

Reference & Strike price

Overview of current proposals

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Introduction

Methodology proposals are based on three ingredients:

→ **Reference price proposal:** (valid for all scenarios, no alternatives have been put forward)

- Liquid, allow all technologies to react upon and pertinent to SoS-issues
- No individualized Belgian offer curves
- Standardized *Day-Ahead Market* (€/MWh)

→ **Strike price(s) formula(s):**

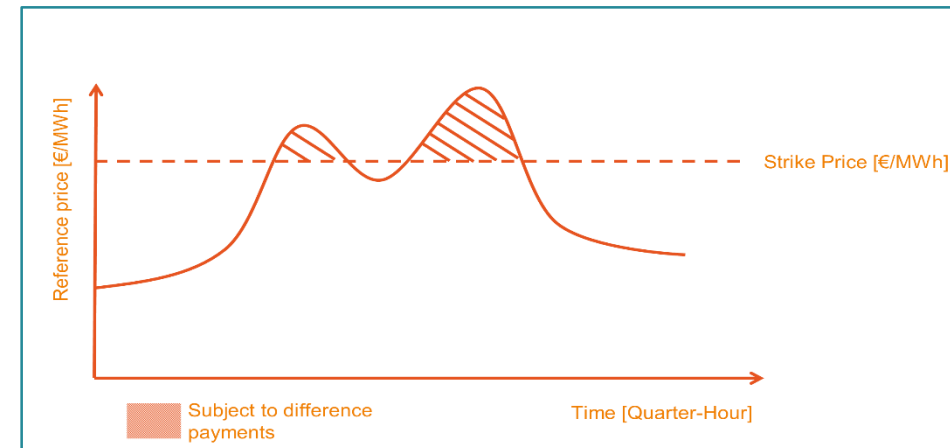
Alternatives:

- *One Single Strike price* formula for all CMUs
- *Multiple Strike prices* formulas (per CMU)

→ **% of Payback Obligations Exemption:**

Alternatives:

- *No % Payback* Obligations exemption for all CMUs
- *The same % Payback* Obligations exemption for all CMUs
- *Multiple %s exemption linked to Multiple Strike prices formulas* on Payback Obligations (per CMU)



Four different Options have been put forward:

- **Option 1:** One single Strike price formula & No payback obligations exemption
- **Option 2:** Multiple Strike prices formulas & No payback obligations exemption
- **Option 3:** One single Strike price formula & Fix % payback obligations exemption
- **Option 4:** Multiple Strike prices formulas & Linked % of payback obligations exemption

Overview of (types of) arguments brought forward during the previous discussions and contributions

- Payback obligation is essential part of the Reliability Option design as put forward by the Electricity Law
- The strike price impacts on the technology mix that can credibly participate due to its link with the short-run marginal costs (SRMC)
- Windfall profits could occur when revenues resulting from high prices are not counted upon to be profitable
- Forward price do *or* do not (fully) reflect price spikes.
- Simplicity/complexity to calibrate, incl. number of assumptions
- Simplicity/complexity to participate, incl. link with secondary market
- Heterogeneous/homogeneous product requirement
- Long-term robustness, in particular in the context of multi-year contracts
- Impact on aggregation of technologies
- Different market parties have different hedging strategies related to their risk appetite and to their capacity portfolio
- Impact on energy market linked to taking into account hedging strategy
- Robustness of the indifference curves against different market views on price evolution

Summary of the 4 Options on Reference & Strike prices for KB Methodologies

	Option 1: One single Strike price formula & No payback obligations exemption	Option 2: Differentiated Strike prices formulas per technology & No payback obligations exemption	Option 3: One single Strike price formula & Fix % payback obligations exemption	Option 4: Indifference curve based on multiple Strike prices formulas & linked % of payback obligations exemption
Link with energy market functioning		<ul style="list-style-type: none"> Less transparent towards energy market without additional information being published 	<ul style="list-style-type: none"> Link with hedging could impact on energy market functioning 	<ul style="list-style-type: none"> Less transparent towards energy market without additional information being published Link with hedging could impact on energy market functioning
Simplicity	<ul style="list-style-type: none"> Simple Transparent towards energy market 	<ul style="list-style-type: none"> Very complex calibration due to 'per technology' approach 	<ul style="list-style-type: none"> Simple Transparent towards energy market 	<ul style="list-style-type: none"> Rather complex initial calibration, a.o. as more assumptions may be needed May be more complex towards secondary market No demonstrated 1-to-1 link between hedging strategy and strike price preference
RO principle	<ul style="list-style-type: none"> Respected as long as strike price not too high to dilute the effect 	<ul style="list-style-type: none"> Respected 	<ul style="list-style-type: none"> Respected as long as strike price not too high to dilute the effect (Blunt) correction for forward hedged volumes avoids overshoot of the principle 	<ul style="list-style-type: none"> Respected Correction for forward hedged volumes avoids overshoot of the principle
Technology Neutrality	<ul style="list-style-type: none"> Requires a sufficiently high single strike price to ensure participation by high-SRMC techs 	<ul style="list-style-type: none"> No technologies a priori excluded Equal treatment of technologies to be ensured Quid aggregation? 	<ul style="list-style-type: none"> Requires a sufficiently high single strike price to ensure participation by high-SRMC techs 	<ul style="list-style-type: none"> If highest strike price is sufficiently high, no technologies a priori excluded Free choice from the menu and homogeneous payback due to indifference curve
Limit Overall cost of CRM Avoid Windfall profit	<ul style="list-style-type: none"> Requires a sufficiently low single strike price, to avoid windfalls for low-SRMC techs Forward hedged volumes may be prone to paybacks not/insufficiently covered via forward prices, which may increase bid price 	<ul style="list-style-type: none"> If strike price is well calibrated per technology, windfall profits can be avoided Forward hedged volumes may be prone to paybacks not/insufficiently covered via forward prices, which may increase bid price 	<ul style="list-style-type: none"> Requires a sufficiently low single strike price, to avoid windfalls for low-SRMC techs Fix % exemption for forward hedged volumes ignores differences in trading/risk strategies, which could be partially linked to technologies 	<ul style="list-style-type: none"> Required trade-off facilitates a 'natural' selection of the menu that limits windfall profits. Allowing for taking into account the forward hedging strategy limits bid prices Robustness against different market views of future price duration curves?

Disclaimer: This is a non exhaustive summary made by Elia on the basis of arguments received during previous discussions and contributions