FI-EE border LTTRs implementation project

1st TSOs open webinar

24.03.2022

13:00 -15:00 EET

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FI-EE border LTTRs implementation project

Agenda

24th of March 13:00- 15:00 EET

Topic	Presenter
Welcoming words and intro	Juha Hiekkala (Fingrid)
Overview and reasoning of the NRAs decision on the FI-EE border LTTRs	Karin Maria Lehtmets (ECA)
Background and Economics of LTTRs	Erkki Sapp (Elering)
Market participant LTTRs experience	Marko Allikson (Baltic Energy Partners)
Questions and discussion	Open for all
TSOs next steps	Erkki Sapp (Elering)

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Overview and reasoning of the NRAs decision on the FI-EE border LTTRs

Karin Maria Lehtmets – Estonian Competition Authority

24.03.2021

Regulatory background

- Article 30 from FCA foresees NRAs to assess the sufficency of existing headging opportunities in bidding zone
- Assessment at least every 4 years
- Assesment be based on:
  - consultation with market participants about their needs
  - numerical evaluaton/analysis of existing hedging products

In case existing hedging opportunities are not sufficient:

Coordinated decions for bidding zone border to issue LTTRs or to to make sure that other long-term cross-zonal hedging products are made available

Last assessment process in 2020-2021

FI, EE, LV, LT common numerical analysis (THEMA)

Jan/Feb. 2021

Common market consultation about THEMA analysis

March 2021

Consultations with market participants about their needs:

*EE-LV common consultation Oct/Nov 2020

*FI consultation Jan/Feb 2021

* FI, EE NRA bilateral agreement May 2021

* NRAs national decisons June 2021

THEMA analysis

- https://www.konkurentsiamet.ee/sites/default/files/electricity_forward_market_hedging_opportunities_in_finland_estonia_latvia_and_lithuania.pdf
- Aim to evaluate hedging opportunities in FI, EE, LV and LT bidding zones' borders - external consultant THEMA
- EPADs of last 8 years period, together with latest trends, evaluated
- Parameters looked:
  - Open interest
  - Open interest/physical consumption
  - Traded volume
  - Churn rate
  - Risk premiums
  - Amihud illiquidity ratio
  - Bid-ask spreads
  - Correlation (with system price and between bidding zones)

THEMA analysis results:

Parameteres evaluated	HEL EPAD	RIG EPAD	TAL EPAD
Open Intrests	Relatively good liquidity	Poor liquidity	Poor liquidity
Open intrests/physical consumption	Relatively good liquidity	Low liquidity	Low liquidity
Traded volume	Relatively good liquidity	Poor liquidity	Poor liquidity
Churn rate	Betw. 0,5-1,5	Below 0,2 -> poor liquidity	Below 0,2 -> poor liquidity
Bid/ask spread	Relatively low -> below 1 EUR/MWh	Quite high around 5 EUR/MWh -> poor liquidity, high transaction costs	High up to13 EUR/MWh -> poor liquidity, high transaction costs
Correlation	Well correlated with system price, from 2020 less correlated with Baltic prices	Less correlated with system price, weakend correlation with Finland. Strenghtened correlation in Baltics	Less correlated with system price, weakend correlation with Finland. Strenghtened correlation in Baltics

Market participants consultations results

From EE-LV consultation:

- 9 market parties participated from EE(5); LV(2); LT (2);
- Not enough hedging opportunities in Baltics as bottleneck moved to FI->EE border (in 2020 11,5% of times)
- need better access to hedge with Nordic EPADs, preferably to FI EPADs, as Baltic EPADs not liquid enough
- Continues need for EE-LV LTTRs at least until synchronization

From FI consultation:

- 11 MPs participated. FI (6); EE(5);
- Most of the responses indicated some kind of issues in the hedging opportunities.
- Based on the responses, especially the EE MPs' hedging opportunities had deteriorated, making it hard to get a sufficient hedge.

NRAs decisions (June 2021)

- Hedging opportunities are insufficient in EE and FI bidding zones regarding FI-EE border.
- Pursuant to Articles 30(1), 30(2), 30(3) and 30(5) of the FCA FI and EE NRAs requested TSOs to issue LTTRs on the FI-EE - bidding zone border.

