



# Market- based support schemes for renewable energy and the role of regulators

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Clean Energy for all Europeans - the role of  
regulators and active consumers  
November 6<sup>th</sup> 2020

# Agenda



- 1. Our auction expertise and the AURES project**
- 2. The move towards market-based support schemes**
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  3. EU State Aid Guidelines & auctions
  4. The role of the regulator as in auctions
- 3. Regulators as auctioning authorities?**
  1. The auction design process
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- 4. Support market premiums**
  1. Purpose of feed-in premiums
  2. Types of premiums and impact
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## 1. Our auction expertise and the AURES project

# Recommendations based on 20 years of experience in auction analysis & design



Part of the EUH2020 research project on renewables auctions

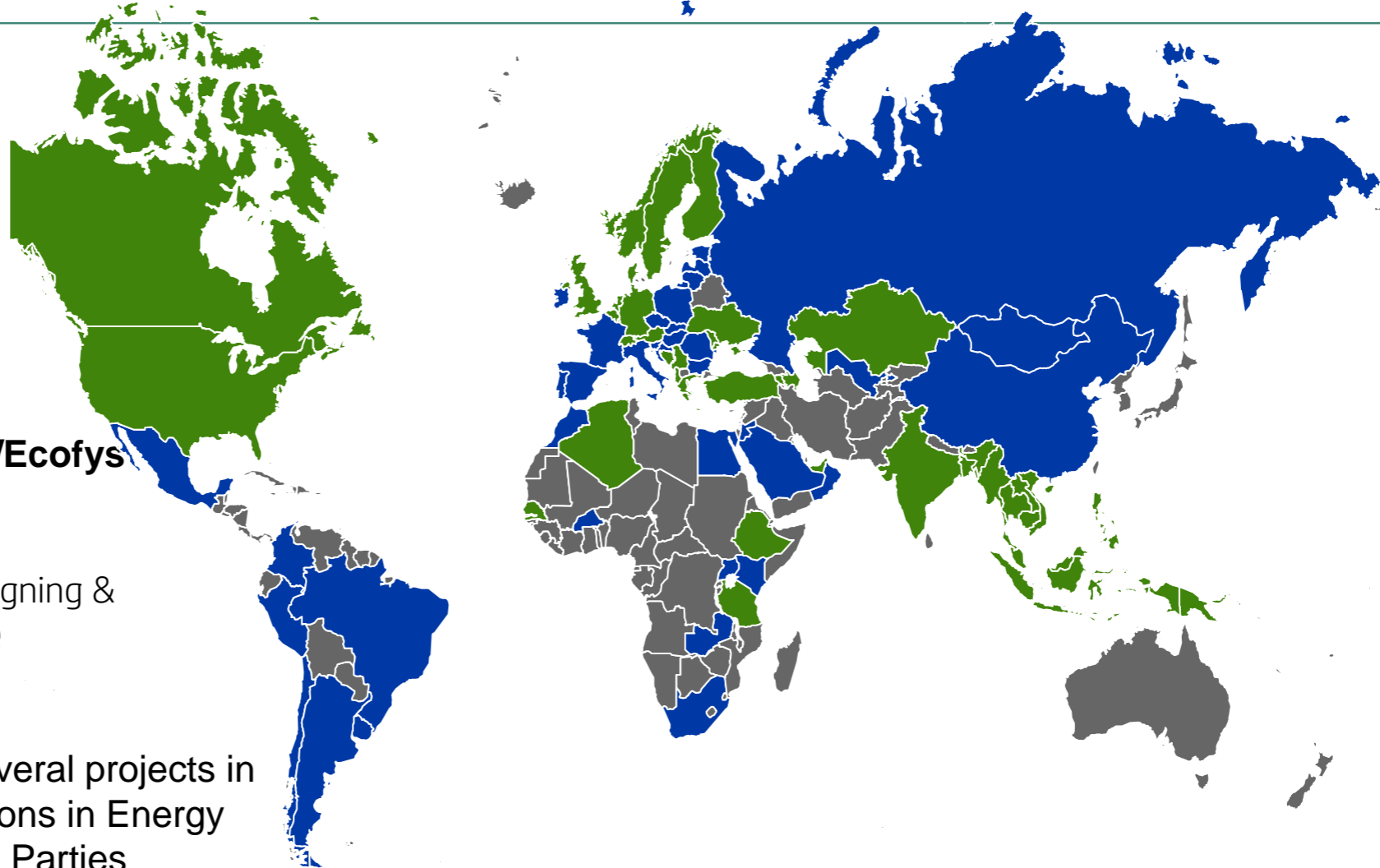
## **Guidehouse/Navigant/Ecofys**

>850 energy experts

>60 offices worldwide

