European Investment Advisory Hub

Europe's gateway to investment support

DEVELOPING POTENTIAL FINANCIAL INSTRUMENTS AND ADVISORY SOLUTIONS TO STIMULATE MORE INVESTMENT IN RENEWABLE ENERGY GENERATION BY MEANS OF COMMERCIAL POWER PURCHASE AGREEMENTS.

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European Investment Bank The EU bank

European Commission

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Abbreviations and lexical details:

Advisory Hub / EIAH	European Investment Advisory Hub
CAPEX	Capital expenditure
cPPA	Commercial Power Purchase Agreement between two parties to purchase power or financial derivative relating to power under fixed terms for a fixed period of time
Corporate Finance	Structure of banking financing where the global activity of a corporate is assessed, and not only the expected return on investment of the project to be financed, in order to estimate the debt service capacity of the corporate borrower
DSCR	Debt Service Coverage Ratio: define how much % of the project/cPPA revenue will be allocated to the debt service of the senior loan.
EE	Energy Efficiency
EIB OP	EIB Operational Plan
EPC	Energy Performance Contracting
ESCO	Energy Services Company
EU	European Union
FI	Financial Instrument
FLP	First Loss Piece: most risky/sub-investment tranche of a portfolio of receivables (loans or claims of any nature)
Forfaiting	Forfaiting is a sale of receivables without recourse against the seller regarding the receivables sold
Generator	The entity owning the asset that produces the power. Normally acts as the project promoter
IFI	International Financial Institution
Merchant risk	Exposure for the Generator to the power price market
MWh	Megawatt hours
NPBI	National Promotional Bank or Institution
Offtaker	The entity buying the power in a cPPA or other transaction for power
Project Bond Initiative	Credit enhancement Financial Instrument dedicated to infrastructure project finance developed by the EIB and the EC (to compensate a market gap of private companies' financial insurances)
Project Finance	Structure of bank financing where, mainly, the expected return on investment (future revenues and cash flows) of the project to be financed is assessed in order to estimate the debt service capacity of the borrower. The equity structure of the borrower, usually an independent entity (an SPV), not consolidated into the balance sheet of its main stakeholders/promoter, is considered too in order to secure the payment service of the Senior Loans
RE(S)	Renewable Energy (Sources)

Sleeving PPA	In a sleeved PPA, an intermediary utility company handles the transfer of money and energy to and from a RE project on behalf of the buyer. The utility takes the energy directly from the RE project and "sleeves" it to the buyer at its point of intake, for a fee
SPV	Special Purpose Vehicle
Senior Loan	Loan provided to a borrower that has to be served before dividend payment or subordinated debt
Subordinated Debt	Loan provided to a borrower where the debt service is conditional/contingent to given conditions. Such subordinated debt repayment ranks second towards Senior Loans in terms of repayment obligations, but its repayment occurs before equity repayment or dividends distribution
Volume risk	Under a cPPA, the capacity of the Generator to deliver the cPPA agreed volume of green energy to the Offtaker(s)

Contents

1 Executive summary

Renewable energies such as wind and solar power have become a mainstream source of electricity, accounting for 70% of all new investment in power generation globally, according to the International Energy Agency. In many markets, these energies are a cost competitive source of power and a driver of employment and growth, but despite their favourable cost, they still often rely on public support. Now, commercial power purchase agreements, or cPPAs, are becoming an increasingly popular way to finance renewable energy projects because they mitigate the risks for both energy producers and buyers.

While many actors have almost forgotten the latter in recent years, the current turmoil on energy and power markets is a stark reminder of the importance of being able to cover energy needs at a reliable cost. PPAs are often central to investment decisions, since they mitigate market risks, mainly related to fluctuations of energy prices.[1]

A **commercial Power Purchase Agreement (cPPA)** is a long-term contract (e.g. of 5-20 years) between a Generator (often a renewable power plant) and a private entity (e.g. a utility, trader or large electricity consumer) purchasing the energy from the Generator. PPAs are purely commercial and could provide an alternative to public support schemes for renewable energy generation projects, which typically involve the government or a public entity as a key procurer or intermediary. A key benefit of cPPAs is the predictability that they can provide regarding the energy price and expected cash flows of the associated renewable energy project, which in turn can help assess its financial viability and facilitate its financing. At the same time, cPPAs can provide evidence of the 'greening' of a corporate's power consumption while ensuring the provision of renewable energy over the long-term at a fixed price.

