

Review of the EMIR Clearing Threshold for Commodities (CCT)

A study prepared for EFET

2 June 2022



Background and scope of the study

Background



- EMIR Refit^[1] introduces a mandate for **ESMA**^[2] to periodically **review** and – when necessary – **adapt the clearing thresholds**
- EFET has commissioned **Frontier Economics (supported by Luther Lawfirm)** to produce a scientific study to substantiate its members' position for the current review

Scope



- Reviewing the **clearing threshold for commodities (CCT)**, not other asset classes
- Providing a **'toolbox' of further changes to the EMIR framework**
- **Forward-looking developments** until 2030
- Perspective of the **energy markets** and the EU **energy transition** ("Green Deal")
- **Insights and practical case studies**, complemented by published data and reports

Approach



- We have conducted **bilateral interviews** with EFET members and affiliates:
 - **23 interviews with 15 companies**, covering a wide range of departments (renewables, energy management and trading, retail, treasury, regulation)
 - **Wide geographic coverage** (all parts of Europe)
 - **Varying EMIR status** ^[3]: 1 NFC+, 1 company with a FC in the group, remaining 13 companies are NFC- (some have already analysed the NFC+ implications)

Main finding – The CCT should be **increased to at least €12bn** and followed by further **EMIR reforms** to be fit for the EU Green Deal

I The CCT should be increased to at least €12bn...

- Such an increase is required to facilitate the EU energy transition (Green Deal)
- Compensates for historical energy price inflation
- Establishes a level playing field with entities from other G20 jurisdictions
- Such an increase would not jeopardise the stability of the financial system since commodity derivatives (such as energy products) are mainly traded by NFCs which do not pose a systemic risk

and

II ...should be followed up by further EMIR reforms

- An increase of the CCT to €12bn alone would only mitigate current issues for NFCs
- It would not be sufficient to facilitate the financing of the fast growing private renewable investments needed to achieve the Energy transition
- We provide a ‘toolbox’ of further remedies which would make EMIR fit for the purpose of a low-carbon economy

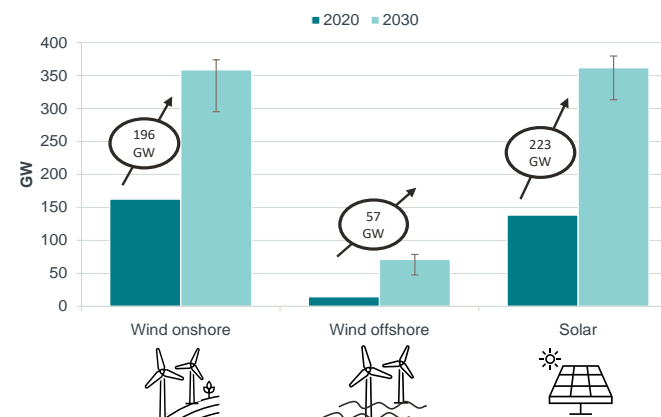


Part I – The CCT should be increased to at least €12bn

A higher CCT is necessary to finance private renewable investments for the EU energy transition

- **Material expansion of private RES investments** necessary for the EU Green Deal
- **OTC derivatives** (such as **financial PPAs**) are needed for financing due to the phase-out of government support schemes
- **NFCs play a key role** in providing renewable financial PPAs
- **NFC-s cannot offer the necessary hedges at the current CCT** – a single large financial PPA can breach the CCT
- Breaching the CCT and achieving “**NFC+**” status is **no viable option** for most NFC-s (significant admin. efforts and cost)

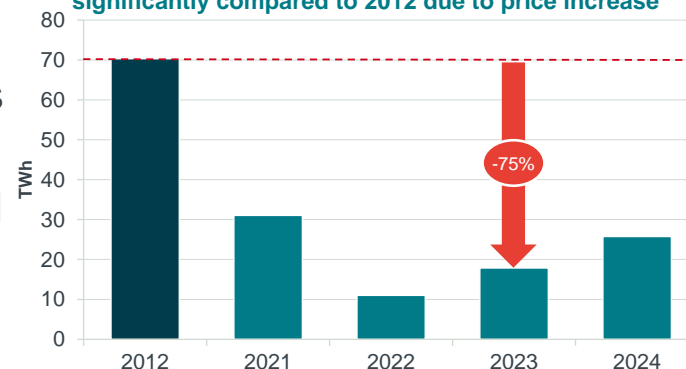
Renewable capacity must be more than doubled by 2030 to achieve the Green Deal



A €12bn CCT would at least compensate for the increase of energy prices and allow to trade comparable quantities in derivatives as in 2012

- Fundamental changes have led to **increasing and more volatile commodity prices** since 2012
- Since 2021, as a **consequence of Brexit**, centrally cleared trades on UK exchanges are treated as OTC
- As a consequence, the unadjusted CCT of €3bn is **consummated at much lower trading quantities** than in 2012
- To **compensate energy price increase** since 2012, the CCT would have to be **increased to €12bn**

Tradable electricity derivatives within €3bn CCT shrank significantly compared to 2012 due to price increase

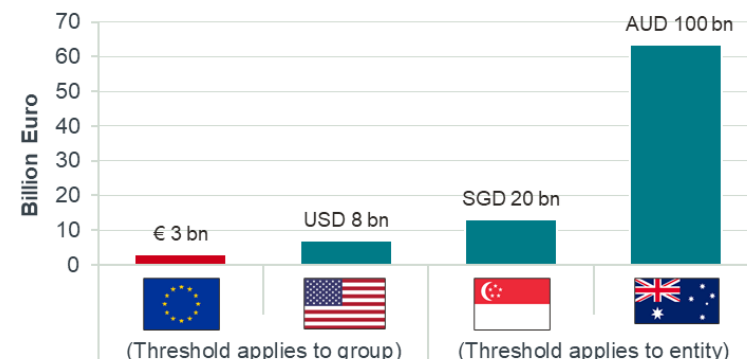


Part I – The CCT should be increased to at least €12bn

A higher CCT would also establish an international level playing field

- A **benchmarking study by Luther** shows that **EMIR is stricter than other comparable G20 regulatory regimes**
 - EMIR considers the **broadest scope** of products, entities and activities when counting trades against the CCT
 - In addition to having the widest scope, EMIR also has the **lowest commodity clearing threshold**
- This puts EU companies at a possible **competitive disadvantage** in non-EU markets

EMIR CCT lowest among G20 comparators



A higher CCT is justified as NFCs only bear low systemic risk

- An **increase** of the CCT to €12bn is justified due to **specific characteristics** of the **commodity derivatives market** which suggest that increasing the scope for unmargined (but collateralised through credit lines and credit support) OTC trades will **not** increase credit risk to a **systemic relevant level**
 - The market for commodity derivatives is **very small** compared to other derivatives markets and accounted for only 1% of the outstanding notional value of derivatives in 2020
 - A failure of a non-financial commodity trading firm would **not trigger a “broader contagion”** of the financial sector

Part II – CCT increase should be followed up by further EMIR reforms

An increase of the CCT to €12bn would **only offset** the impact from increased energy prices

- An increase of the CCT is necessary to **immediately mitigate** the issues that NFCs approaching the CCT **currently** face
- However, it would **not accommodate higher derivative quantities** (such as financial renewable PPAs) required for the European transition to a low-carbon economy (Green Deal)

The CCT increase needs to be accompanied by further EMIR reforms

- Most remedies from the toolbox require **Level 1 changes** (see table), i.e. they would need to be proposed by the EU Commission and adopted by the European Parliament and the Council.
- This process typically **takes several years** and would potentially **hold back the energy transition**
- We therefore propose to progress with raising the CCT level to €12bn or higher regardless of the speed with which the further remedies are progressed

#	Remedy	EMIR change
1.	Exclusion of all centrally cleared derivatives by a recognized Central Counterparty	Level 1
2.	Limitation of geographical scope	Level 1
3.	Widening the application of netting in threshold calculation	ESMA FAQ
4.	Widening the hedging definition	Level 2
5.	Amending the calculation methodology (reference period)	Level 1
6.	Refine and narrow definition of derivative instruments	Level 1

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Commodity price inflation means the CCT is consummated at much lower trading volumes than in 2012

a

Energy price inflation since 2012



Development since 2012

- Most commodity prices have risen significantly since 2012, including prices for electricity, gas and CO2 allowances (EUA)
- Higher prices have been accompanied by increased price volatility

see Annex

b

see Annex

Price increase expected longer term



- Markets expect this price increase to prevail longer term
- Future prices for electricity, gas and EUA are significantly higher than in 2012, despite backwardation

