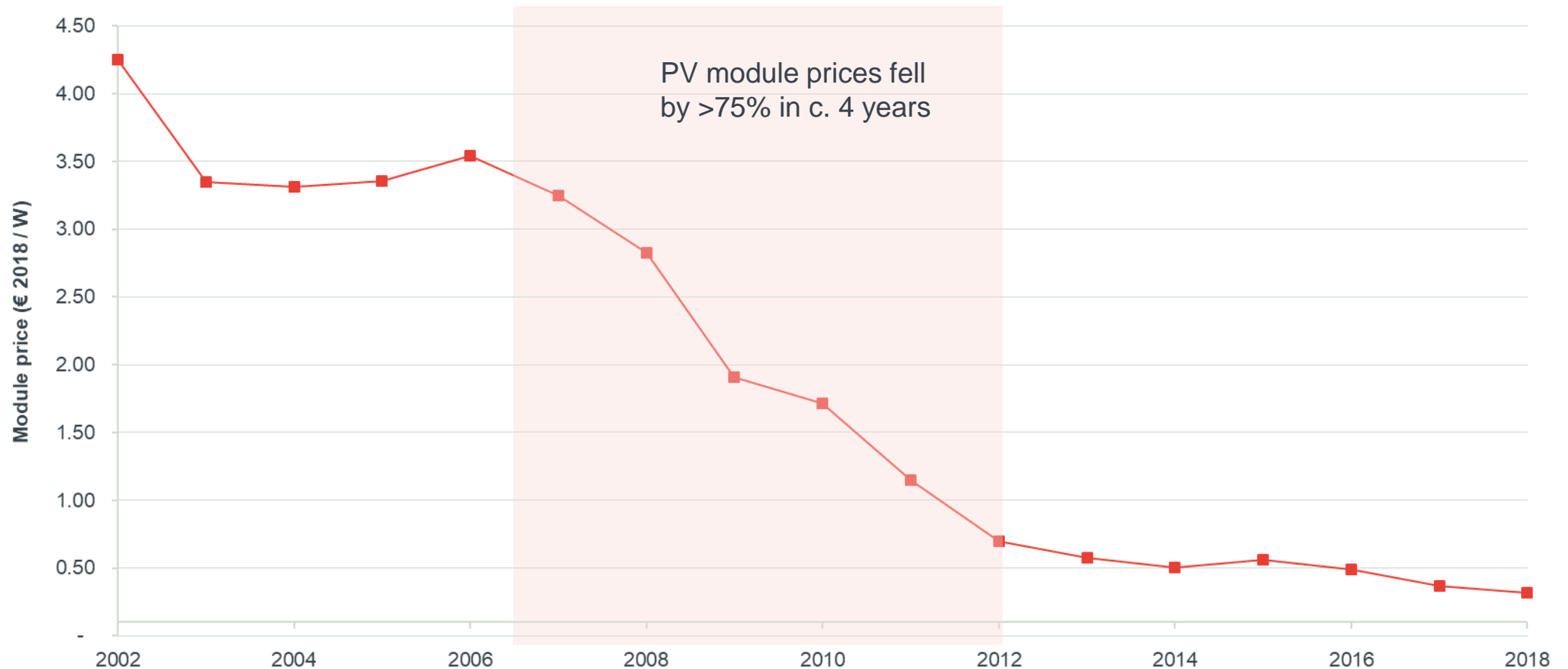
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Presentation to 7th Vienna Forum on European Energy Law

20 September 2019

# Disputes have arisen because RES support has been set by administered prices which have not kept pace with the fall in costs (1)

From 2008/9, solar costs started falling faster than the previous trend...