CPPAs can also support the financing of renewable energy projects and help consumers hedge against energy price volatility. In ACER's report regarding the longer-term design of the EU's wholesale electricity market[2], policy makers are encouraged to consider **promoting and facilitating wider access to (c)PPAs** as they can help accelerate the energy transition and future proof the EU's electricity market design.

At present, however, cPPAs are mainly open to large investors at a national level. In order to support the development of the cPPA market, and thus help stimulate more investment in renewable energy production, it is considered important to facilitate the access of more stakeholders to such agreements, beyond the larger ones that we see in the market today.

The potential market size for cPPAs in the European Union (EU) depends on a range of market fundamentals - project economics, government support, Merchant risk appetite and Offtaker demand.

Based on the **cPPA market study**[3]issued in March 2022, the aggregated volume of cPPAs required by RES promoters is estimated to range between 140 TWh and 480 TWh by 2030. This cPPA market demand estimation excludes the potential impact of the proposed Delegated Act[4] for the production of RE-based hydrogen, according to which hydrogen producers would be required to sign cPPAs with unsupported renewable power generation projects. As a result, the cPPA demand may increase even further to a range of between 360 TWh and 980 TWh by 2030. Access to cPPAs, for both large and smaller corporate energy purchasers, is constrained by market barriers such as the Offtakers' insufficient creditworthiness to be accepted as cPPA counterparts, difficulties to manage the power price risk exposure, and the challenges deriving from the longer-term nature of cPPA contracts. This results in a mismatch between the appetite of RES generators for cPPAs and the capacity of corporate energy purchasers to sign such agreements.

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[1] EIB, *Infrastructure Solutions: The power of purchase agreements*, 2022, available at: Infrastructure Solutions: The power of purchase agreements (eib.org)

[2] ACER, *Final Assessment of the EU Wholesale Electricity Market Design*, 2022, available at: ACER publishes its Final Assessment of the EU Wholesale Electricity Market Design | www.acer.europa.eu

[3] *CPPAs: A Market Study including an assessment of potential financial instruments to support renewable energy Commercial Power Purchase Agreements*, 2022, available here: https://eiah.eib.org/publications/index

[4] European Commission, *Production of renewable transport fuels – share of renewable electricity (requirements)*, available at: Production of renewable transport fuels – share of renewable electricity (requirements) (europa.eu)

The cPPA market barriers differ across the EU Member States but since cPPA is a way to reduce the RES investment risk for the promoter, a lack of inadequate/missing credit ratings of the potential Offtakers is one of the main and common constraining factors. In order to finance RES projects backed by cPPAs, senior debt providers often require a strong credit rating to ensure that the Offtakers will be able to meet their long-term obligations and, in turn, consider the project bankable. At the same time, the limited balance sheet capacity of some RES project promoters to take on long-term debt, Merchant risk, and also the Offtaker's credit risk, reduces the promoters' capacity to invest in new RES projects. Consequently, addressing those risks, which currently constrain both the supply and demand sides, should foster cPPA markets, especially for smaller sized RES project promoters and Offtakers.

In order to help address some of these barriers, two financial instruments (FIs) are envisaged to address the Offtaker's credit risk as well as the residual Merchant risk for Generators. These "de-risking" FIs may also benefit from advisory support to further stimulate the market demand for cPPA, especially targeting smaller corporates Offtakers.

The de-risking FIs, as well as the advisory support proposed in this study, could potentially be implemented, at EU level, under the European Commission's new InvestEU mandate or another similar investment mandate, or might indeed be implemented nationally instead. The preliminary design of such FIs indeed takes into consideration similar guarantee/debt public schemes recently developed, at national level, in a few European countries.