UK exchange trades considered OTC since 2021



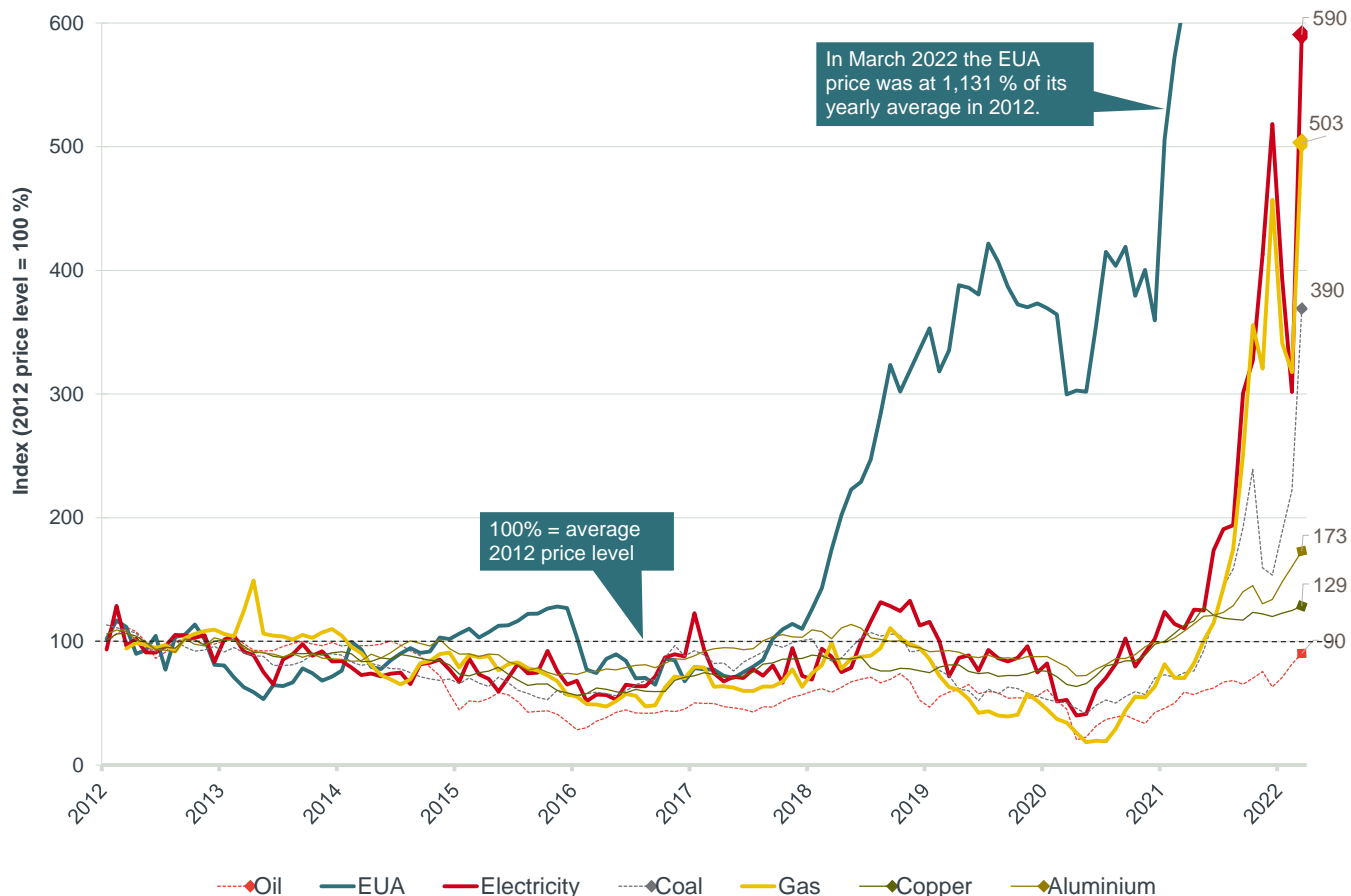
- Until January 2021, UK exchanges were EU Regulated Markets
- Since January 2021, UK exchanges are not recognised as equivalently regulated market places anymore, and transactions done by EU entities are now treated as OTC derivatives

Impact on NFCs

- Constant CCT of € 3 bn is consummated at lower trading volumes than in 2012
- Higher market risk requires more hedging (derivatives trading)

- Even less OTC derivative trades possible under CCT if active on UK exchanges
- UK exchange trades treated as OTC and counted towards the CCT, despite being in fact traded on exchanges

Most commodity prices have risen since 2012 – prices for electricity, gas and carbon emissions (ETS) are many times higher than 2012 levels

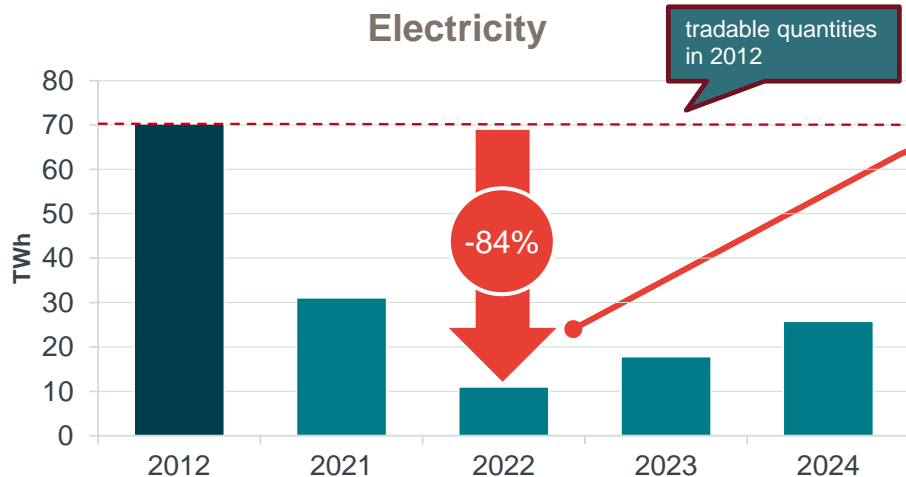


- Most commodity prices have risen since 2012. Today's prices for electricity, gas and EUA are many times higher than the price level in 2012
- Commodity prices directly affect the scope for OTC trading:
 - Higher commodity prices reduce the tradable quantities (in volume units, e.g. MWhs of electricity) at a given level of CCT (fixed in € terms) and vice versa
 - More volatile prices increase market risks and therefore increase the need for derivatives trading to hedge against these risks and vice versa

Source: Frontier Economics

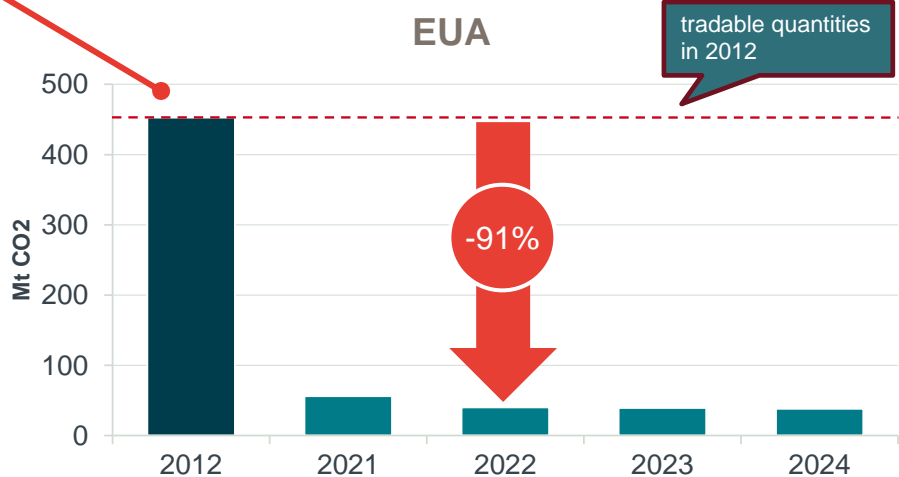
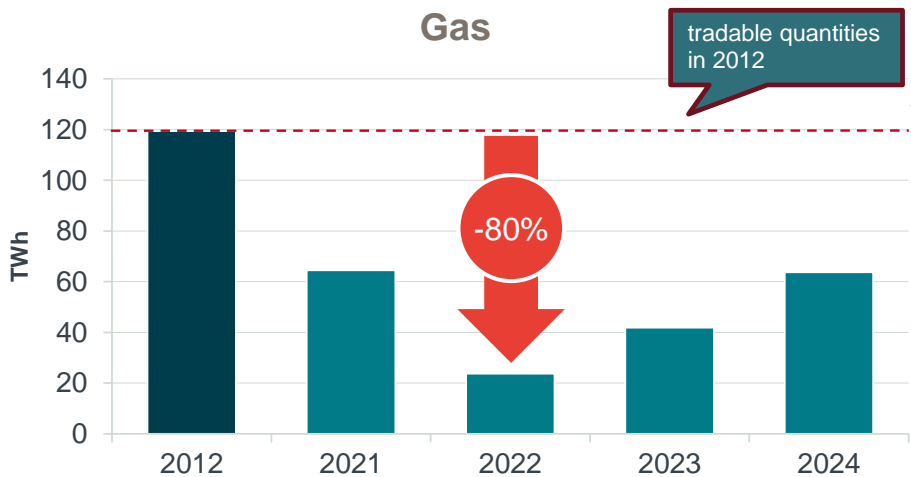
Note: The EUA time series is truncated after March 2021 for better graphical representation. Carbon prices continued their strong increase. In March 2022 the price index (2012 = 100%) for carbon certificates reached 1131%.