>20 years experience designing & implementing competitive procurement/auctions

Supporting EBRD in several projects in the introduction of auctions in Energy Community Contracting Parties



# AURES II: EU funded research collaboration on auctions for renewable energy support



Funded by the European Union's **Horizon 2020** Framework Programme for research and innovation (2018 – 2021)

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## 2. The move towards market-based support schemes

# Auctions/competitive procurement are increasing worldwide



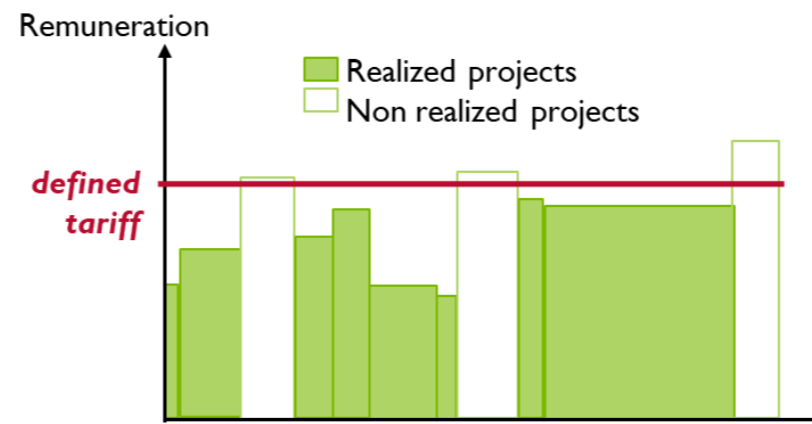
Source: Bloomberg NEF. Note: In the U.S., we classify as auction the offshore wind tenders organised at a state level.

# New rules, new risks - understanding the transition towards auctions

## Transition from feed-in tariffs to auctioned tariffs

- Increases volume control, increases price competition
- Increases new risks for bidders (pre-development costs and risk of sunk costs)
- Quickly reflects market price developments but requires competition (more difficult for small markets with few participants)
- More difficult for some smaller bidders