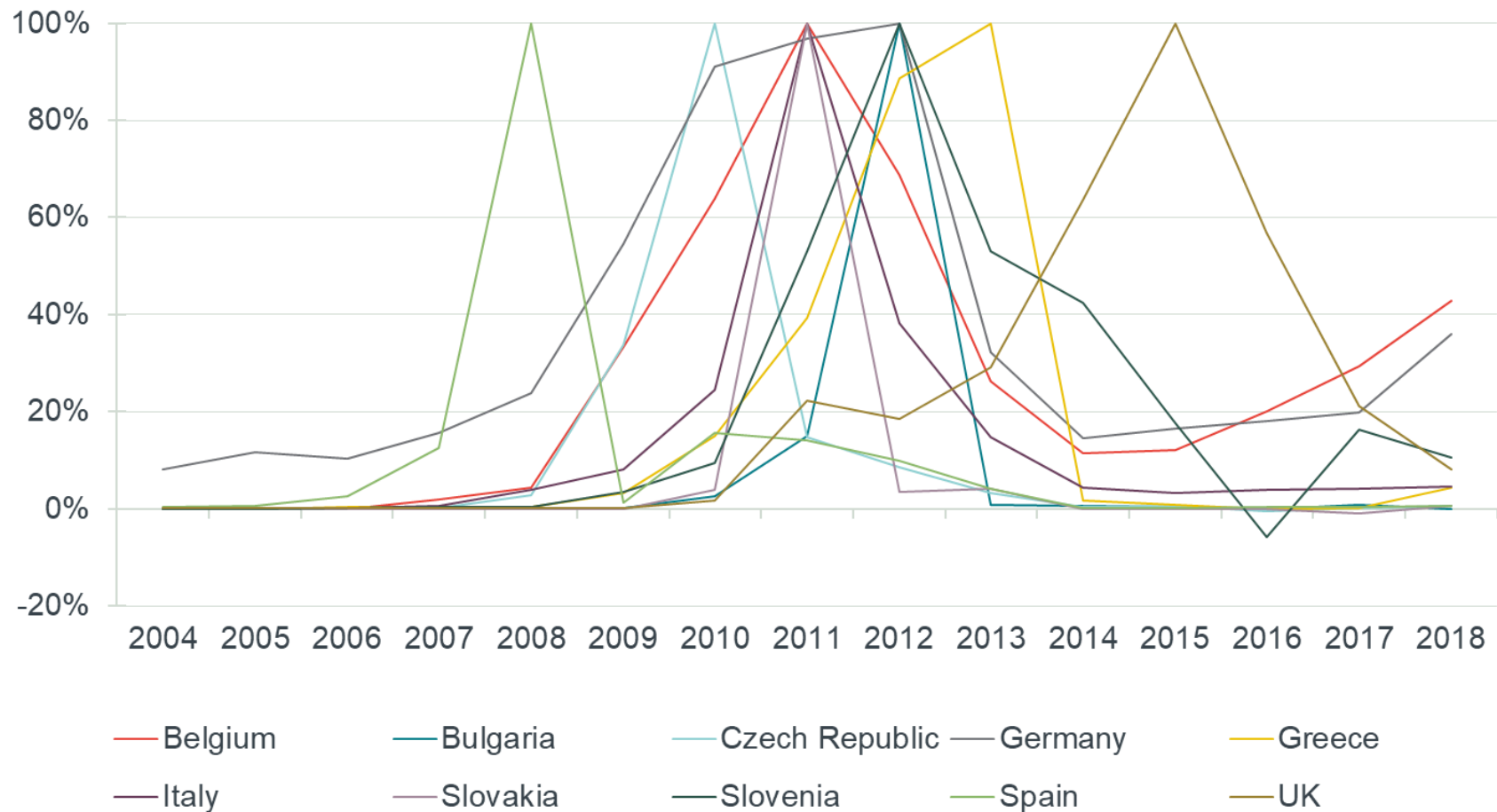


Source: Frontier Economics, based on Fraunhofer ISI data

# Disputes have arisen because RES support has been set by administered prices which have not kept pace with the fall in costs (2)