The two proposed FIs, and related advisory support are:

- An **Offtaker Guarantee instrument** to support the demand for cPPA by providing credit risk protection against the Offtaker's payment default under a cPPA. The Offtaker would then benefit from a level of long term power price predictability that cPPAs offer. The guarantee would secure a part of the Offtaker's payment obligations under the cPPA. Such a guarantee instrument could benefit stand-alone larger corporate Offtakers that are not considered sufficiently credit worthy by project funders, or to numerous smaller-scale Offtakers (consortium of Offtakers) on an aggregated portfolio basis.
- A **Subordinated Debt instrument** aiming at supporting RES promoters, especially in cases of exposure to Merchant tail risk, following the maturity of initial short/medium term cPPAs put in place to secure the financing. This instrument would be conditional to at least having a cPPA for an initial period, and for a minimum volume in place, and would be secured by a pledge on a given volume of energy to be delivered by the Generator and a waterfall payment.
- An **advisory platform**, part on-line and with open access, aimed at raising awareness, sharing best practice, building the capacity of relevant stakeholders, as well as proposing standardised approaches to/contracts for the use of cPPAs.

The final structuring of both FIs will need to take into account certain aspects and challenges, as follows:

- The risk appetite of the guarantor, the risk policy of the senior lender and the availability of public resources. The risk coverage of the FIs must be attractive enough to be accepted by senior lenders, both in terms of financial attractiveness and required security. The possibility to combine such FIs with local schemes like tax incentives, regulatory support as well as synergies with the amended EU directive on promotion of use of renewable energy as well as the REPowerEU initiatives should also be explored.
- The difficulty in measuring and pricing accurately the associated risks of the FIs, particularly with regards to the long term nature of cPPAs and provisions concerning the Offtakers' obligations and rights, which may require appropriate risk assessment methodologies.
- The currently low market demand for cPPAs by smaller Offtakers that needs to be stimulated by increasing awareness about the advantages of cPPA for the Offtaker and by simplifying the cPPA terms and conditions. Based on a market testing conducted by the EIB (see Annex 2), the demand from the side of financial intermediaries for risk sharing financial products related to cPPAs is also not sufficiently clear and should be further assessed.

- The need for the promotion and training of relevant stakeholders for the deployment of the FIs, for instance, by informing and building the capacity of RES senior lenders and RES promoters in relation to the FIs. Further consideration of regulatory issues such as State aid and double financing.

As a next step, concrete pilot cases for the Offtaker guarantee and subordinated debt instruments, including aggregator or intermediated structures, may be identified to help further define and develop the above-mentioned instruments. Further work should also be undertaken to further define the scope and develop the proposed features of the related advisory platform.

2 Introduction: RES with cPPA – background and key definitions

This study focuses on the potential measures to promote more use of long-term commercial Power Purchase Agreements (cPPA) to stimulate the implementation of more renewable energy (RE) projects. It should be read in conjunction with, and complements, the cPPA market study finalised in early 2022[5].

According to a recent European Commission communication[6] retail prices of natural gas and electricity have risen dramatically over the past year, with price volatility intensified following Russia's invasion of Ukraine. High energy prices are, in turn, driving inflation and imposing an additional burden on Europe's economic recovery following the COVID-19 crisis. As a result, immediate action is required to halt the rise in energy prices and secure an adequate energy supply for next winter and beyond. Following that, more structural changes will be needed to achieve energy security such as fully integrating the energy market, increasing RE production, implementing energy efficiency measures and diversifying the energy supply. The REPowerEU plan[7] hopes to accelerate the introduction of measures on all those fronts.

A scale-up in the production of RE is necessary to speed up the clean energy transition of Europe. The REPowerEU package includes various measures and targets to achieve greater deployment of RE in power generation, industry, buildings and transport. Noteworthy is the increase of the target for RE usage from 40% to 45% by 2030 and the installation of over 320 GW of solar photovoltaic by 2025 – more than twice today's levels - and up to almost 600 GW by 2030.