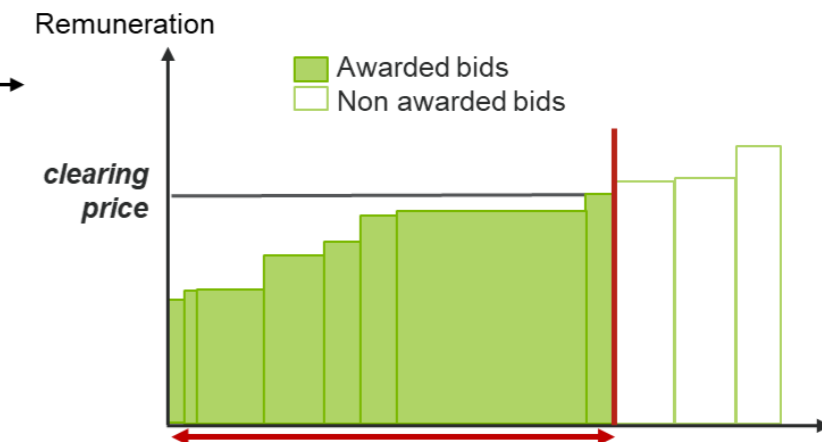
### Administratively-set feed-in tariff



- Government sets price
- Market sets volume



### Auctioned tariff



- Government sets volume
- Market sets price



# EU State Aid Guidelines require auctions in most cases



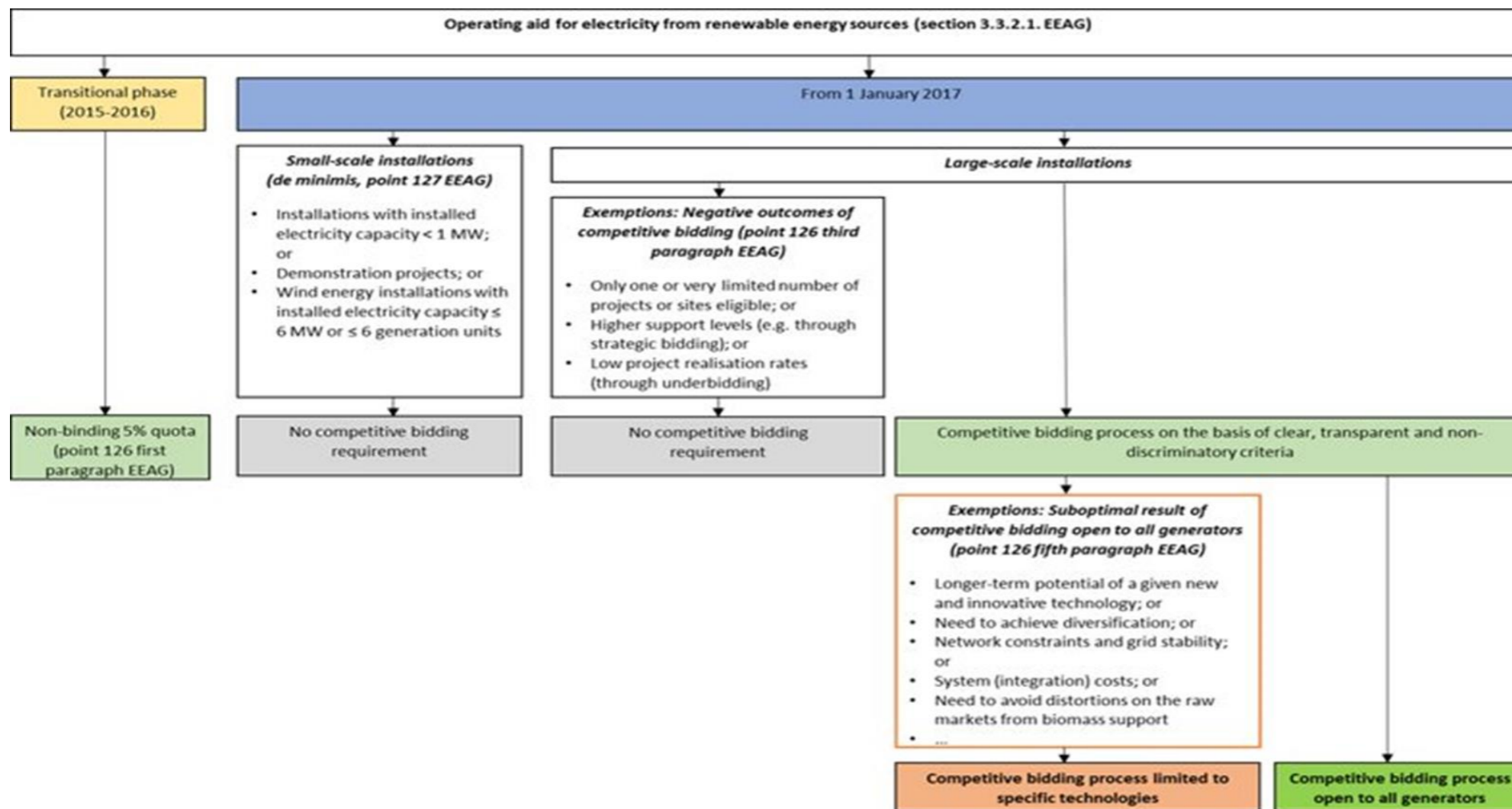
## European Union

- Since 2014, the EU Commission's Guidelines on State aid for environmental protection and energy 2014–2020 (EEAG) require the introduction of auctions to determine the amount of aid and its payment in form of a market premium.
- RED II functions as “rule book”

