

AURES II – Auctions for Renewable Energy Support II

Final conference

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Future applications of auctions

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Auctions for the energy transition

- Auctions for renewable are established and have proven to be a viable instrument for allocating scarce support
- Energy transition includes many other areas where auctions might play a role:
 - Heating and cooling: e.g. renewables in district heating, serial building renovation
 - Transport: e.g. charging infrastructure for electric mobility
 - Industrial applications: e.g. CCFDs, innovation fund
 - Emission reduction: e.g. multi-technology auctions across sectors
 - Hydrogen: e.g. auctions for electrolysers

First assessment of auctions for the energy transition

Sector	Potential applications	Existing examples	Main challenge
Heating	New RES/heat pumps in district heating systems an industry; new district heating systems/ cncpts; potentially serial renovation programs	<ul style="list-style-type: none"> • CHP: DE, PL, SL • RES plants: EE, LV ; • DH systems: municipality level, several MS 	Diversity of the sector; framework conditions, e.g. third party access to DHC
Transport	Infrastructure; charging infrastructure, overhead lines	Charging infrastructure: DE, PL, RO	No specific challenges
Industry	Investment grants, operational support or combination across industries; potential focus on energy-intensive industries	EU: Innovation Fund, MS discussing CCfD programmes	Diversity of sectors and technologies
Hydrogen	Electrolyzers, hydrogen imports, demand-side auctions	DE: H2Global, NL: SDE++	Chicken and egg problem: synchronized ramp-up of supply, demand and infrastructure
Integrated decarbonisation	All low-carbon technologies	NL: SDE++	Diversity of sectors and technologies

First assessment of auctions for the energy transition



- Many potential applications for competitive bidding and auctions across sectors
- Use of auctions beyond renewable electricity not very wide-spread
- Challenges differ between sectors
- As always: No one-size fits all approach but auctions need to be tailor-made to specific objectives, markets, technologies and framework conditions

Initial considerations on auctions for renewable hydrogen (H₂) support allocation

- Auctions for renewable H₂ can work with no infrastructure and little demand/supply
- We developed four near-term options to meet specific aims
 - Option 1: Demand-side auction for H₂
 - Ramp-up H₂ demand to help achieve the proposed RFNBO target for industry (RED II revision)
 - Option 2: Double-sided auction for H₂ derivatives
 - Support the supply of derivatives and the build-up of a demand market
 - Option 3: Supply-side auction
 - Help move towards EU H₂ strategy capacity target of 40 GW
 - Option 4: Joint auction for hydrogen and renewable energy
 - Support the joint deployment of RES and electrolyzers

Options take account of current key issues:

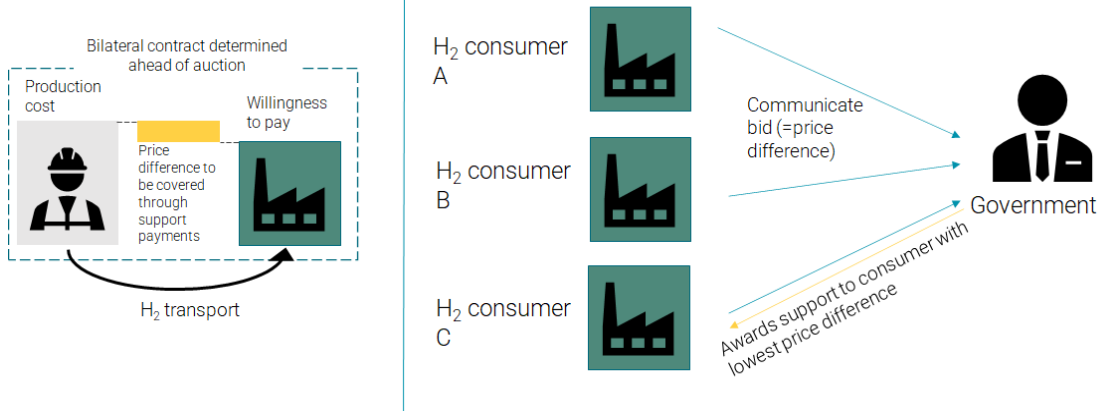
1. no demand & supply  
2. no infrastructure 