Commodity price inflation means the CCT is consummated at much lower trading volumes than in 2012



In 2012, the CCT of € 3 bn allowed to trade approx. 70 TWh in OTC derivatives which shrank to c. 11 TWh in 2022 (i.e. 1/6 of the initial quantity)

EUA and gas: The tradeable quantities decreased to c. 1/10 and 1/5 in 2022 of what was possible in 2012



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The energy transition will further increase the need for OTC commodity derivatives (such as renewable financial PPAs)

a The energy transition requires significant renewable investments

- EU has to committed to cut GHG emissions by at least 55% until 2030^[1] – this requires several hundred billion euros worth of investment in coming years
- Renewable investments are an integral part of the EU energy transition

b OTC commodity derivatives are needed to finance renewable investments

- Many RES investments will no longer be protected against market prices risks from government support schemes (e.g. zero-bid offshore tenders)
- These projects require tailor-made hedging solutions (derivatives) to be financeable – these are typically traded OTC
- Renewable financial PPAs are a particularly important OTC hedging solution

c Renewable financial PPAs can count towards the CCT

- As OTC products, renewable financial PPAs count towards the CCT unless exempted as “hedging transactions” under EMIR
- There are important use cases for these PPAs that are not exempt as hedging transactions under EMIR – albeit serving a risk-reducing purpose in the market.

d NFCs play a key role as facilitators of the energy transition

- Utilities/energy traders are important to balance the needs of producers of renewable power and consumers
- NFCs are in a prime position as they can handle physical power positions and can balance intermittent renewable with their generation and retail portfolio

Increased need
for OTC
commodity
derivatives
(renewable
financial PPAs)
and NFC
involvement in
the energy
transition

The energy transition requires significant renewable investments to achieve the 2030 target

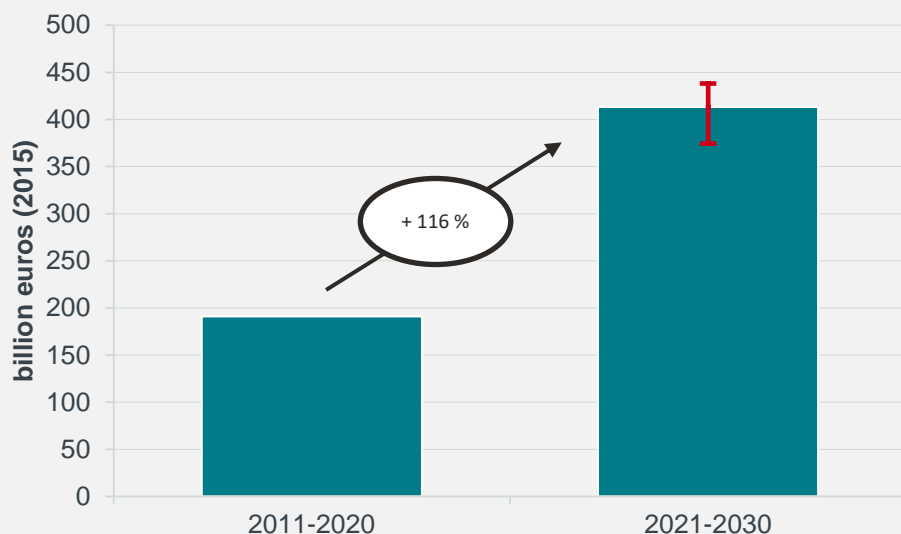
EU target: 55 % reduction of GHG emissions until 2030 compared to 1990

-62% GHG reduction in the power sector^[1]

38% RES electricity share (up from 22% in 2015)

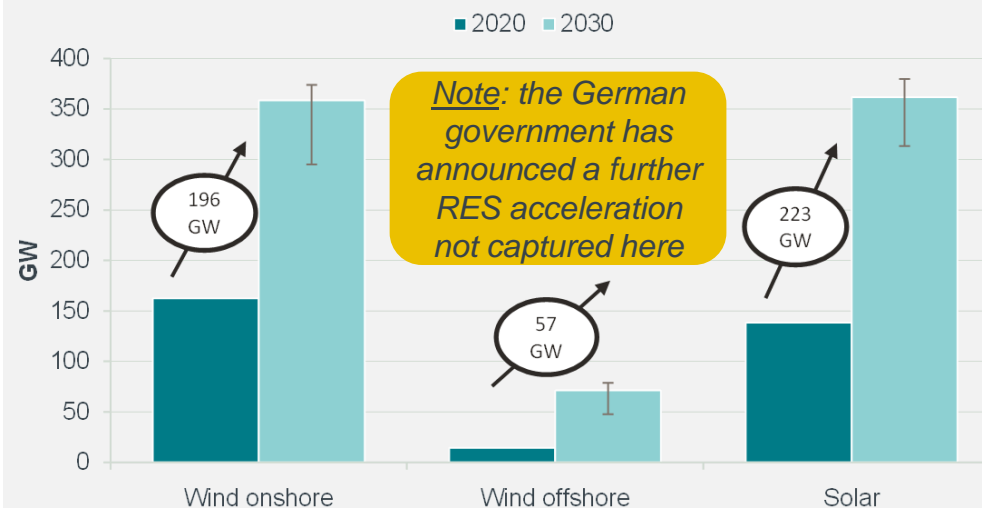
+12% electricity demand compared to 2015

Average annual energy system investments in the total energy system (excluding transport)



Source: Frontier Economics based on Table 46 in European Commission (2020): 2030 Climate Target Plan Impact Assessment – 2030 Climate Target Plan, SWD(2020) 176 final, Table 46.

Installed production capacities from renewable resources wind and solar PV

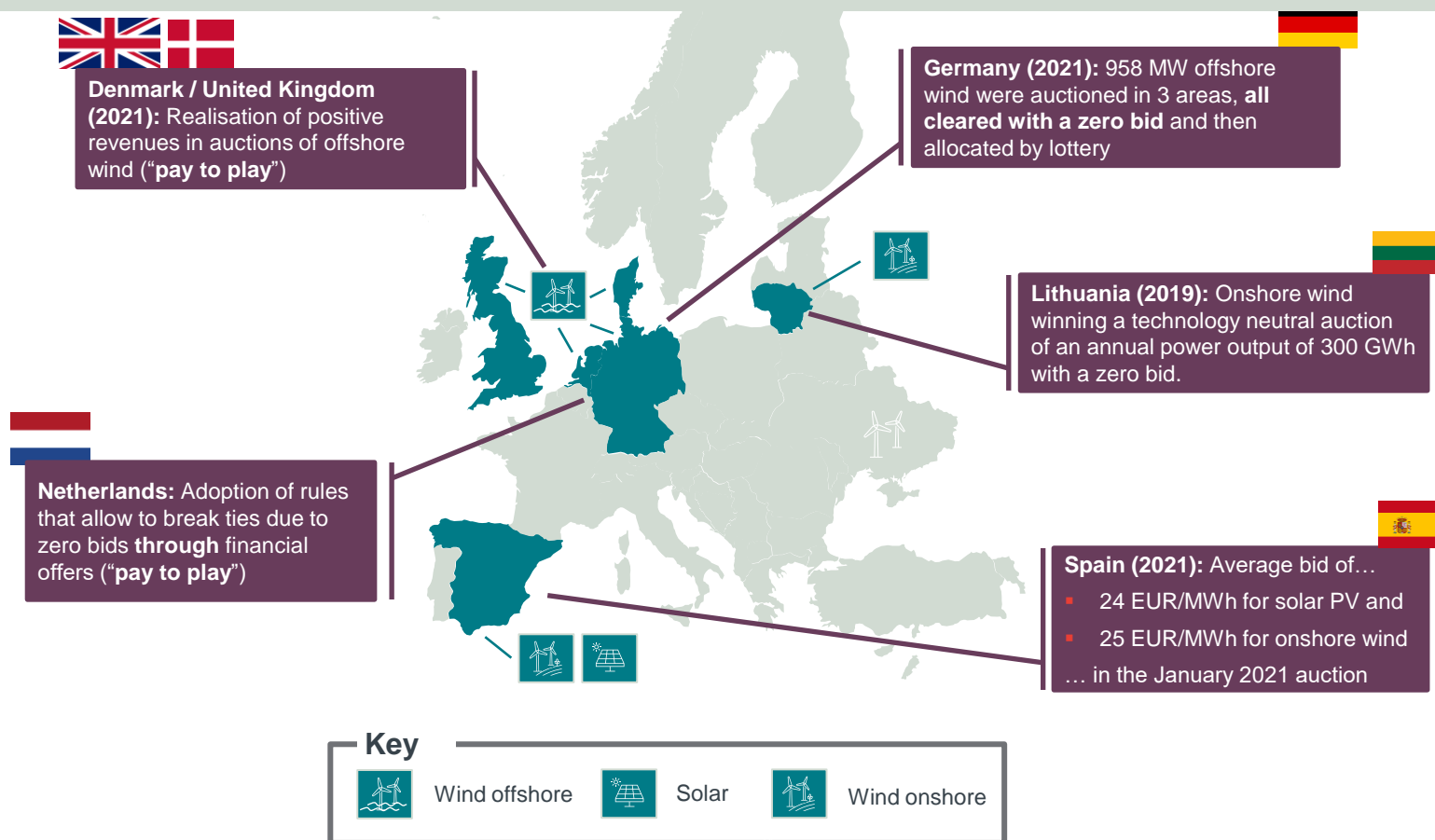


Source: Frontier Economics based on European Commission (2020): Impact Assessment – 2030 Climate Target Plan, SWD(2020) 176 final, Figure 47.

As government support phases out, the availability of hedging solutions becomes increasingly important to finance new renewable investments

Examples for renewable auctions with very competitive bids and zero-bids

- Traditionally, renewable investments were protected against price risks via government support schemes
- Zero bids mean that these projects do not receive any subsidy payments (or “pay to play” in the case of negative bids)
- This exposes projects to market risks over the entire lifetime of 20+ years



OTC derivatives are required to enable and finance projects which are not protected against market risks by government support schemes

OTC derivatives are needed to enable the financing of renewable investments



Long-term nature



Possibility to adopt specific requirements



Lack of direct access to exchanges for investors



Renewable-specific risks from fluctuating weather conditions



Additional credit support arrangements in OTC contracts

see Annex

Renewable financial PPAs will be particularly important for financing the energy transition