## Energy Community

- RED II is not yet transposed, potentially in 2021
- In 2015, ECS adopted guidelines to endorse energy and environmental guidelines to enforce in practice

# EU State Aid Guidelines allow for some exemptions from auctioning



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## 3. Regulators as auctioning authorities?

# Which should be the auctioning authority?

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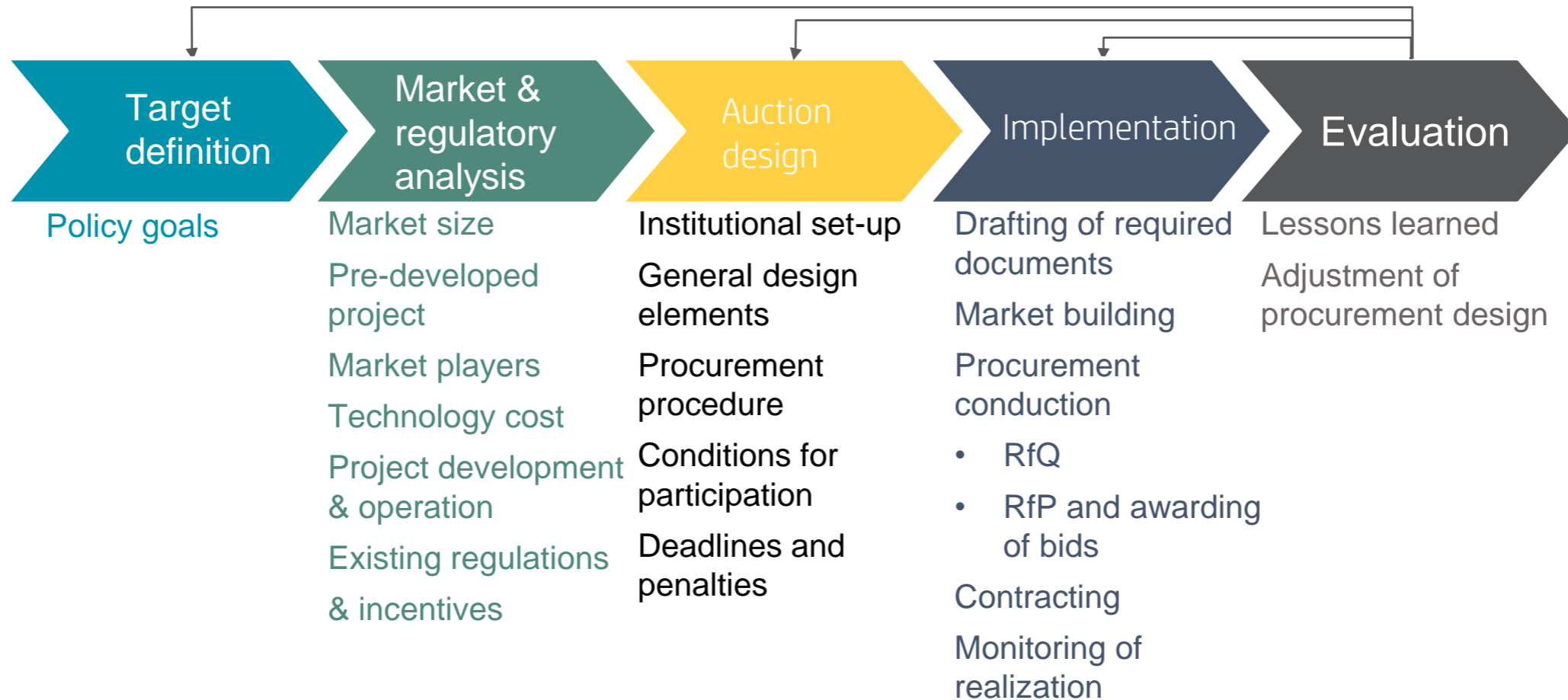