Based on the significant needs for RE, the REPowerEU communication highlights the need to also encourage the deployment of PPA-financed renewable energy projects, which will be supported by a relevant guidance document prepared by the European Commission for the Member States. At the same time, the enhanced focus on green hydrogen is set to further increase the demand for cPPAs, which can be used to help supply renewable energy for its production. A target of 10 million tonnes of domestic renewable hydrogen production by 2030 was proposed as part of REPowerEU, which would require - as a minimum - 500 TWh of additional RE production capacity

Addressing the obstacles of the cPPA market has also been recognized in the context of the EU's Renewable Energy Directive[8], and the guidance and recommendation on cPPAs published as part of the REPowerEU plan, which states that Member States shall assess and remove regulatory and administrative barriers to long-term cPPAs, and shall describe in their national energy and climate plans how they will facilitate more use of cPPAs. Furthermore, the REPowerEU communication includes specific recommendations to Member States to facilitate cPPAs, in particular for small and medium-size enterprises, by removing administrative or market barriers and designing support schemes that are compatible with, and enable, cPPAs.

Recap - Basic concept: Commercial Power Purchase Agreements (cPPAs)

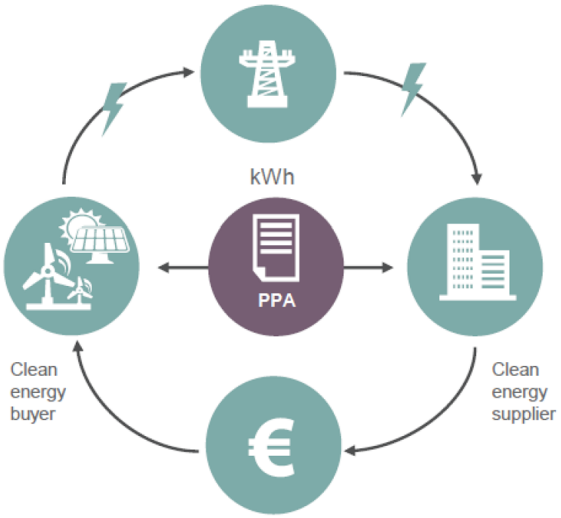
Under a cPPA, a power generator/project promoter (the Generator) sells, at a fixed price, a given volume of its power production to a utility or a corporate final user (the Offtaker) over a longer-term period (typically >10 years).

[5] *CPPAs: A Market Study including an assessment of potential financial instruments to support renewable energy Commercial Power Purchase Agreements,* 2022, available here: https://eiah.eib.org/publications/index

[6] European Commission, Brussels, 23.3.2022 COM (2022) 138 final, available at: Communication Security of supply and affordable energy prices.pdf (europa.eu)

[7] European Commission, Brussels, 18.5.2022 COM (2022) 230 final, available at: EUR-Lex - 52022DC0230 - EN - EUR-Lex (europa.eu)

[8] Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources, 2018, available at: EUR-Lex - 32018L2001 - EN - EUR-Lex (europa.eu)



Source: Baringa

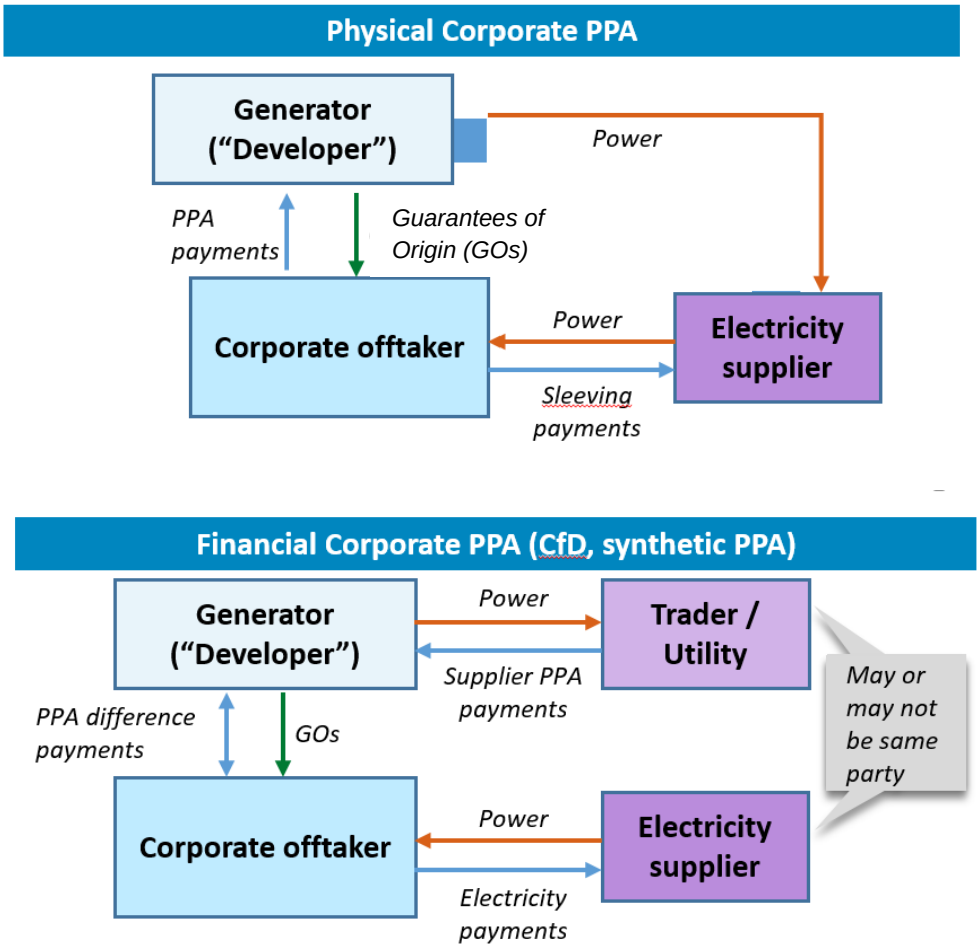
Recap - Key drivers and rationales for entering into a cPPA