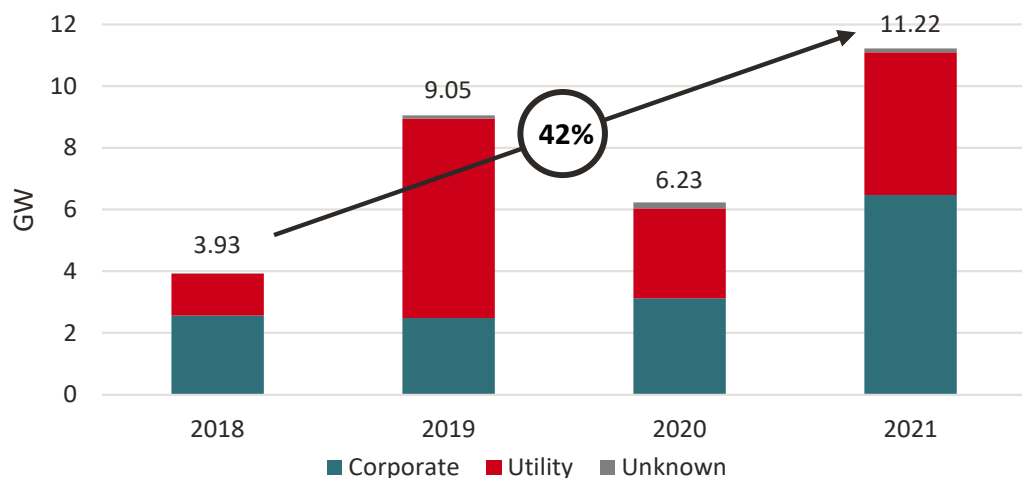
Renewable financial PPA

- The use of renewable PPAs has increased materially in the EU in recent years (see left chart)
- **Renewable financial PPAs** are a notable example for hedge instrument for renewables
 - A financial PPA is **essentially a swap** (or contract for differences where the fixed contract price acts as a strike price) and is therefore an OTC derivative [see Annex](#)
 - A **key advantage** of renewable financial PPAs is that sellers do not require a physical presence and supplier license for the local market of the buyer [see Annex](#)

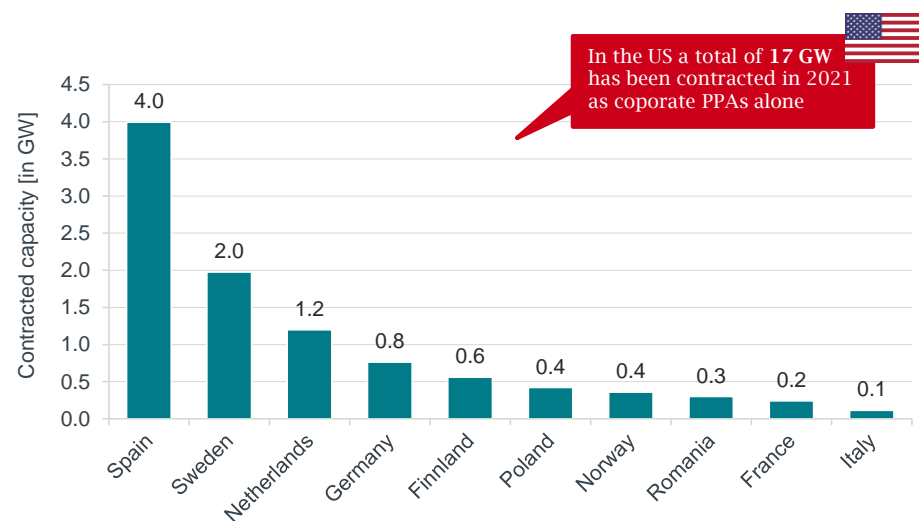
Treatment under EMIR

- Renewable financial PPAs represent OTC derivatives and therefore count towards the CCT unless exempted as “hedging transactions” under EMIR; and
- There are important use cases for these PPAs that are not exempt as hedging transactions under EMIR – albeit serving a risk-reducing purpose in the market.

Estimated PPA volumes for new renewables



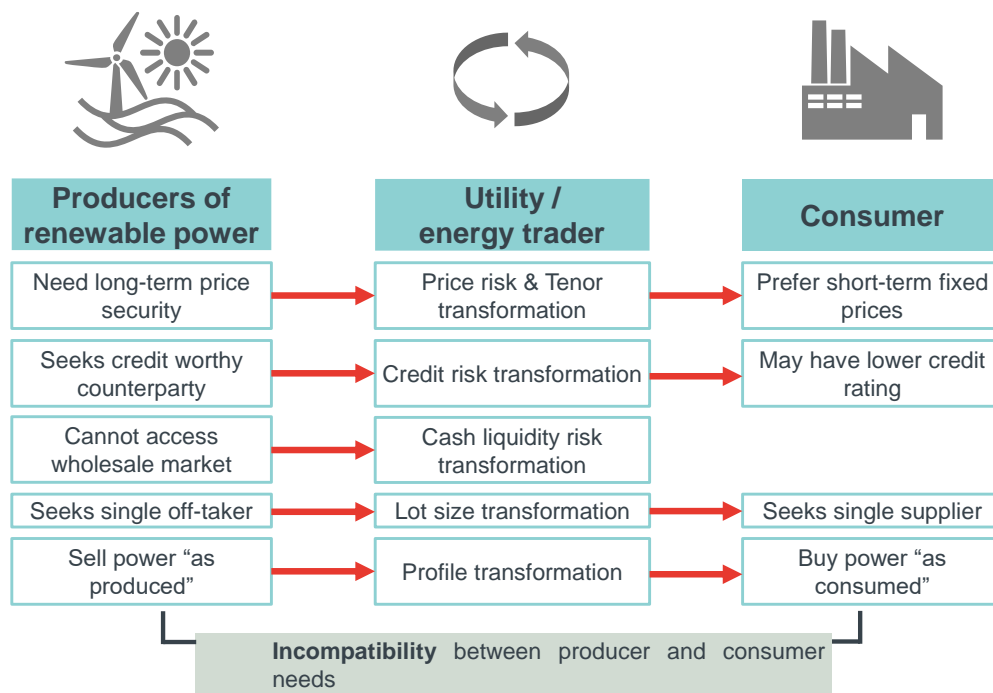
Top 10 EU countries by PPA volume 2021



Source: Frontier Economics illustration based on Pexapark, “European PPA Market Outlook 2022”

NFCs play a key role as facilitators in the energy transition

Utilities/energy traders are important to link renewable asset generation with consumers...

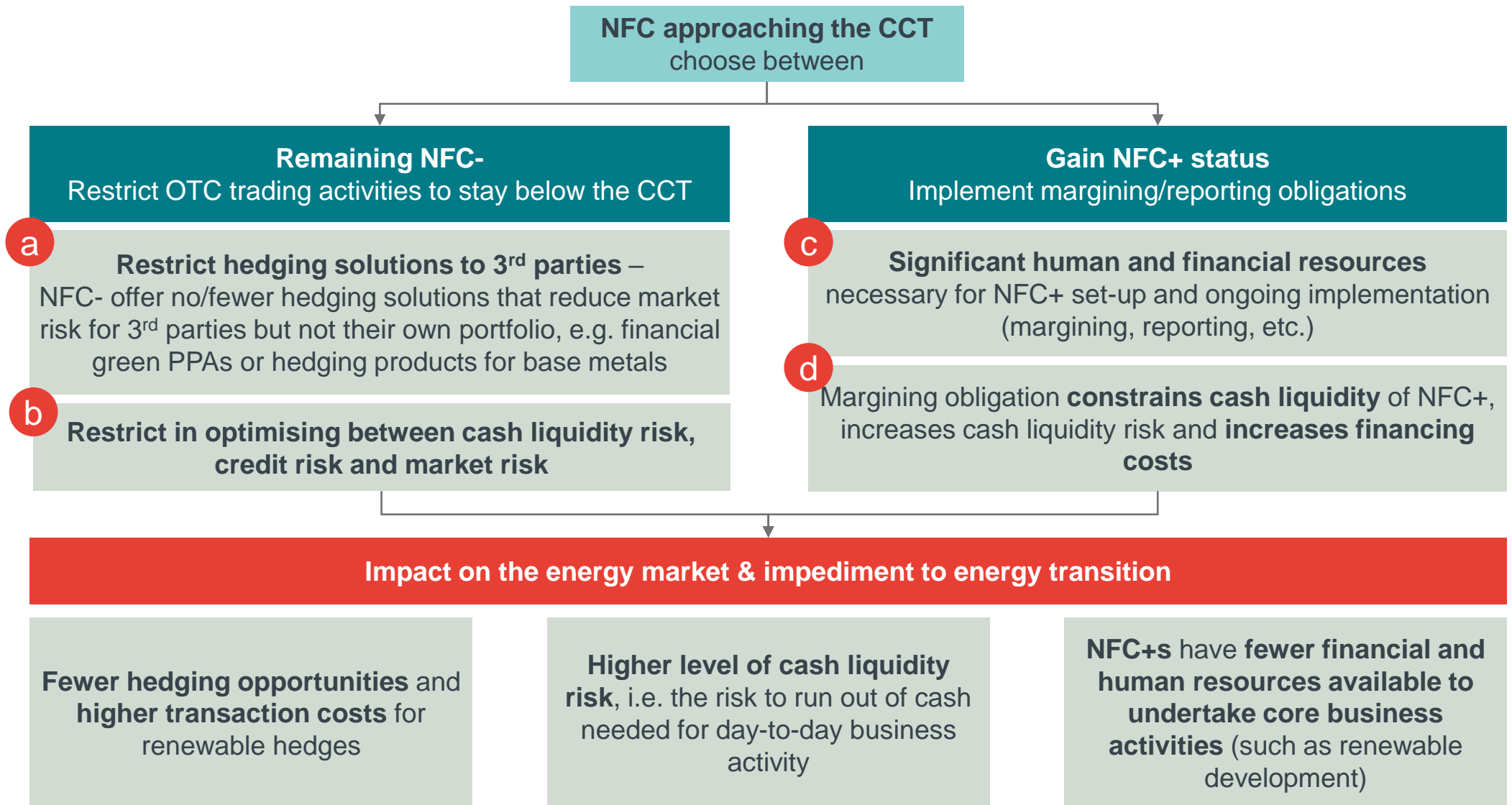


... and NFCs are in a prime position to act as such links

- **Longer-term renewable PPAs** in Europe often involve energy companies as **NFC counterparties**
 - Utilities treat derivative contract positions similar to physical renewable generation and monetise them through successive power sales to retail customers
 - Energy traders without a retail portfolio "warehouse" (i.e. internalise) the commodity risk
 - NFCs are the group with the largest notional amounts in commodity derivatives trading^[1]
- **FCs**, such as banks and hedge funds, **have withdrawn** from energy markets in recent years
 - Banks have higher cost of capital than NFCs due to the capital requirements under the Basel III accord
 - FCs cannot straightforwardly handle physical power positions which requires for example scheduling/balancing teams and trading licenses in same markets
 - NFCs can better handle the intermittency of renewable power as they often have a generation portfolio to diversify and balance the required power profiles