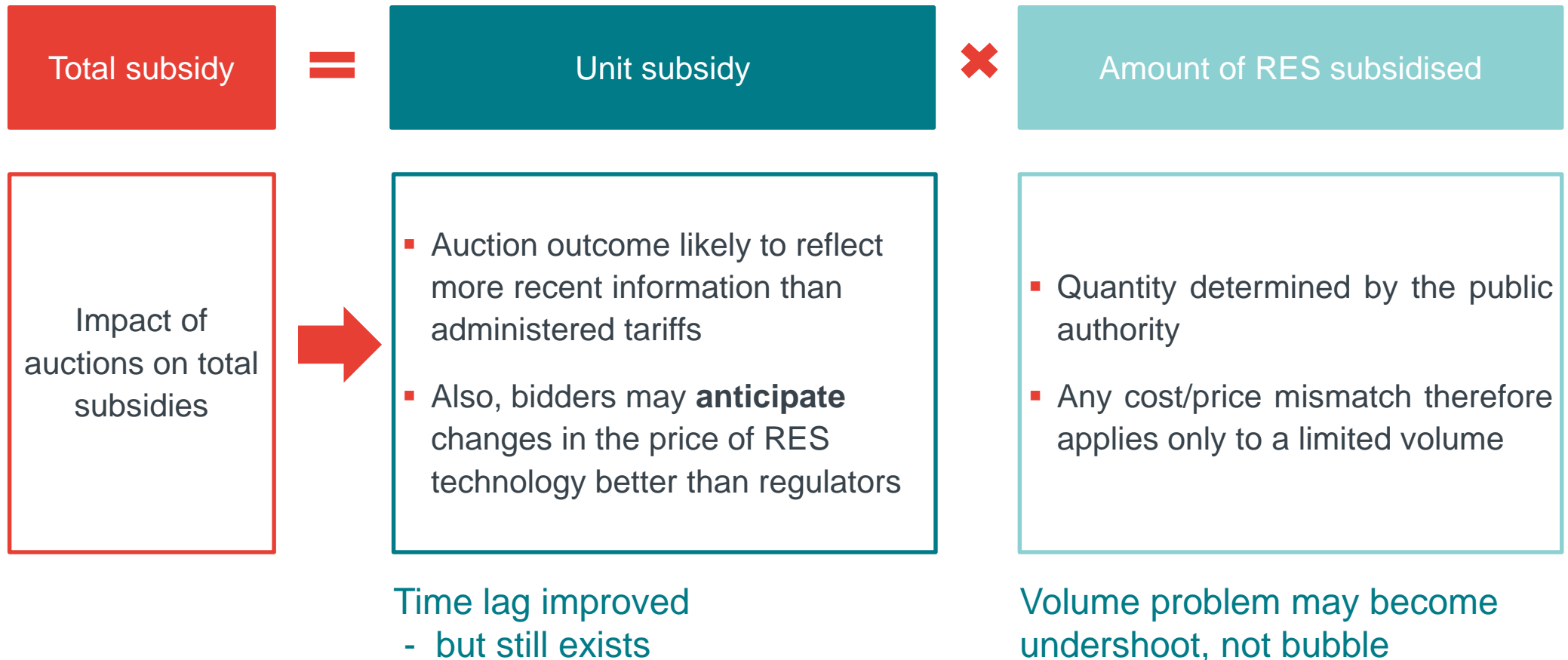
...leading to solar 'bubbles' in many countries and a high resulting cost burden on consumers