Signing a cPPA provides a number of advantages for both the Generator and Offtaker:

Generators'/Promoters' view	**Offtakers' view**
Phasing out of subsidies requires alternative means of securing long term revenue streams	Renewable linkages/traceability
A long term, fixed revenue agreement with a credit worthy counterpart enables developers to borrow at lower costs of capital, increasing thereby the project's financial viability	Additionality: without the Offtaker commitment to purchase the renewable energy, the RES project may not have been undertaken at all
Mitigating cash flow volatility, using cPPA as a power price risk management tool	Cost certainty: energy cost is fixed for a long term period. Hedge against fuel and electricity price volatility
Diversification of revenue stream	Cost savings, compared to power from fossil resources. PPA Offtakers may pay less than the power spot price. Removes carbon price/indemnity payment risk.
Diversification of payment default risk (multiple PPAs)	Brand and leadership: increase recognition of RES achievements
Business development by increasing the pool of potential Offtakers and creates additional demand	Sustainability: improves CO_2 footprint
Can ease expansion into geographically new markets	Remove requirements for operational, management and RES investment risk to the Generator/Promoter.
Reduce development cost by allowing standard terms and condition	Allow development of partnerships with expert counterparties in RES and stay focus on core business

Sources: EIB Advisory based on several sources (Norton Rose, Baringa etc.)

Typical cPPA structures:



Source: Baringa; cPPA study for EIB

Commercial PPAs are pure private agreements and should be distinguished from government PPAs under which a government entity offers financial support (e.g. contract-for-differences, feed-in tariff) to RES projects.

Such cPPAs may take different forms and structures but they have in common that they hedge (a share of) the long-term market price risk for both the Generator and the Offtaker, and in doing so, make the RES investment project more viable and bankable.