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The current CCT is too low and impedes the energy transition

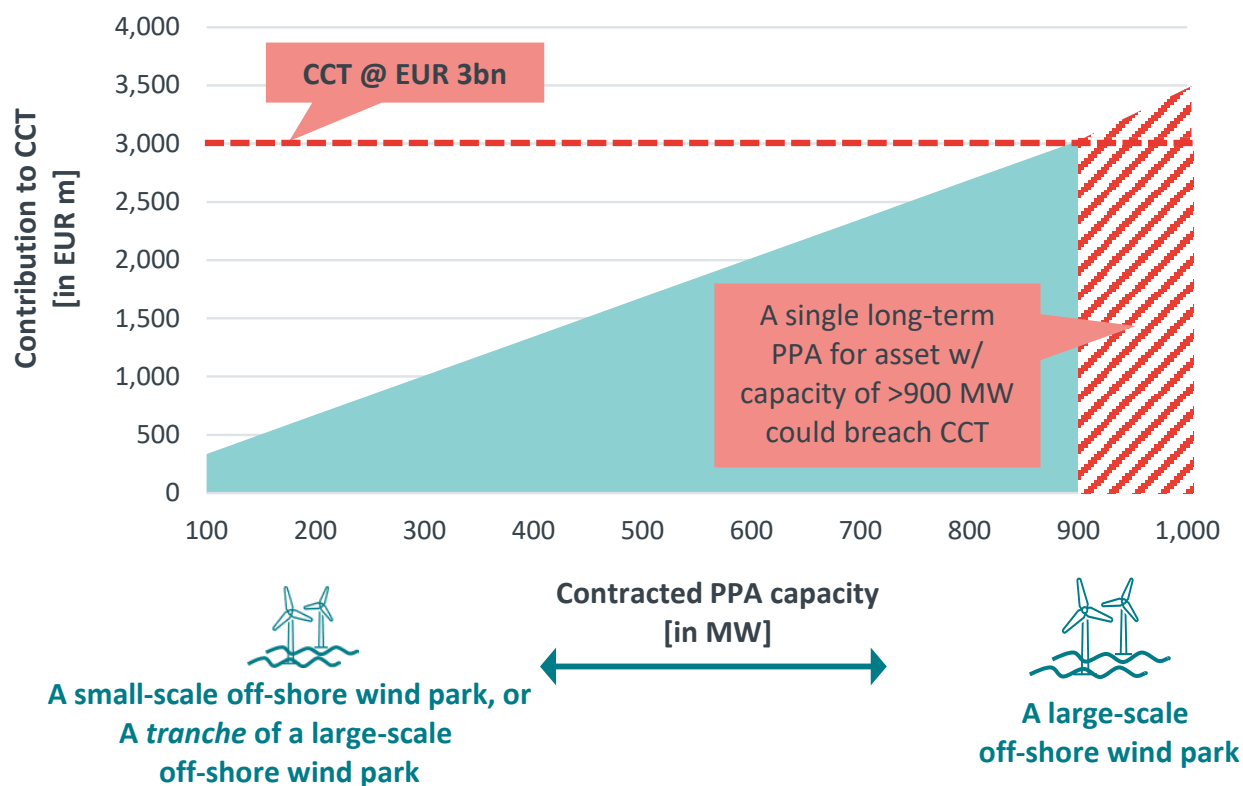


NFC-s are restricted in offering hedging solutions – A single large-scale renewable PPA can already breach the CCT



Illustrative Example

- Renewable financial PPA (“fix-for-floating swap”) with a duration of 12 years and a fixed PPA price of 70 €/MWh
- Varying off-shore capacity (from a small slice to an entire wind farm) between 100 MW and 1,000 MW
- This deal **only qualifies as a hedge for the seller** (risk-reducing for the investment) while the NFC needs to count the gross notional value(GNV)^[1] against the CCT

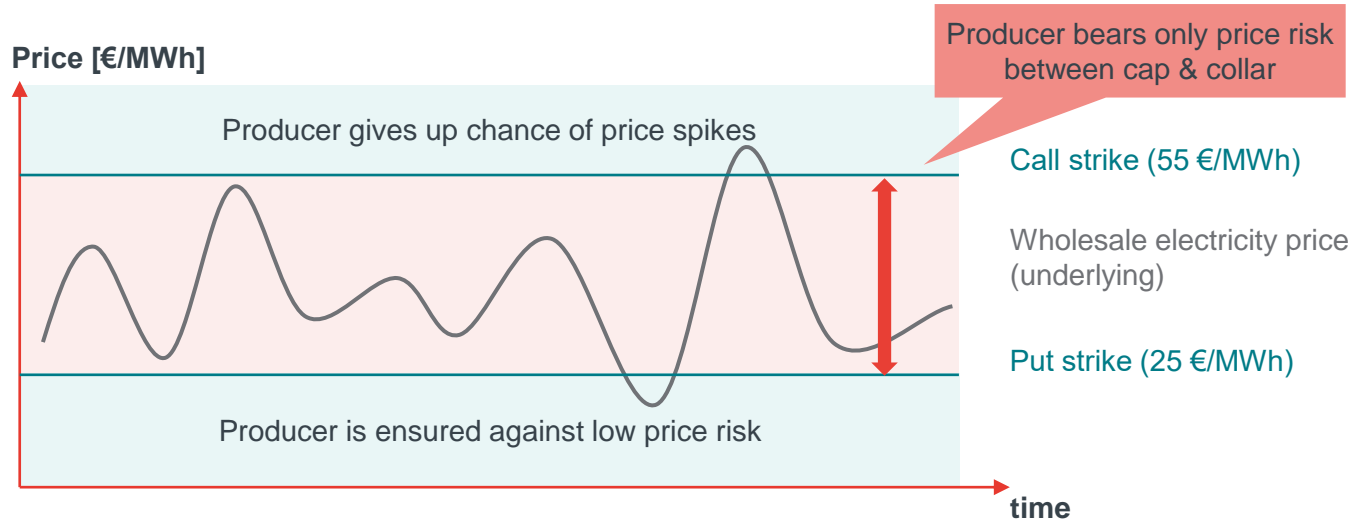


NFC-s are restricted in offering hedging solutions – Real world example: Collar hedge to renewable generator



Collar trade in 2021

- In 2021 a **renewable investor approached a large European renewable asset owner, an NFC- entity, to offer a ‘collar’ product as a power price hedge**
- This trade would have involved the use of two financial derivatives:
 - Put option to secure against low price scenarios (strike price of 25 €/MWh);
 - Call option which gives up upsides from high price (strike price of 55 €/MWh).

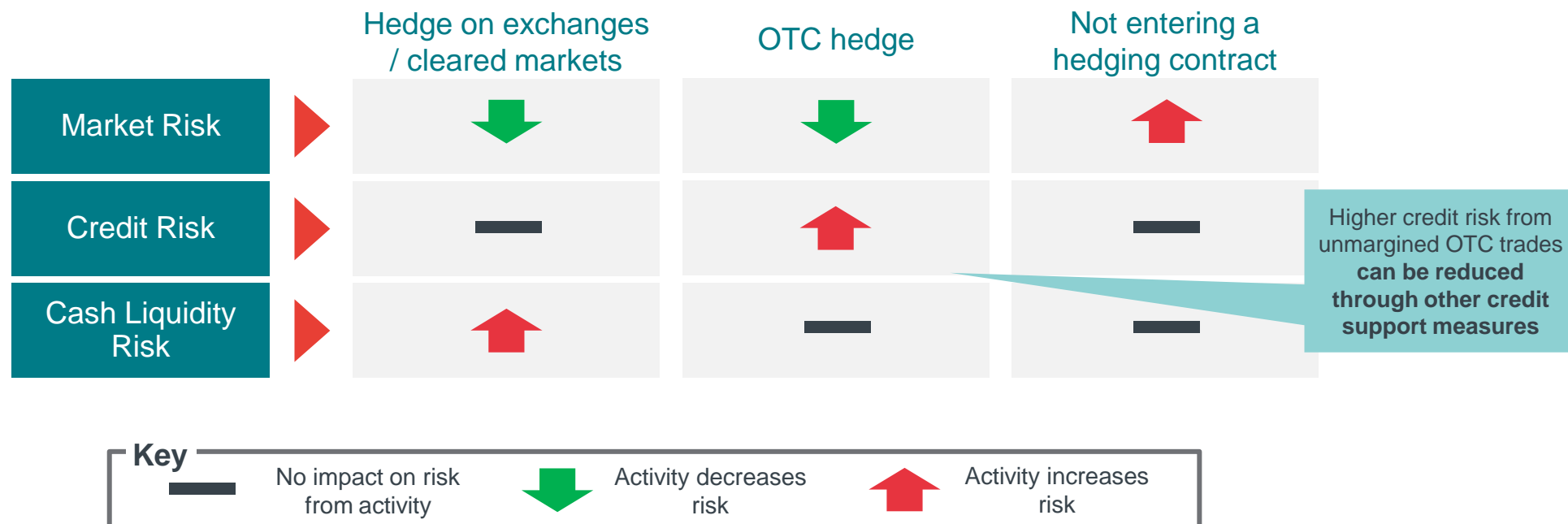


‘Collar’ hedge:	- Asset type:	Hydro power	- Generation:	3.5 TWh
	- Duration:	10 years	- GNV^[1]:	€ 280 million

The NFC- entity had to decline this trade due to the high GNV, despite being commercially attractive and reducing the risk exposure of the renewable investor.