*(Annual PV capacity installed, as % of PV capacity installed in the peak year)*



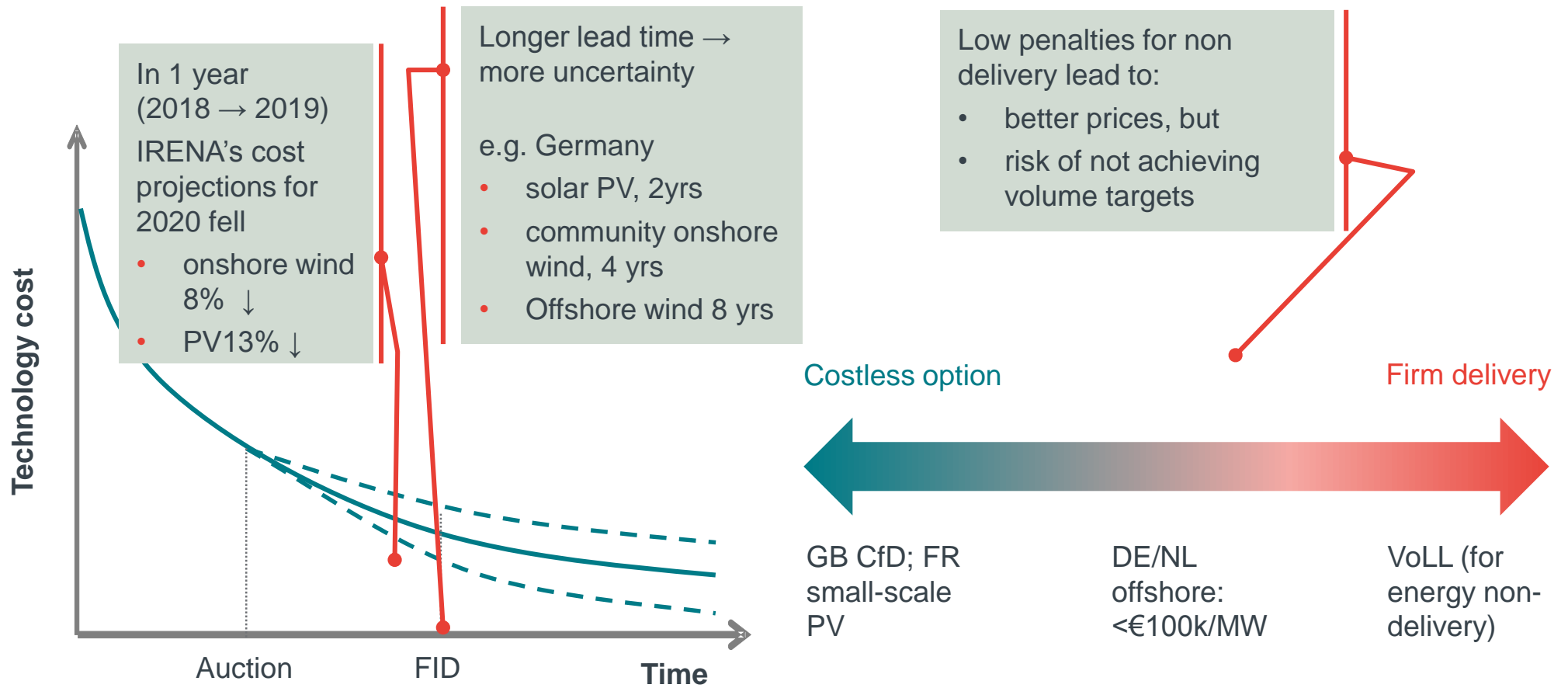
Source: Frontier Economics, based on Fraunhofer ISI data

# Auctions will help but not solve everything..



they are a partial solution to the time lag problem and  
.....serious bubbles will be much less likely than before

# However, auctions still have issues - price v cost, volume risk



Auction prices v. actual costs may therefore remain a legitimate concern



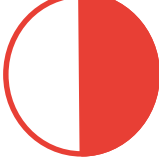



Governments need to clarify what may drive intervention and with what aim

# The Commission's preference is for 'technologically neutral' auctions for RES-E

To ensure the 'right' projects are successful, auctions need to reflect wider system issues, including...