LTTRs implementation

FCA Art. 31 (3): TSOs develop proposal for the regional design of LTTRs for NRAs approval

Issues emerged for EE and FI LTTRs implementation -> NRAs asked ACER opinion (nov.2021), **ACER opinion No 03/2022 sent 08.03.2022**

- Fingrid to be added in pan-EU methodologies (FCA art 49, 59, 57) - all TSOs propose and ACER decides
- Regional HAR requirements (art 52 of FCA) need to be updated – CCR TSOs propose, consult, NRAs decide
- FCA art 16 CZC splitting methodlogy not implemented yet. Can be used bilaterally agreed approach by TSOs, subject to regulatory oversight

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Thank You!

Questions?

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Background and Economics of Long-Term-Transmission Rights

FI-EE border LTTRs implementation project 1st TSOs open webinar
24.03.2022

Erkki Sapp
Head of Energy Market Department
Elering AS

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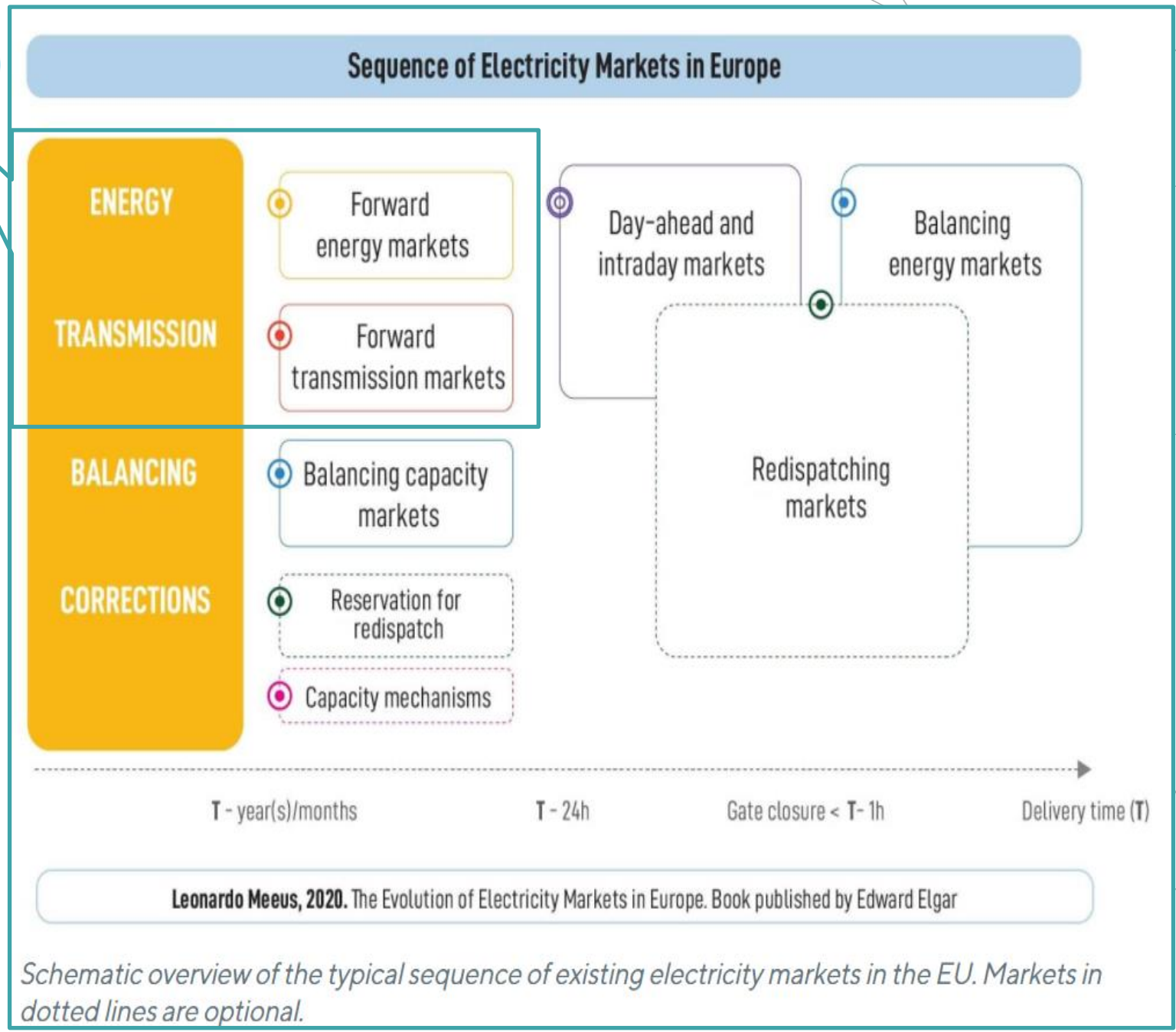
What is the EU regulation on forward electricity markets

The Forward Capacity Allocation Guideline (also known as 'FCA') entered into force more than 5 years ago (October 2016).