3 Identified cPPA market potential and economic barriers

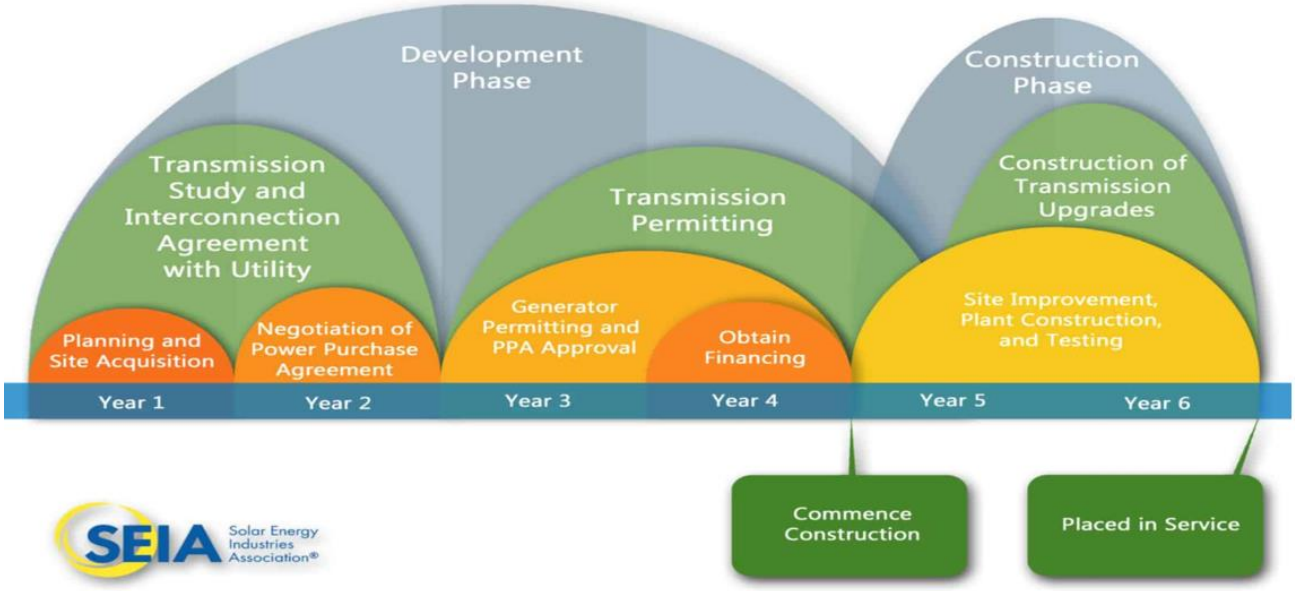
RES projects are exposed to a number of risks, that represent key barriers to accessing finance: These are (i) **Construction risk** during the development and construction phases of the RES assets; once the operational phase begins, the project is exposed to (ii) power price fluctuation (**Merchant risk**), (iii) Offtaker solvency issues (**Offtaker's credit risk**) and to a certain extent (iv) the capacity of the Generator to deliver the agreed volume of renewable energy to the Offtaker (**Volume risk**).

RES investments secured by cPPA(s) usually have better access to long term financing. Lenders offer classical corporate banking loans (to the RE promoter) or project finance solutions (to a special purpose vehicle). The RES project future cash flows (incl cPPA revenues) represent a key security/collateral to ensure adequate debt service.

The Offtaker's credit risk usually consists of different sub-risks - such as termination risk, payment default risk, and bankruptcy/solvency risk. These risks can be mitigated by means of security/collateral, legal provisions, and/or external guarantors.

As can be seen in the following diagram, cPPAs should be ideally negotiated and approved during the development phase of a RES project, and which would subsequently facilitate the project's financing.

Ideal development timeline for a utility scale solar power plant (250 MW)