NFC-s cannot optimise between market, credit and cash liquidity

NFCs are optimising between market, credit and cash liquidity risk when engaging in energy trading



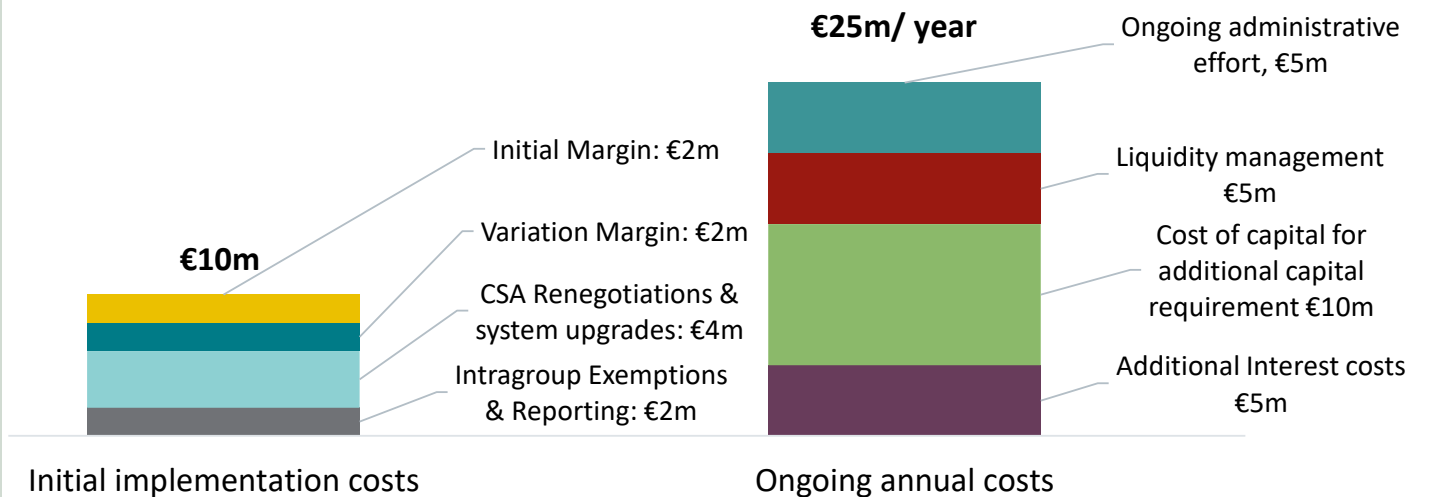
The low CCT forces NFC-s to bear inefficiently high cash liquidity and/or market risk

- Increasing and more volatile energy prices have increased market risks and cash liquidity risks, whereas the CCT only seeks to minimise credit risks;
- The CCT (limiting credit risk, set under market conditions in 2012) forces NFC-s to bear inefficiently high cash liquidity or market risk since it reduces the capacity of NFC-s to engage in OTC derivative trades.

NFC+ leads to significant administrative burden and is no viable option for many NFCs

Case study – internal NFC+ implementation project conducted by a large European energy company

- Implementing NFC+ triggers significant costs, both for the initial setup (one-off costs) as well as ongoing operations (annual costs)
- NFC+ reclassification would take ca 18+ months and cost at least €10m
- The reclassification project would require hiring of at least 10 additional staff, the use of external consultants and legal counsel and require close and ongoing Board attention



Impact on NFCs

- Several EFET members fed back that NFC+ status is no viable option (“no go”). NFC+ status would also impact all subsidiaries and possibly also joint ventures and therefore requires the re-organisation of the whole group (globally)
- NFC+ would require significant human and financial resources which are not available anymore for NFCs’ core business activities (such as RES development)

OTC margining requirements further constrain cash liquidity for NFC+s

Direct constrain on NFC+'s cash liquidity

- i Initial and variation margin constrain cash liquidity and lead to additional costs**
 - Material demands for cash liquidity to post initial margin (~ 15% of GNV) and variation margin (order of magnitude estimates: several € 100 million)
 - The use of cash for collateral limits cash availability for business activity and comes at additional financing cost
- ii Possibility of substantive margin calls poses cash liquidity risk**
 - Margin calls pose short term challenges for liquidity buffers. External cash funds may not be accessed within such a short period of time.

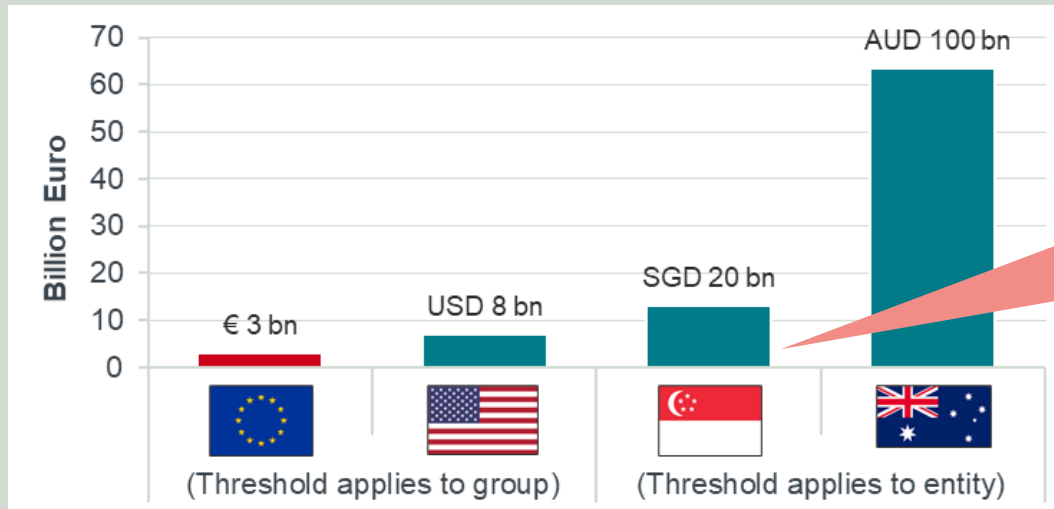
Indirect constrain on NFC+'s cash liquidity

- iii Rating agencies do not recognise margins as assets - this may result in lower credit ratings**
- iv NFC+ can no longer make certain efficient yet non-risk enhancing trades to free up cash**

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EMIR with the lowest scope for trading OTC derivatives internationally which puts EU companies at a possible competitive disadvantage

EMIR also has the lowest commodity clearing threshold...



Note: Singapore has only set the clearing threshold in 2018 which therefore better reflects current market conditions than EMIR (set in 2012)

Source: Frontier Economics based on Luther study

... despite applying the widest scope of trades that are captured by the CCT

- **NFCs fully considered** – a number of jurisdictions, such as Singapore and Australia, limit the application of OTC-clearing regulation entirely to FCs and do not consider NFCs at all
- **Physical products not excluded** – most of the compared jurisdictions limit their application to financially settled transactions in the first place.
- **Unlimited global reach** – only EMIR applies its regime to global trading activities without restriction (“global reach”), i.e. all group derivative transactions outside the EU are captured
- **Cleared derivatives included in threshold** – only EMIR includes physically settled ETDs into the threshold calculation per default (exemptions require formal recognition)
- **Scope of legacy trading activity considered** – EMIR considers the outstanding GNV exposure of all existing relevant trades for their entire lifetime, whereas in the US they roll out after 12 m.

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We find that a CCT increase of €12bn is required as an immediate remedy to facilitate the material renewable investments

To facilitate the Green Deal

- The European Green Deal announced in 2020 has committed the EU to a material expansion of private renewable investments.
- **More OTC derivatives (such as renewable financial PPAs) are needed to enable the financing of renewable investments**
- NFCs play a key role, but
 - **NFC-s cannot offer the necessary quantity of renewable hedges at the current CCT**
 - Breaching the CCT and gaining “NFC+” status is no viable option for most NFCs

A significant CCT increase is needed to enable the European Green Deal

To compensate for energy price inflation

- Higher price levels are here to stay. Currently observable future prices suggest that wholesale energy prices will stay on a high level at least until 2024

[in € bn]	2021	2022	2023	2024
Power	6.8	19.2	11.8	8.2
Natural Gas	5.6	15.1	8.6	5.6
EUA	24.1	33.9	34.6	35.5

- A CCT increase of €12bn would allow to trade the same quantities of power in 2023 as in 2012.

A CCT increase of at least €12bn would allow to trade the same quantities of power in 2023 in 2012

To establish an international level playing field

- Comparing CCT levels across international regulatory regimes suggests that an increase of the EMIR CCT to at least €12bn (~the CCT in SG) would not induce systemic credit risk. These systems were all set up to prevent exactly that in the aftermath of the financial crisis of 2007/08.
- The restrictiveness of EMIR disadvantages EU energy companies with global operations. This is because EMIR regulation also extends to international subsidiaries of EU companies.

A CCT increase to at least €12bn would help to establish an international level playing field

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The CCT increase needs to be accompanied by further EMIR reforms

Increase of CCT is necessary but not enough...

- An increase of the CCT to €12bn **would mitigate the issues** that NFC-s approaching the CCT **currently face**
- As a Level 2 measure a CCT increase can be proposed by ESMA and adopted directly by the Commission with **short implementation time**

... further reforms required to make EMIR fit for the Green Deal...