- Options for auctioning authority include regulatory agency, ministry, market operators, state utility, dedicated agency
- When to choose which agency?
  - Choice of auctioning authority often dictated by regulatory framework/procurement law
  - Auctioning authority needs sufficient staff & funding capacity to transact before, during and after auction
  - If ministry is the auctioning authority, then regulatory agency can still fulfil overview role
- No matter which agency is chosen, all relevant government actors in should be included in a dedicated auctions working group

# In the EU different institutions are chosen as auctioning authorities

Country	Auctioning authority
Lithuania	National Commission
Germany	Regulator
France	Regulator
Greece	Regulator
Denmark	Energy Agency
Poland	Regulator
Ireland	Ministry
Italy	Market operator
Hungary	Regulator
Slovenia	Energy Agency
Estonia	Ministry
Netherlands	Enterprise Agency
Luxembourg	Ministry
Croatia	Market operator

# The process to design auctions



# Regulators have an important role guarding competition

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- Ensuring sufficient competition through the auction design
  - Auction supply (projects) needs to be higher than demand (auctioned volume)
  - Build market interest and ensure adequate bankability of projects
- Avoid bidder collusion
  - In small markets with strong market concentration, static auctions might be more suitable than dynamic auction to reduce the risk of price coordination
  - Ownership disclosure of projects can detect bidder concentration
  - Bidder diversity helps to reduce the risk of collusion

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## 4. Support market premiums



# Purpose of Feed-in-Premiums for renewable energy support

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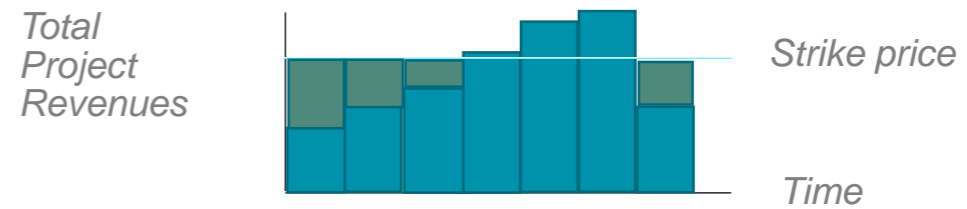
- Support mechanisms aim to **bridge the gap between the cost of deploying RES projects and the revenues that they can earn in the market**, and to **boost investment certainty** through predictable revenue streams.
- Different types of support mechanisms exist, including **feed-in tariffs (FiTs)** and **feed-in premiums (FiPs)**.
- The **structure of the electricity market** and the **risk allocation** between the power producers and the support counterparty (and ultimately society) are among the key factors to consider when choosing the type of support to award through auctions.

