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SUMMARY

ENERGINET WORKSHOP ON TARIFF FOR HYDROGEN - KEY NOTES AND TOPICS

Date:
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Author:
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Time: November 9th, 2023 (10:00-14:30)

Place: Pederstrupvej 76, Ballerup (Energinet)

The tariff workshop on november 9th 2023, hosted discussions on various principles related to the tariff scheme on a hydrogen transmission system, with some of the major topics being:

1. **Adoptions of current principles in the Gas system:** There was a general agreement among participants that the current principles on gas tariffs (entry/exit model, capacity-based tariffs, ex-post revenue allocation) overall are suitable for a hydrogen transmission system.
   - The participants addressed, that Energinet should try to align the tariff system with the German system to decrease complexity for the marked.
   - It was addressed, that the tariff scheme should be flexible to change as the marked evolves.

   Energinet comment: Energinet is in close dialog with its German counterpart and will take the German tariff design into consideration when designing the tariff scheme for a Danish hydrogen system. Energinet agrees on, that the tariff scheme should be flexible to match the maturation of the hydrogen marked.

2. **Capacity length and use of multipliers:** The design of capacity products should be more flexible than what is currently available in the Gas system, both in terms of length and availability.
   - It was pointed out that the flow of hydrogen was unsure and that it wasn't guaranteed that PtX production would follow the be and flow of the electricity marked.
   - Several participants addressed that short term products should be easily available. Both in terms of buying hour-based capacity and ensuring a more evenly split between long- and short-term capacity in the auctions.
   - Some participants addressed the necessity of a secondary capacity marked to reduce the risk of buying long-term capacity. Others addressed the need to reduce expenses for the system operator to ensure low tariffs.

- Most participants found that multipliers could be used to create price differentiation between long- and short-term products. But it was pointed out that large multipliers could be counter-productive.
- Finally it was pointed out that the market actors would enter the marked across several years and that the capacity design should ensure availability throughout the upstart period.

Energinet comment: Energinet acknowledge the need for a more flexibility among the capacity products. The need of a larger variety in capacity and increased availability will be taken into account in the further work with the tariff design.

3. **Methods on tariff limitation:** The was a mutual concern among the participants around the level of the tariff in the start-up period. All groups in the final discussion on tariffs limitation found that a guarantee on the tariff in the start-up period is needed to reduce the risk for the marked actors and ensure their willingness to make investment decisions on the PtX investments.
   - Among the discussed methods of tariff limitations the preferred one was a hard cap on the tarif that ensures a maximum tariff (in real terms) in the start-up period.
   - Energinet should strive to ensure transparency on the actual numbers as early as possible both regarding to the tariff levels and the risk premium that will be prices in to compensate for the marked risk from the chosen tariff limitation.
   - Some participants pointed at a tariff limitation for the first 10 years and a slow decrease in the limitations afterwards to avoid huge price hikes afterwards.
   - It was pointed out that Germany and Netherlands are faced with similar problems and that Energinet should strive for a similar solution to decrease the regulatory risk off getting the tariff method rejected.
   - Many participants stressed the need for a “first mover discount” to compensate for the risk of committing to a transmission system in an immature marked.

   Energinet comment: Energinet acknowledge the need for a tariff limitation and is working close with the government on a solution. How the tariff will be limited and to what extend is still unsure and will be determined by the structure of the government guarantee given to Energinet by the Danish Government. The risk is too large for Energinet to handle so any guarantee to the marked on the

Key notes from the group sessions

The following notes are a direct transcript of what was written on the whiteboard during the group work sessions.

Session one: Tariff principles and capacity design

Group one:

- All products are relevant
- Specify the hourly product (single hour or rest of day?)
- Reserve capacity for short-term products (more than 10%)
- For some marked players it would make sense that unused capacity is offered to the marked
- Add first come-first first served as auction principle.
- More narrow band with multipliers
- Who pays for the loss of hydrogen in the system?

Group two

- Need for transparency and predictability on the tariff for more than one year, especially in the start up marked
- Discount on tariff if you where asked to ramp down
- Perhaps no need for storage in the beginning as the contracts are pay-as-produced

Group three

- Different tariff design over time e.g. divide into stages¨
- Multipliers is a good idea
- Will the marked players be homogeneous?
- Duration of capacity product of more than one year
- With 90% or more renewable power, no restrictions and focus will shift to be more prices driven

Group four

- Can adopt the scheme for methane gas e.g. uniform tariffs
- Also a need for capacity products of mor than one year e.g. 10 years
- Need for secondary marked
- First mover advantage e.g. lower tariff
- Long term products (10 years) with flexibility as default

Online group

- Need for secondary marked
- Possibility for booking capacity throughout the day
- Alignment between Germany and Denmark

Session two: Tariff limitations

Group one:

- Discounts for first movers starting when the system is in operation and last for e.g. 4 years. Followed by a fixed tariff for 10 years.

Group two:

- Prefer model one (Tariff ceiling – price guarantee)
- Relevant to know how long a period Energinet has to recover the cost from the start-up
- Updated calculation on price limitation

Group three:

- Helpful if Energinet could show the effects of the risk premium
- Prefer model one (Tariff ceiling – price guarantee)

Group four:

- Prefer model one (Tariff ceiling – price guarantee)
- Expecting a state guarantee
- Simple model to present to offtakes
- Minimum 10 year price cap
- The 10 year period starts from when the developer starts to produce hydrogen
- Price levels could be communicated in a range, large range in the beginning and decreasing over time as Energinet gets closer to a FID

Online:

- German model is similar to price level cap (Model 1)
- When do Energinet expect to be in balance with respect to the revenue?