However, the FCA regulates only part of the forward markets- products called Long-Term-Transmission Rights (LTTRs)

Futures electricity markets (national) or OTC trades are not covered by network codes instead the financial regulation as MiFID II, MiFIR and EMIR cover the energy derivatives trading in the EU.



Schematic overview of the typical sequence of existing electricity markets in the EU. Markets in dotted lines are optional.

Forward market hedging tools available

FCA Regulation

MiFID II, MiFIR and EMIR

1. Transmission Rights

The FCA uses a single pan-European platform (Joint Allocation Office (JAO)), established in October 2018, to explicitly allocate auction-based cross-zonal transmission rights. As of 2021, covering 63 EU bidding zone directional borders (32 borders).

Transmission rights are contracts typically issued by transmission owners that provide the holder with a right or obligation to flow power in a specific direction between connected bidding zones.

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2. Forward markets

Power exchanges offer standardised financial contracts for power delivered in future periods. Futures contracts can cover different lengths and may also be profiled within that period, (i.e. certain peak settlement periods).

- In most **Continental European** markets, futures are referenced to the spot price of a bidding zone
- In the **Nordic market**, futures are referenced to the Nordic system price

Bilateral contracts can also be traded Over-the-Counter.

3. 'In between' products

MiFID II, MiFIR and EMIR

- **EPADs:** financial contracts that reference the spread between a specific Nordic bidding zone and the system price.
- **PPA -** Power Purchase Agreements: bilateral agreements for the sale of power covering typically cover periods of 5-15 years in the form of physical or financial contracts.
- **Coal, gas and (carbon) emissions futures** – *Not assessed in this presentation*

The risks for market players

Generators

- Risk of less generation than expected (volume risk)
- Risk of a general drop in electricity prices (price risk)
- Risk of lower prices in the local area due to local circumstances including congestion on XBs
- Risk of changes in price structure that reduce revenues (price structure risk)

Consumers

- Risk of consumption being higher than expected
- Risk of a general increase in electricity prices
- Risk of higher prices in the local area due to local circumstances including congestion on XBs
- Risk of changes in price structure that increase energy costs

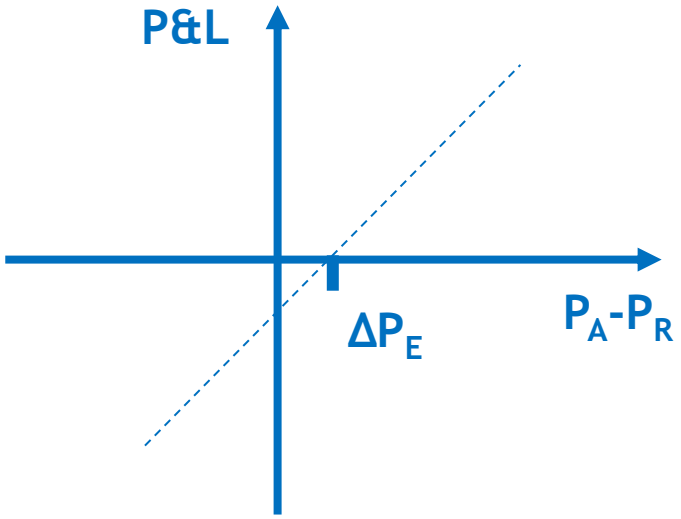
Suppliers/ Traders

- The trader needs to be able to efficiently enter into a position, either “buying low” or to price and sell structured products efficiently
- The trader needs to be able to close the position in order to either cut losses or collect profits.

Many of those risks can be hedged if there is an efficient liquid local forward market or access to reference forward (like system price) with well correlated price development. When hedging with a reference price the player is left with forward Cross-Border (XB) price risk if the correlation is low.

Where Cross-Border risk arises?

- Supplier/generator in one market area having a long-term contract of supply in an other market area;
- A generator that is hedging local generation by selling a forward with reference to another area price or towards a system price;
- A supplier hedging a sale in the local bidding area with a forward on a reference price;
- A consumer hedging future energy costs by purchasing a forward contract on a reference price.