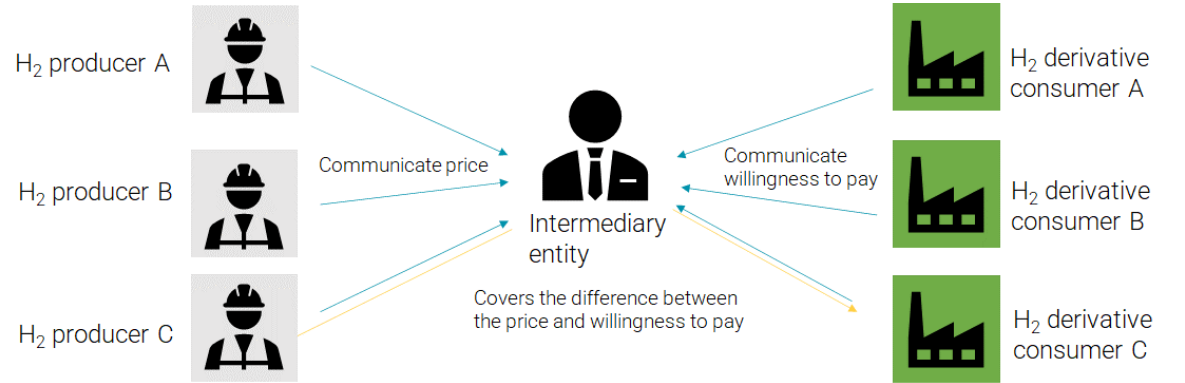
Options were developed for short-term implementation. With developed markets and infrastructure, options may need to be adapted.

Overview on H2 auctions

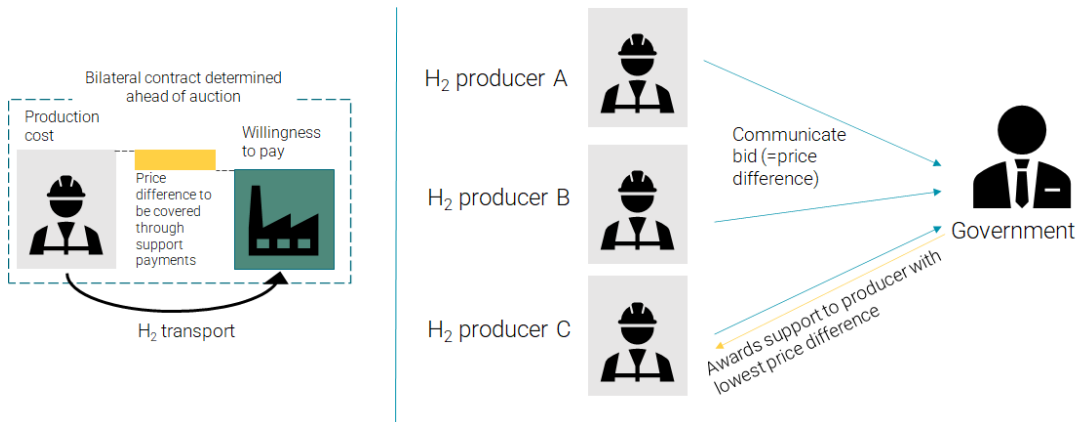
Demand-side auction



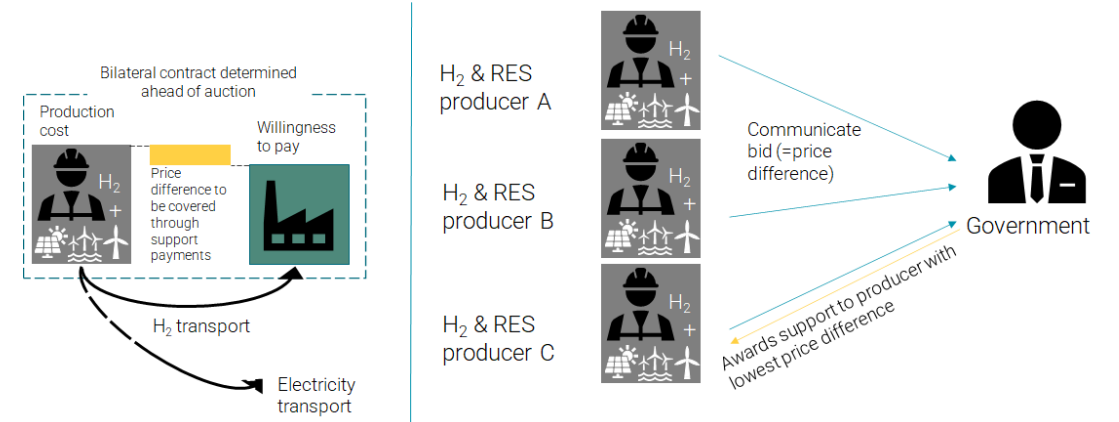
Double-sided auction for H2 derivatives



Supply-side electrolyzer auction



Supply-side joint electrolyzer- RES auction



Auctions for hydrogen support

Christopher Frey – Sunfire