# Types of premiums for renewable energy support

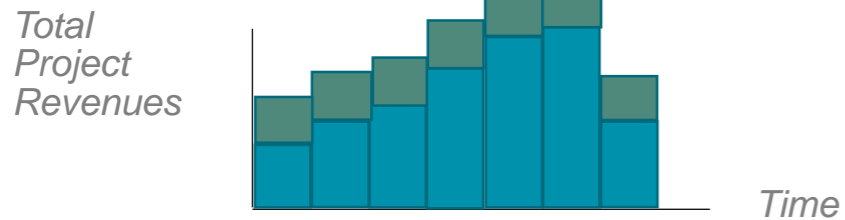
## Feed-in-tariff



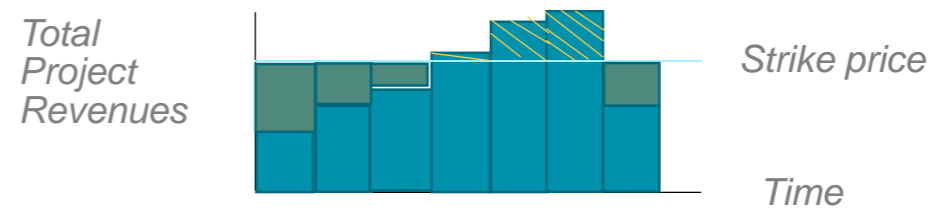
## (Asymmetric) sliding premium



## Fixed premium



## Contracts-for-Difference (CfD)



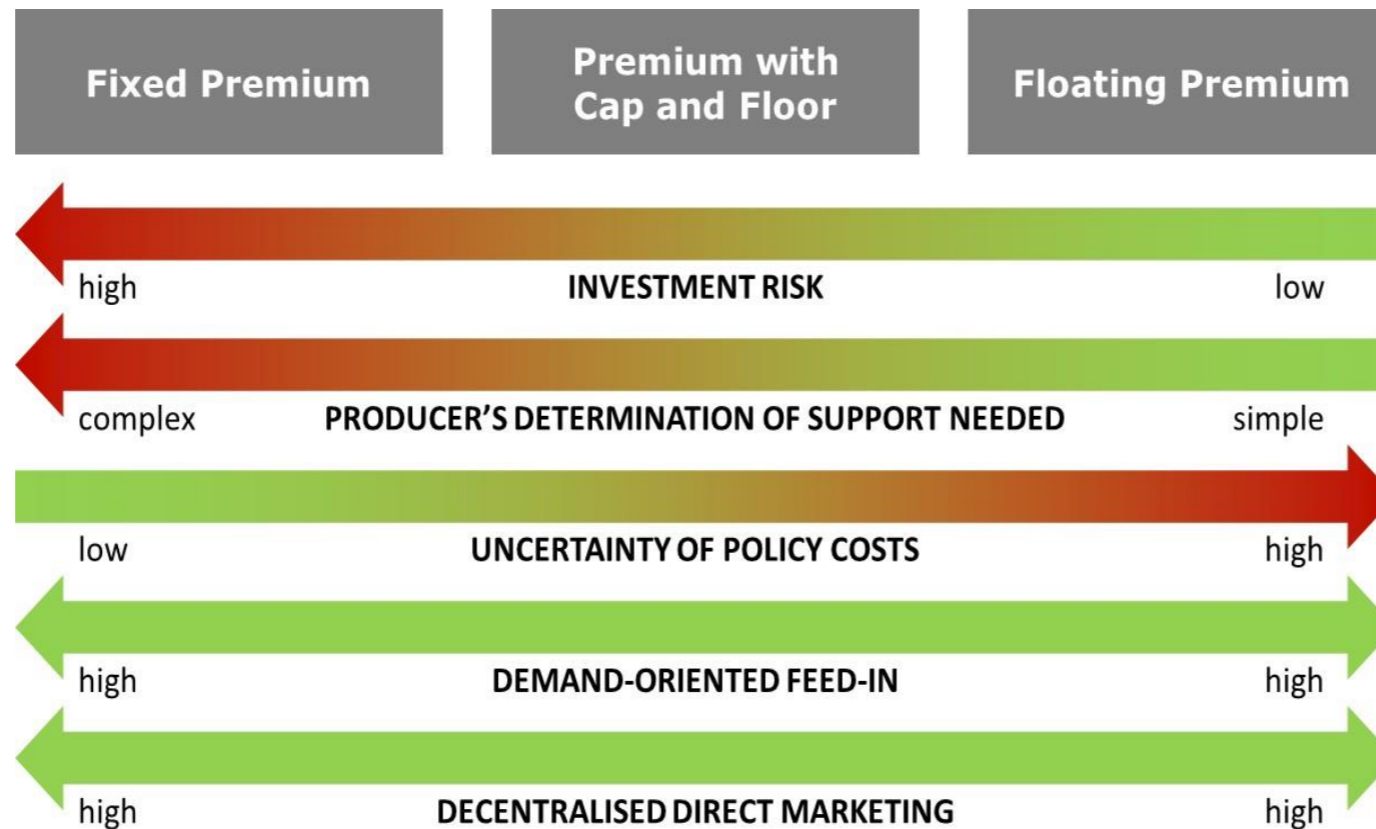
■ Support premium   ■ Market revenues   ■ Payback