Even if local price hedging product is available, it doesn´t mean its liquid or in good correlation to local area price. If one would look suitable product in other area one would be open to XB risk!

P&L = Profit and Loss
P_A-P_R = Price difference
P_A = Local price
P_R = Reference price for forward contract
ΔP_E = Expected price difference

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The FCA establishes 3 kinds of LTTRs for XB risk hedging

PTR
Physical Transmission Rights

- A PTR gives the holder the exclusive right to use a particular interconnection in one direction to transfer a predefined quantity of energy from one market hub to the other.
- PTRs are allocated pursuant to the **"Use It Or Sell It"(UIOSI)** principle. Thus, ensuring that **non-nominated** capacity is made automatically available for the DA allocation. PTR holders shall be remunerated for the reallocated PTRs based on the DA market spread **at the concerned BZB** (only if positive).

FTR Options
Financial Transmission Rights

- FTRs are financial in the sense that the right is cash-settled based on the price spread between the relevant zones (as non-nominated PTRs).
- FTR options give the holder the **right to collect revenue** generated by the amount of MW he holds.
- An FTR option provides the holder with the price spread **only where this spread is positive.**
- Under the condition that a market coupling is implemented, **FTRs Option = (PTRs) UIOSI**
- FTRs do not need to be nominated.

FTR Obligations
(Not implemented)

- The holder of an FTR obligation is entitled to receive **and obliged to pay** the hourly market price difference between two areas during a specified time period. The product entails the obligation for owners to pay the respective market price differential **if it is negative**, i.e. if the price differential is in the opposite direction.
- An FTR obligation will result in a payment between the holder and issuer of the obligation that reflects the direction of the relevant price spread.

If UIOSI PTRs are not nominated, they „become" to FTR-options meaning the holder shall be entitled to receive remuneration equal to price spread.

LTTRs can be used either:
- to hedge the XB risks associated to energy transfers or;
- to maximize benefits in the case of pure trading business/speculative trading.

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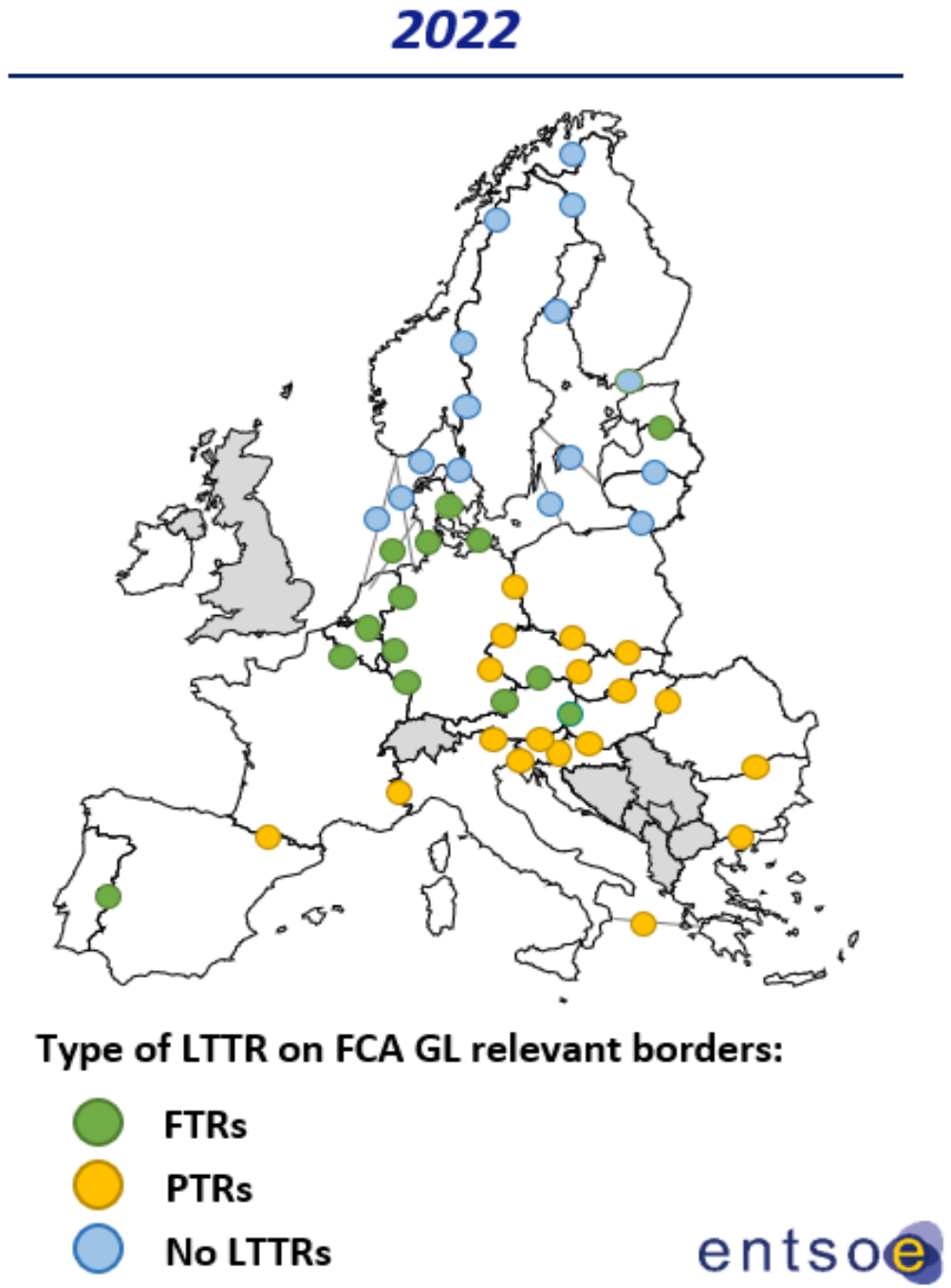
The development of LTTRs products