Capacity adequacy impacts	<ul style="list-style-type: none"><li>▪ To the extent existing capacity can be retired, or new capacity avoided, at the same level of supply security, there is a cost saving to the system</li><li>▪ In UK, PV does not contribute, but wind could</li></ul>	Benefit
Balancing costs	<ul style="list-style-type: none"><li>▪ Incremental capacity may increase uncertainty of supply, requiring incremental flexible generation to help support system stability.</li><li>▪ But small hydro may reduce costs of balancing</li></ul>	Cost or benefit
Network impacts	<ul style="list-style-type: none"><li>▪ New RES may require investments to reinforce/extend the existing grid, and changes to power flow may increase or decrease transmission and distribution losses.</li><li>▪ New RES embedded, or close to load, may → network benefits.</li></ul>	Cost or benefit
Displaced generation impacts	<ul style="list-style-type: none"><li>▪ Outputs from new RES can displace higher marginal cost generation, saving fuel and CO<sub>2</sub> emissions.</li><li>▪ Different technologies will produce at different times with different effects</li></ul>	Benefit

# Auctions will be efficient if the full range of impacts is 'internalised' either within bids or the auction process – this is not currently always the case

		Internalised?	
Physical impacts	Technology direct costs		<ul style="list-style-type: none"> <li>Directly incurred, so will always be internalised</li> </ul>
	Capacity adequacy impacts		<ul style="list-style-type: none"> <li>Contribution will vary by technology – e.g. solar v wind v biomass</li> <li>In markets with CRMs in place, RES-E does not typically receive capacity payments</li> </ul>
	Balancing costs		<ul style="list-style-type: none"> <li>Effects will vary by technology – e.g. wind v solar v solar + storage</li> <li>EU policy is to internalise but arrangements are often imperfect</li> </ul>
	Network impacts		<ul style="list-style-type: none"> <li>Effects will vary by technology and location – e.g. T-connected onshore wind v T-connected offshore wind v D-connected solar</li> <li>Effects may be internalised if TUOS and DUOS charges are cost reflective, but not all are</li> </ul>
	Displaced generation impacts		<ul style="list-style-type: none"> <li>Effects will vary by technology</li> <li>Scheme design features may or may not internalise these,                             <ul style="list-style-type: none"> <li>- eg CfD v FiT premium</li> </ul> </li> </ul>
Commercial impacts	Degree of risk transfer		<ul style="list-style-type: none"> <li>Possibility that different technologies are supported on different terms (e.g. definition of reference price, contract duration, ...)</li> <li>For example, if costs are falling, technologies with a short life should receive a premium</li> </ul>

# There are different potential ways of addressing these

## 1 Pursue technology specific auctions **not efficient and normally not legal** X

- Superficially attractive, if correcting for these factors is regarded as too complex
- In reality, it still leaves the problem of what to procure through each auction
- Will reduce or eliminate any inter technology competition

## 2 Technology 'neutral' auctions, but adjust prices to create a level playing field ✓

- Developers can be asked to submit bids to build different projects
- The auction process should then take into account the wider impact of each project
- The best overall projects should then be selected

## 3 Improve market design and support scheme design to internalise more ✓

- Changes to underlying aspects of energy market design or support scheme should ensure projects internalise each of these costs
- This should be the case for RES-E and for conventional technologies
- Competition between technologies on price would then be (more) efficient