- However, a CCT increase to €12bn would **not accommodate higher derivative quantities** (such as financial renewable PPAs) required for the European transition to a low-carbon economy
- Luther has therefore provided a **'toolbox' with 6 possible reform options** (and also suggested annotations to the EMIR framework for each amendment)

... but these reforms should not delay a CCT increase

- **Most remedies** from the toolbox require Level 1 changes (adopted by the European Parliament and the Council) which typically **takes several years**
- We therefore propose to **immediately progress with raising the CCT level** to €12bn or higher to **not hold back the energy transition** (regardless of the speed with which the further remedies are progressed)

The CCT increase needs to be accompanied by further EMIR reforms

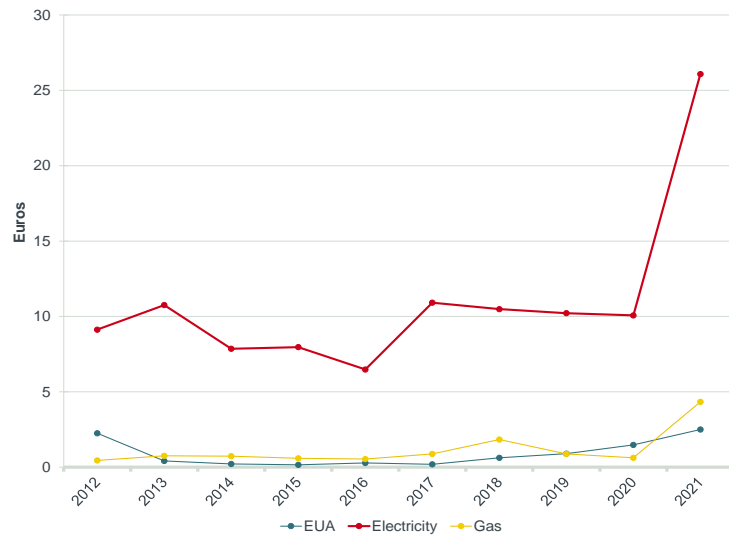
#	Remedy	Amendment option	Change in EMIR
1	Exclusion of already centrally cleared derivatives	Exclusion of all derivatives cleared by a recognized Central Counterparty (CCP).	Level 1
2	Limitation of geographical scope	<u>Option 2a</u> : General exclusion of derivatives concluded between non-EU-entities from the clearing threshold calculation of affiliated EU-counterparties.	Level 1
		<u>Option 2b</u> : Limited exclusion of derivatives concluded between non-EU-counterparties for the clearing threshold calculation of affiliated EU-counterparties, unless such derivatives are booked in the EU or have a direct, substantial and foreseeable effect to the EU internal market.	Level 1
3	Widening the application of netting in threshold calculation	Clarify the calculation methodology to allow for netting of contracts of equal type and underlying, irrespective of maturity, between a pair of counterparties.	ESMA FAQ
4	Widening the hedging definition	Extending the hedging definition to cover derivatives that reduce risks associated with holding commodity derivative contracts.	Level 2
5	Amending the calculation methodology regarding the reference period	The calculation of the GNV should be based on concluded contracts during a reference period instead of the entire outstanding exposure from existing contracts held at specific points in time.	Level 1
6	Refined and narrow definition of OTC derivatives	Excluding all physical settled commodity instruments from the derivative definition by amending/deleting references to Annex I C 6 and C7 MiFID II.	Level 1

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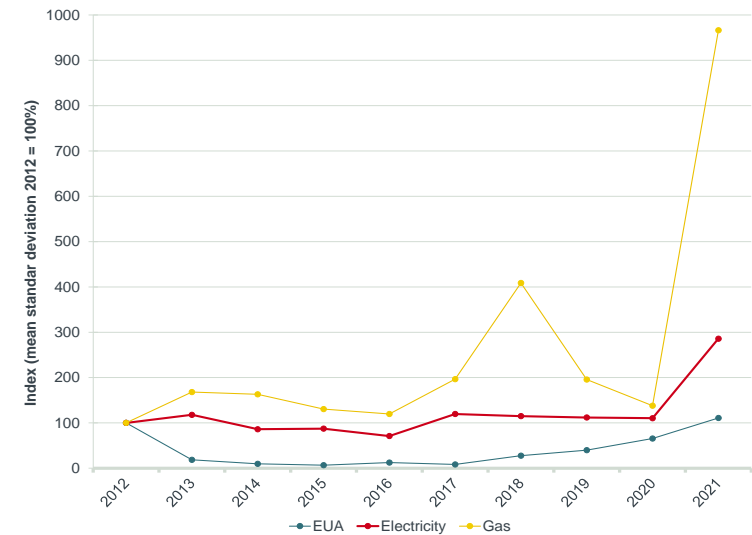
Higher price have been accompanied by increased price volatility

Development of standard deviations since 2012 – electricity and gas price much more volatile than in 2012

Standard deviations since 2012 (in €-terms)



Standard deviations since 2012 (2012=100%)



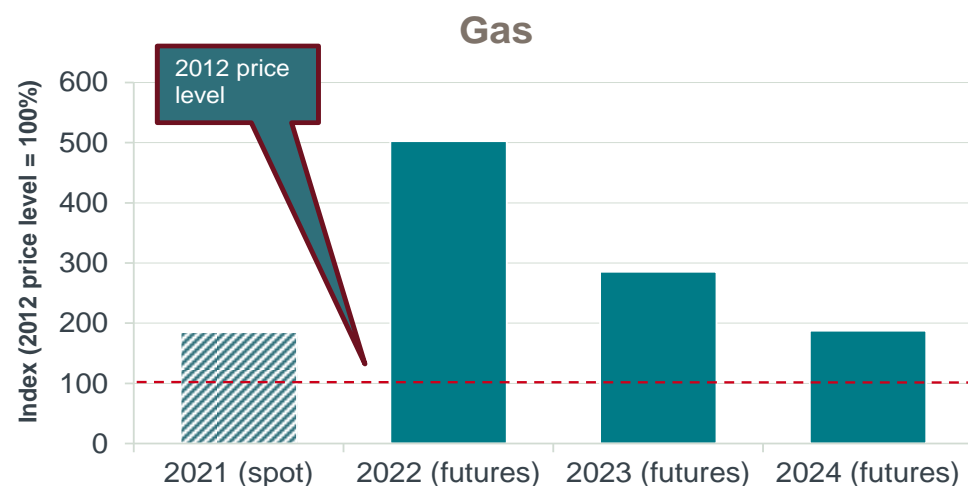
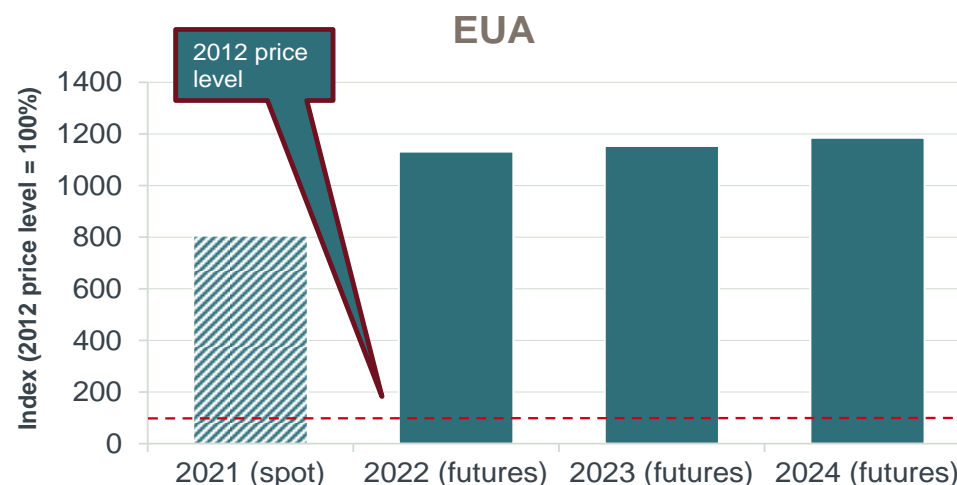
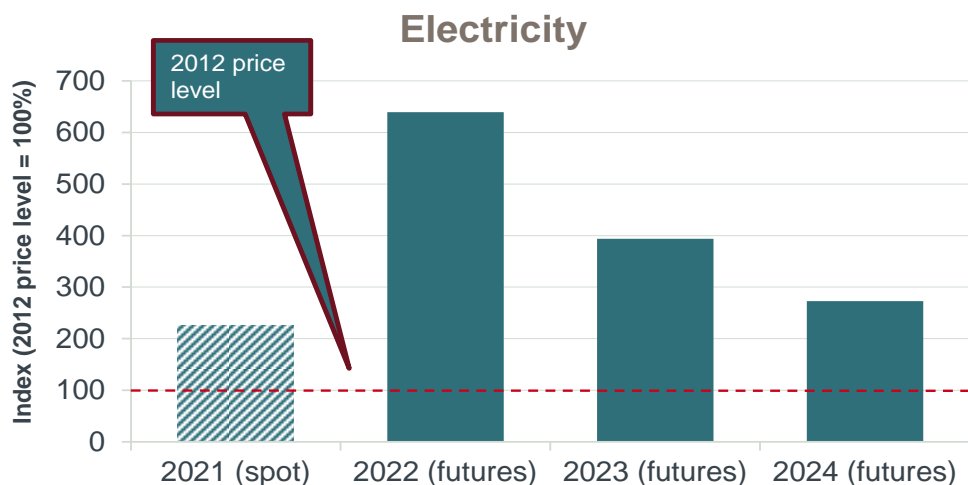
Note: The figure to the left shows the yearly average of the standard deviation that is calculated 21 days backwards for every day of the year. The standard deviation is denoted in €/MWh for electricity and natural gas and in €/t CO₂ for emission allowances. We replaced one outlier in the time series for gas (on 12 April 2013 the gas price reached 227,69 €), which leads to a severe distortion in the calculated standard deviation. An interpolated value between the adjacent dates is used instead. The figure to the right shows the standard deviation as an index where the average standard deviation in 2012 is set to 100%.