The Long-Term Transmission Rights (LTTRs) represent a cross-border financial hedging and are issued by TSOs or any owner of interconnectors. They represent a risk management mechanism against uncertainty of price spreads/differentials which result from transmission congestion.

According to the data in the ENTSO-E Market Report 2021, only a 12,3% of PTRs were nominated in 2020. The rest, an 87,7% resulted non-nominated and followed the Use-It-Or-Sell-It principle.

Long-Term Transmission Rights markets are clearly moving away from physical towards financial products

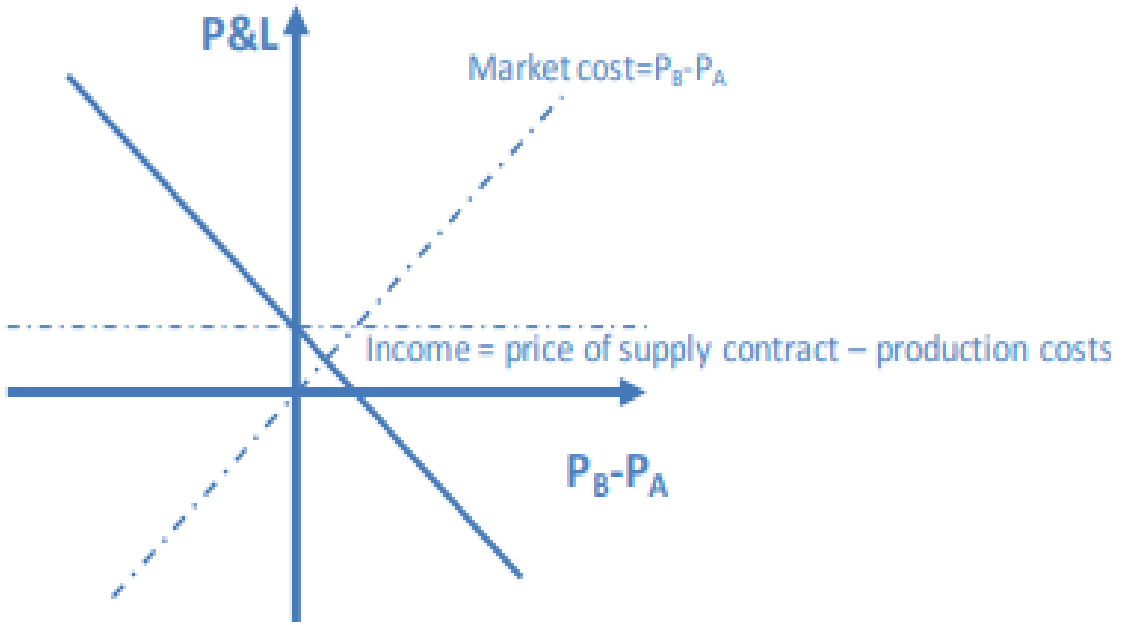


Example of the hedge (1/4)

In addition to supply contract and production cost one may have also other incomes and/or cost as CfD contracts, EPAD etc

As example of a generator in market A having a long-term contract of supply in a market B.