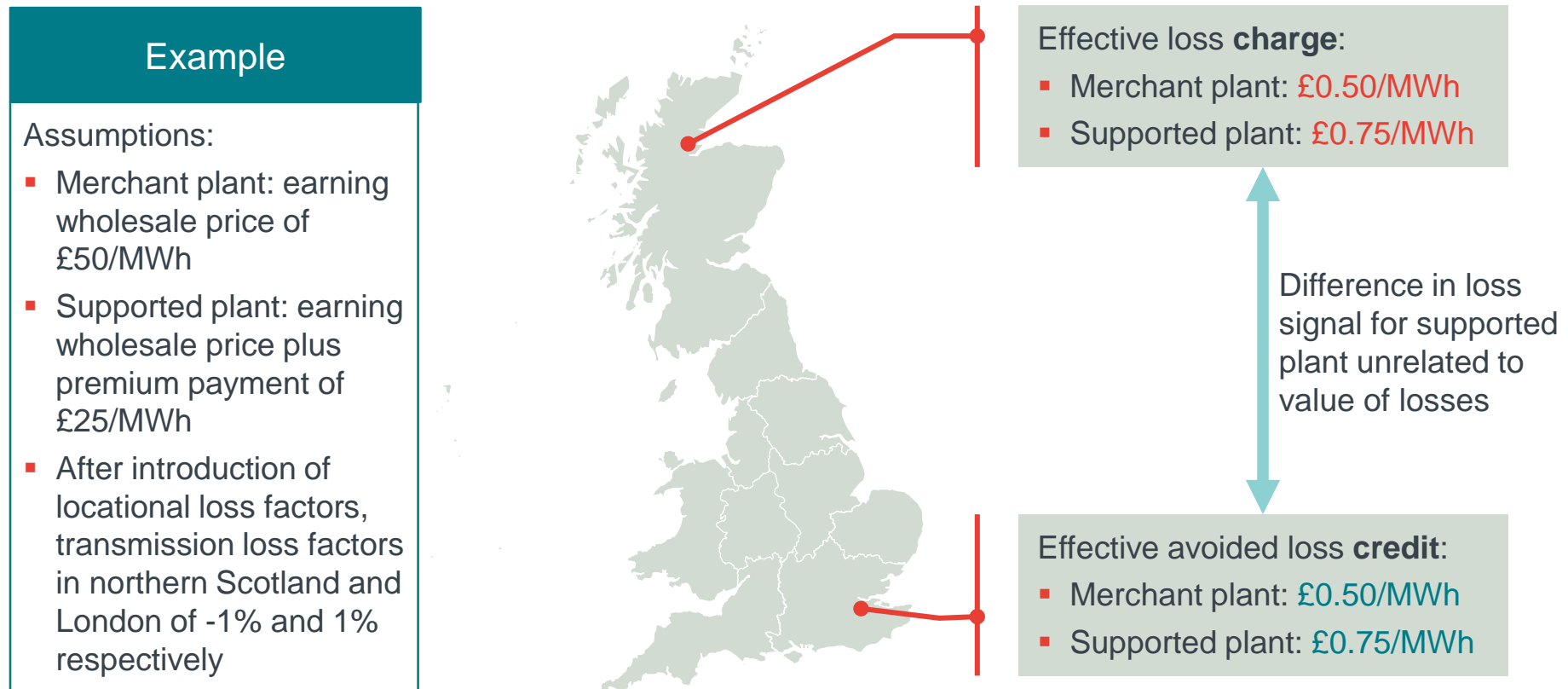
In reality **2** & **3** probably need to proceed in tandem

*.....but market design developments may then lead to legal challenges*



# Example of a problem – transmission loss factors in GB

## Transmission loss factors introduced by volumetric adjustment of generation and offtake



Broadly sound to differentiate locations by losses but method chosen perversely penalises remote RES and over rewards RES near load

Thank you for your attention

## Speaker – Wynne Jones



- Wynne Jones is a Director in Frontier’s energy practice based in London
- More than 35 years of professional experience in the sector advising companies, regulators, investors, tribunals and multilateral agencies
- Wide international experience having worked in some 40 countries worldwide
- Expert in the electricity and gas industries in matters of regulation, competition, market design and disputes
- Testified in a wide variety of arbitration for a, including: ICSID, UNCITRAL, the PCA, SCC, VIAC, ICC, as well as national courts and regulatory bodies
- Regularly acts as expert witness in disputes and arbitral hearings (including recent RES arbitration cases)
- For example:
  - Alpiq v. Romania
  - Alpiq v. PGE
  - EVN AG v Bulgaria
  - Energo Pro v Bulgaria
  - Wirtgen (and others) v Czech Republic
  - .Antaris (and others) v Czech Republic
  - Natland (and others) v Czech Republic
  - EDFI vHungary
  - Electrabel SA v Hungary
  - AES v Republic of Kazakhstan
  - AES v Hungary
  - Republic of Lithuania v. Gazprom
  - Schuepbach Energy v. France
  - US Steel v Slovakia

### Wynne Jones

+44 20 7031 7105

wynne.jones@frontier-economics.com



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