Development since 2012

- Market risk, i.e. the possibility that a commodity position loses in value, is driven by the volatility of commodity prices (the higher volatility, the higher risk)
- Price volatility of natural gas and electricity has increased significantly since 2012
- The increases in the volatility of the commodity prices are expected to prevail in future, in particular for electricity since conventional electricity generation is replaced by increasing shares of intermittent renewables

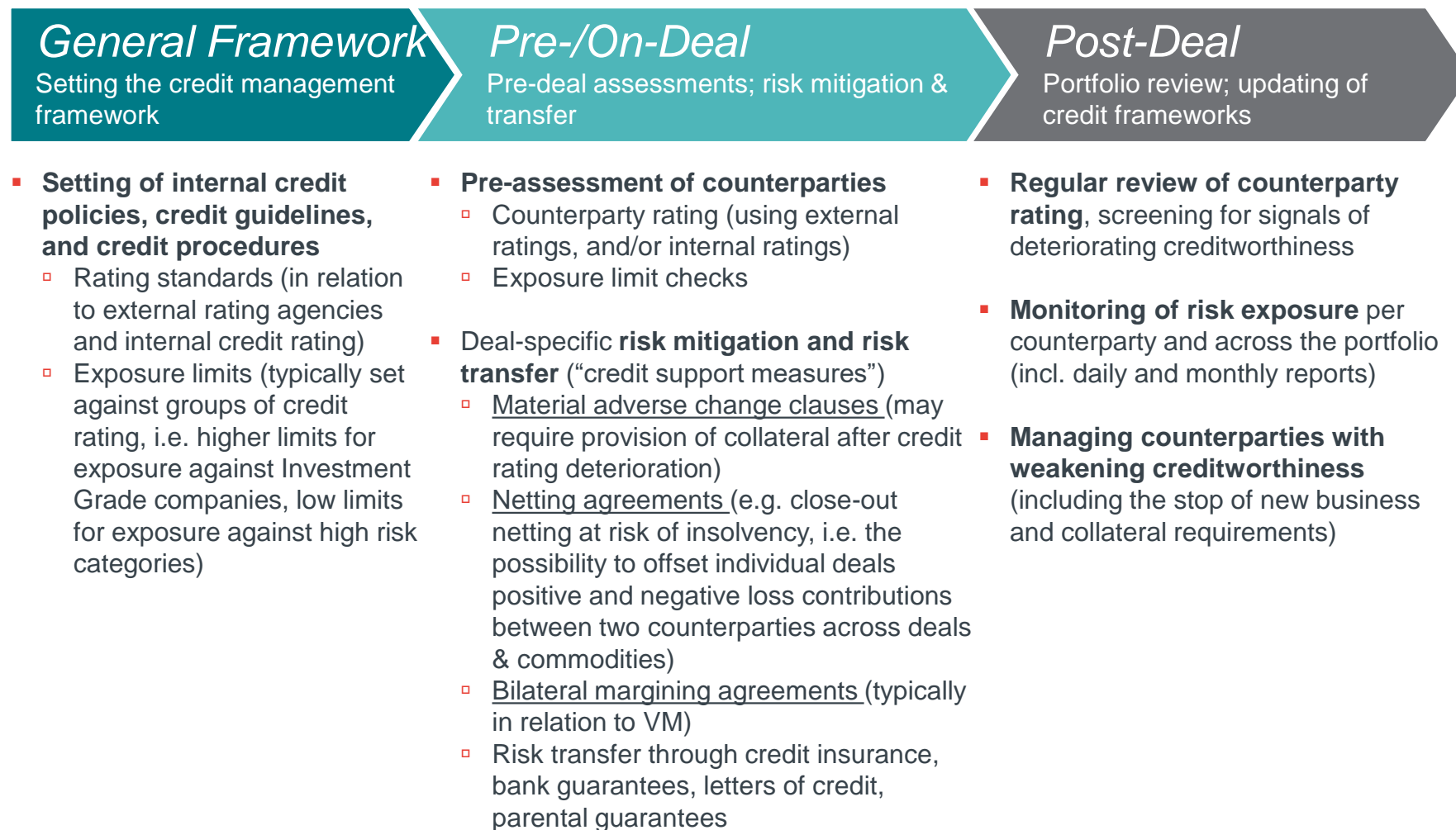
Future prices show that markets expect the price increase compared to 2012 will prevail longer term

Future prices of energy commodities (index: 2012 = 100%) [1]



- **ETS future prices** remain flat at around 14 times the price level in 2022 since futures are valid for the entire trading period (2021-2030) and can be stored
- **Gas future prices** decline from three times the 2012-price level in the 2022 to 1.5 times by 2024 – this reflects expectations that current shortages can be alleviated
- **Electricity future prices** for 2022 are more than four times the 2012-price level – the decline is driven by lower gas price while further power plant decommissions partly counteract this effect

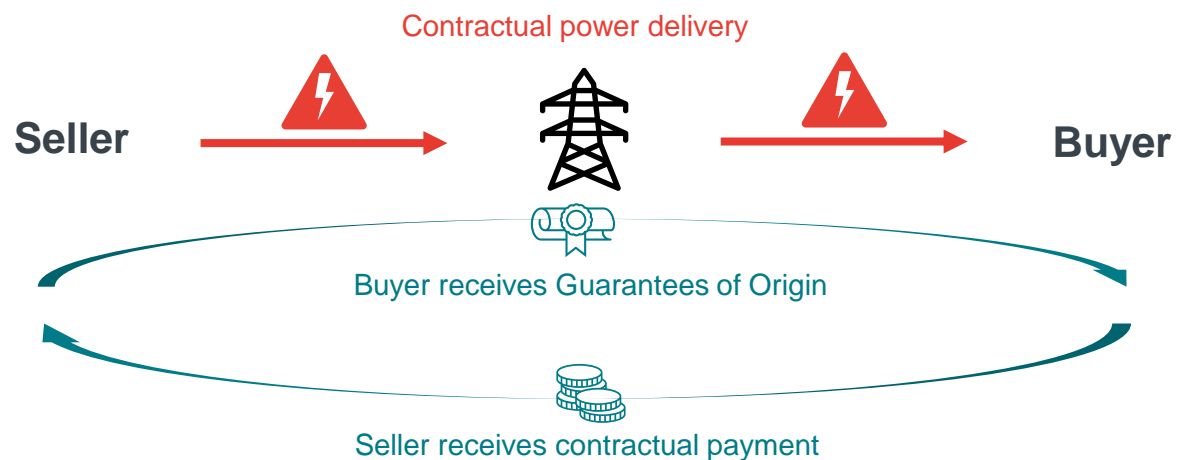
Credit Risk Management for OTC deals at utilities/energy traders



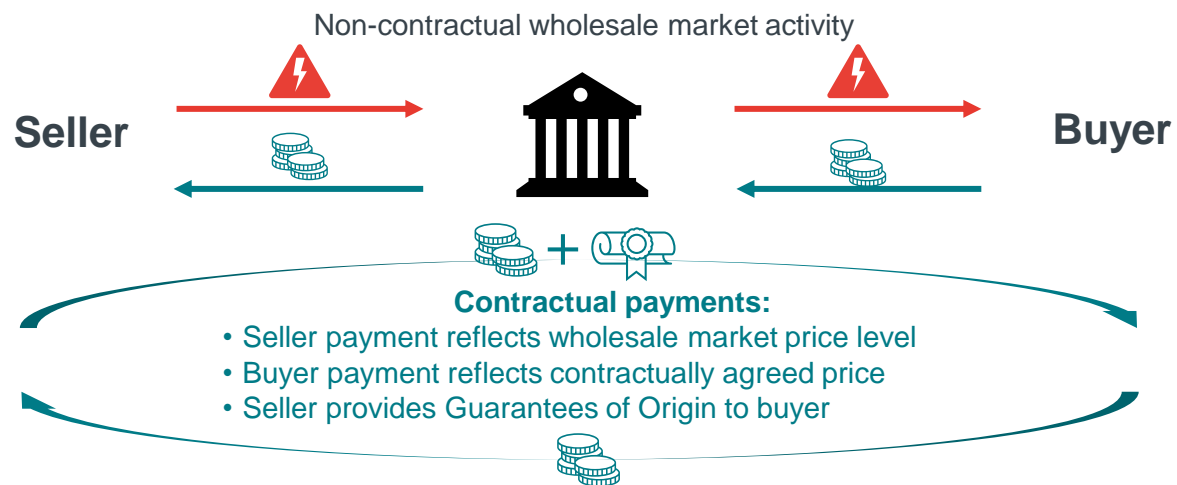
Throughout: Functional separation between credit risk management and commercial operations up to ‘C-suite’

Illustration of cash and power flows in physical and financial PPAs

Physical PPA



Financial PPA



Source: Frontier Economics

Physical vs financial PPAs – Financial are easier to handle and bring additional market liquidity

Physical PPAs

Sellers do **not need to market the power** on the wholesale market

Utilities / energy traders are well placed to perform the scheduling and balancing activities to operate a physical PPA

Provide consumers with direct access to green power and facilitate scheduling and balancing (rather than only acquiring GoO certificates)

Financial PPAs

Buyers do **not require a physical presence in the jurisdiction of the asset**, which may be costly and difficult to set up

Avoid issues with (cross-border) power transmission (can be issue in physical PPA)

Suitable as **proxies to hedge a pre-defined daily power profile** (rather than “pay-as-produced”) – Managing actual generation and committed volumes can be difficult in physical PPAs

Can be used to **hedge several assets at once**

Easy to **split the credit risk between different off-takers** (relevant for owners of large-offshore assets)

The credit risk exposure equals only the spread between the contracted price and the spot price



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