Presenting the **Profit & Loss (P&L)** account of this generator, there will be a "fix" income related to the difference between the contract he signed for supplying in market B and its production costs, and a variable cost associated to its participation in markets A and B as seller and buyer (P_B - P_A).



Price of supply contract - production cost = 4

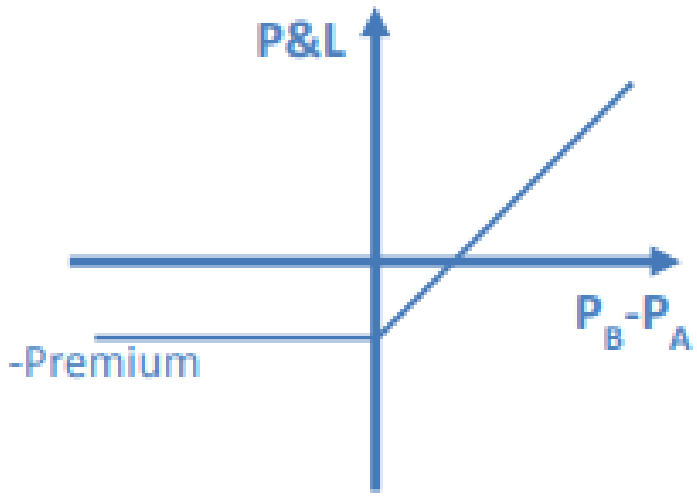
The generator is exposed to possible losses if final price spread becomes higher than the price of the supply contract.

Area price spread / market cost (P_B-P_A)	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
Price of supply contract - production cost	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Expected profit without LTTRs	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**	**-1**	**-2**	**-3**

Example of the hedge (2/4)

Non-nominated UIOSI PTRs = FTR-Options

An FTR-option from Market A to Market B allows one to hedge this risk by getting paid (P_B - P_A) when positive at a cost (Premium) that will be the marginal price resulting from the FTR auction



FTR Option Premium / auction price = 2

Area price spread / market cost (P_B-P_A)	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
FTR Option premium (auction price) + possible revenue (price difference)	-2	-2	-2	-2	-2	-2	-2	-2	-1	0	1	2	3	4	5

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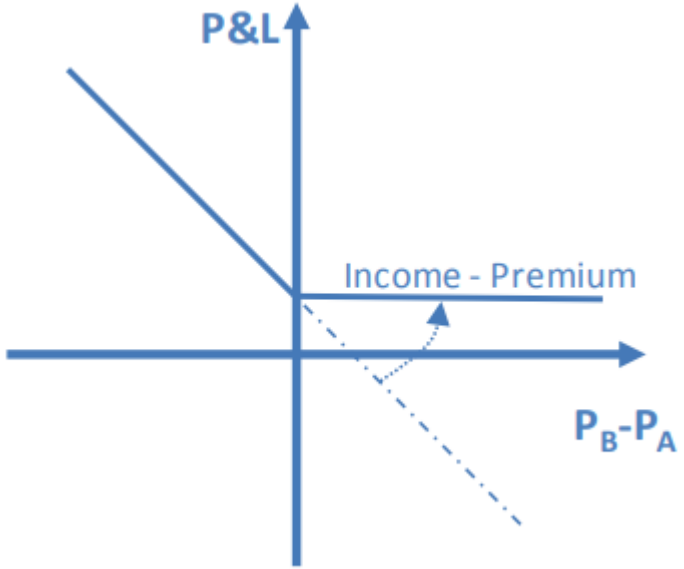
Example of the hedge (3/4)

The total Profit and Loss (P&L) of the generator holding an FTR option from market A to market B.



$P\&L = Income - (P_B - P_A) - Premium$; if $P_B - P_A \leq 0$

$P\&L = Income - Premium$; if $P_B - P_A > 0$

Area price spread / market cost (P_B-P_A)	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
Price of supply contract - production cost	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Expected profit without LTTRs	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**	**-1**	**-2**	**-3**
FTR Option premium (auction price) + possible revenue (price difference)	-2	-2	-2	-2	-2	-2	-2	-2	-1	0	1	2	3	4	5
Total Profit with FTR-Option	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**

Example of the hedge (4/4)

With an FTR option, the generator in area A limits its losses by hedging the XB risk associated to the volatility of price spread.