# Comparison of strengths and weaknesses of support mechanisms

Support scheme	Strengths	Weaknesses
<b>Fixed FIT</b>	<ul style="list-style-type: none"> <li>• Simplicity</li> <li>• High planning certainty for investors; low risk premiums</li> <li>• Attractive for small RES-E generators</li> </ul>	<ul style="list-style-type: none"> <li>• RES-E producers not exposed to market signals</li> <li>• Not compatible with EU State Aid Guidelines (except for small installations)</li> </ul>
<b>Sliding FiP</b>	<ul style="list-style-type: none"> <li>• Relative simplicity</li> <li>• Still high planning certainty for investors; low risk premiums</li> </ul>	<ul style="list-style-type: none"> <li>• Slightly more complex than fixed FIT/FiP</li> <li>• Low budgetary certainty on support costs</li> <li>• Market value of electricity only plays a limited role</li> </ul>
<b>Capped FiP</b>	<ul style="list-style-type: none"> <li>• Electricity market exposure</li> </ul>	
<b>Fixed FiP</b>	<ul style="list-style-type: none"> <li>• Simplicity</li> <li>• High budgetary certainty on support costs</li> <li>• Electricity market exposure</li> <li>• Favours RES-E with high electricity market value</li> </ul>	<ul style="list-style-type: none"> <li>• Low planning certainty for investors; higher risk premiums; RES-E generator needs to predict market value</li> </ul>

The increasing share of variable RES generation and the improving maturity of technologies such as wind and solar PV favour a **gradual transition from Feed-in Tariff to Feed-in Premium mechanisms**. However, Feed-in Tariffs can be the appropriate choice of mechanism if developed electricity markets do not exist yet.

# Impact of different types of feed-in premiums on investor risk and policy costs



# Regulatory guidelines on feed-in premiums



## European Union

- Art. 4 RED II: „with regard to direct price support schemes, support shall be granted in the form of a market premium, which could be, inter alia, sliding or fixed.”
- “Member States may exempt small-scale installations and demonstration projects“

## Energy Community

- Same as EU

### Status

- Currently bilateral agreement wholesale markets, only Serbia and Ukraine have a liquid day-ahead market (exchange)
- North Macedonia has a Feed-in Premium based on bilateral agreements
- Kosovo, Albania, Montenegro, North Macedonia are on track for a day-ahead market in 2021

# When are markets mature enough to introduce feed-in premiums?

**Market readiness** can be monitored using these indicators:

- Traded volumes on the day-ahead market relative to physical market size (i.e. churn factor)
- Bid-ask spreads on the power exchange
- Number and market share of main electricity generating companies
- Market concentration in the generation sector (e.g. Herfindahl-Hirschman Index)
- Number and market share of main electricity retailers
- Market concentration in the supply sector (e.g. Herfindahl-Hirschman Index)

We recommend tracking **more indicators**, such as:

- Existence and availability of independent off-takers and intermediaries
- Launch of an intraday market (the liquidity of which could be monitored using similar indicators as suggested for the day-ahead market)
- Market coupling and development of a regional day-ahead market for South-East Europe

**As interim solutions Feed-in Premiums based on bilateral agreements are possible**

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## 5. Conclusion

# Conclusion

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- Auctions are increasing worldwide, and in the EU and Energy Community Contracting Parties, partly due to State Aid Guidelines
- Regulators can assume the role of auctioning authority, EU examples show the variety of options (ministry, regulator, market operator, etc.)
- Auctions should be designed in such a way that ensures competition and avoids collusion
- Support can be paid as Feed-in Tariff or Feed-in Premium on the market price, depending on the market maturity of a country
- EU State Aid Guidelines Different in general require the introduction of feed-in premiums





# Thank you.

Energy Community Regulatory School

Clean Energy for all Europeans - the role of regulators and active consumers

November 6th 2020

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