In addition, it can be noticed that, in order to avoid losses, the generator should not pay a premium for FTR-options higher than the income (price of supply contract).

In addition to supply contract and production cost one may have also other incomes and/or cost as CfD contracts, EPAD etc

As LTTRs are offered by TSOs there is very low counterparty risk and for market participants the cost for auction participation are low.

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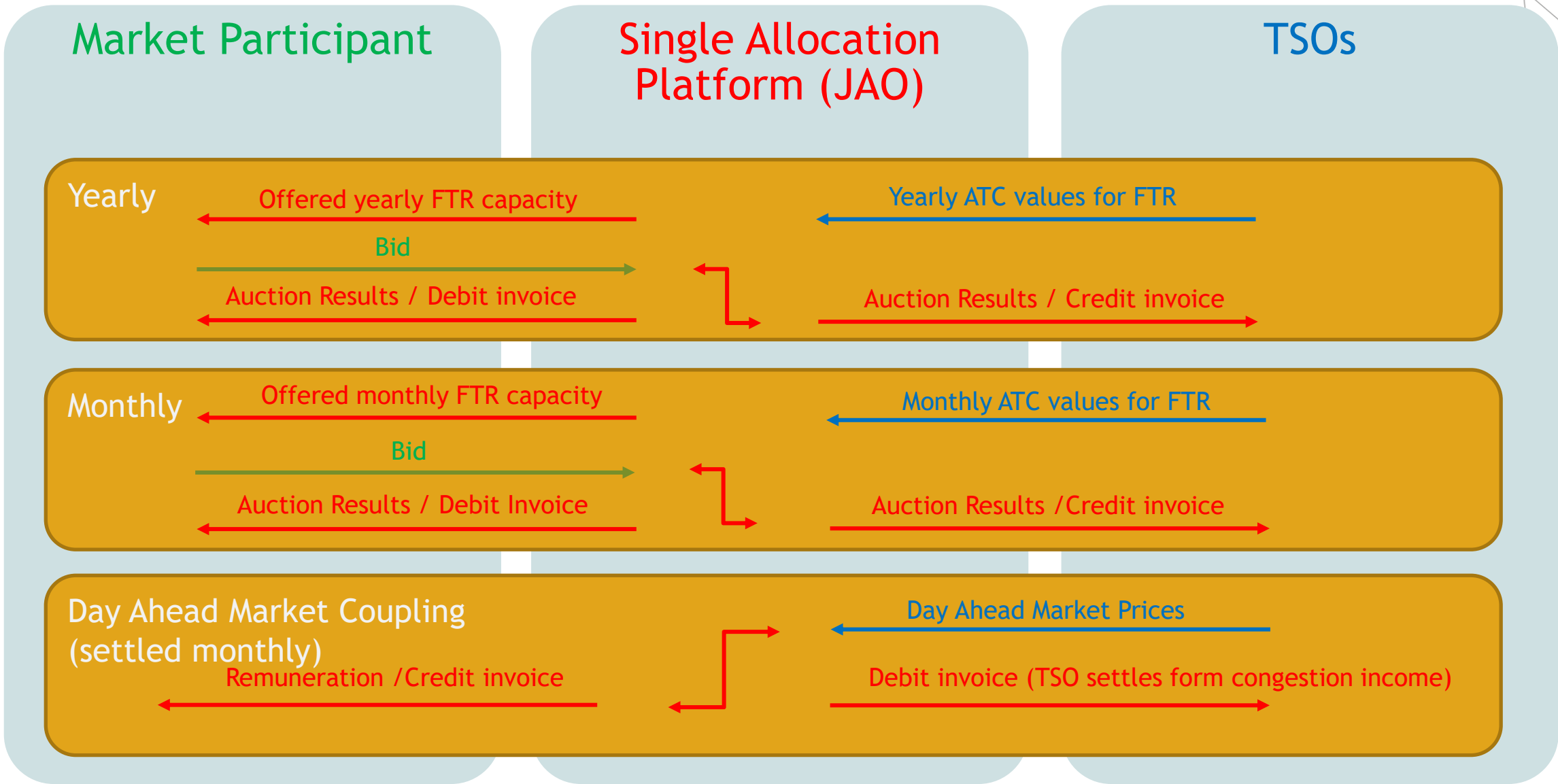
FTR-option auction process



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TSOs next steps on FI-EE LTTRs implementation

FI-EE border LTTRs implementation project 1st TSOs open webinar

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Latest developments

- On 8 March 2022 ACER's Board of Regulators issued a favourable opinion No 03/2022 pursuant to Article 22(5)(a) of Regulation (EU) 2019/942.
- Elering and Fingrid have eveluated and finalized the FI-EE LTTRs project estimated implementation timeline.
- Tasks and timeline have been developed in two possible scenarios taking into account requirements set in the FCA Guideline.
  - **Standard Scenario** is based on the maximum possible approval times set in the legislation (without considering the time which may be needed if amendments are requested to proposed methodologies); and
  - **Fast Scenario** is constructed so that TSOs and JAO would be ready to offer the 2023 yearly FI-EE LTTRs.
- Next important step is in April. Public consultation of Baltic CCR Regional Design and Regional HAR Annex.

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FI-EE LTTRs implementation - tasks and milestones	Standard scenario (6 months for NRAs approval)	Fast scenario (3 months for NRAs approval)
1. Regional design of long-term transmission rights in line with FCA Article 31		
Baltic CCR decision for public consultation	8th April2022	8th April 2022
Public consultation (one month)	Mid-April - mid-May 2022	Mid-April - mid-May 2022
Baltic CCR decision and submission to NRAs	Mid-June 2022	Mid-June 2022
NRA decision (up to 6 months)	Mid-December 2022	End of August 2022
Implementation (for 2023 yearly LTTRs should be before SAP 2023 auction calendar)	December 2022	September 2022
2. HAR regional annex in line with FCA Article 52(3)		
Baltic CCR decision for public consultation	8th April 2022	8th April 2022
Public consultation (one month)	Mid-April – mid May 2022	Mid-April – mid May 2022
Baltic CCR decision and submission to NRAs	Mid-June 2022	Mid-June 2022
NRA decision (up to 6 months)	Mid-December 2022	End of August 2022
Implementation	December 2022	September 2022
3. Elering-Fingrid agreement on LTTRs - setting the details of FTR incl amount of capacity, splitting and risk management		
Discussions on the details	January - May 2022	January - May 2022
Draft agreement	May 2022	May 2022
Open discussion with market participants on LTTRs capacity split	June 2022	June 2022
Discussions with NRAs	Mid-June 2022	Mid-June 2022
Signed agreement (input for SAP/JAO)	December 2022	September 2022

FI-EE LTTRs implementation - tasks and milestones	Standard scenario (6 months for NRAs approval)	Fast scenario (3 months for NRAs approval)
4. EU wide FCA NC methodologies implementation in Finland (art 49, 57 and 51 Methodologies)		
Preparation of TSOs proposal in relevant ENTSO-E working group	April 2022	April 2022
ENTSO-E approval for ACER submission	May 2022	May 2022
Submission to ACER	May 2022	May 2022
Approved by ACER (up to 6 months)	End of November 2022	End of August 2022
5. Fingrid joining the SAP agreement/ connectivity with JAO		
Fingrid will sign SAP Confidentiality Declaration	April 2022	April 2022
Fingrid signs the Adherence Form (only after having a fix go-live date)	June 2022	June 2022
SAP SC decision on Fingrid (max 3 months)	September 2022	September 2022
Fingrid system development for data exchange with JAO	Jun- Sep 2022	Jun- Sep 2022
Fingrid system testing with JAO	TBD	TBD
Elering system testing with JAO (for new LTTRs)	TBD	TBD
Auction calendar input to JAO on FI-EE border LTTRs auctions	December 2022	September 2022
6. Stakeholders' involvement		
1st workshop to introduce the LTTRs overall principles and Estonian experience	24th of March 2022	24th of March 2022
2nd workshop to introduce the proposed Baltic Regional Design and Baltic Specific Annex	April/May 2022	April/May 2022
3rd workshop open discussion on LTTRs capacity split	June 2022	June 2022
4th workshop to introduce the JAO platform	November/December 2022	August/September 2022

Questions?

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Thank you!

Next webinar in April 2022

TSOs Proposal for FI-EE LTTRs Regional Design

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