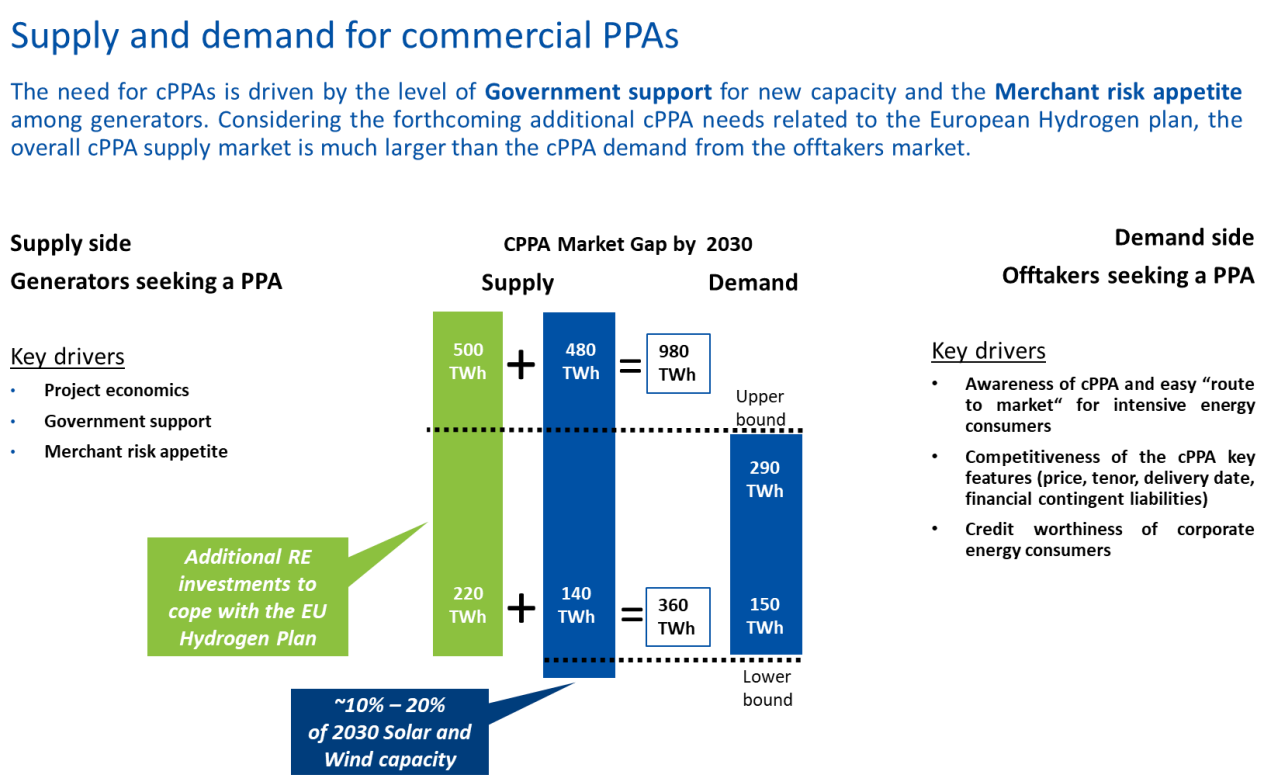
Source: Solar Energy Industries Association

CPPA market gaps

CPPAs remain an instrument for a relatively small number of corporate buyers, due to the associated complexities and counterparty risk requirements. Nevertheless, innovations are taking place to make corporate energy procurement easier for companies, notably for SMEs. The European Commission has also come up with specific guidelines to help unlock the cPPA market for all businesses.

In the cPPA market study[9], published in March 2022, the potential RE generator appetite for cPPAs in the European Union (EU) was assessed to be between 140 TWh and 480 TWh by 2030. That market estimation, however, did not consider the potential impact of the Commission's proposed "Hydrogen Plan", which aims to set out the criteria for the production of renewable liquid and gaseous transport fuels of non-biological origin. Subject to the final outcome of the draft Delegated Act[10] - according to which hydrogen producers would be required to sign cPPAs with unsupported renewable power generation projects - the RE generator's appetite for "bankable" cPPAs may result in these previous estimations reaching between 360 TWh and 980 TWh by 2030.

Supply and demand for commercial PPAs (source: cPPA Market Study, March 2022); including Hydrogen plan impact.



The cPPA supply side is mainly shaped by government support and the ability of the Generator to assume the Merchant risk. If both elements are strong, the Generator's demand for cPPAs is lower. If there is less government support, and renewable energy Generators have less Merchant risk appetite/capacities, then much more RE projects would require cPPAs by 2030 to make their investment financeable.

This **deficit of Offtakers' demand** for cPPAs **may jeopardise future RES investments**, representing a total **financing gap** of EUR 18bn at the lower bound, up to EUR 180bn. This deficit of RES investments, because of a lack of cPPA demand, would make the 2030 climate targets and the Hydrogen Plan more difficult to achieve.

[9] *CPPAs: A Market Study including an assessment of potential financial instruments to support renewable energy Commercial Power Purchase Agreements*, 2022, available here: https://eiah.eib.org/publications/index

[10] European Commission, *Production of renewable transport fuels – share of renewable electricity (requirements)*, available at: Production of renewable transport fuels – share of renewable electricity (requirements) (europa.eu)

The economic market barriers of the cPPA demand side (Offtakers)

The credit worthiness of the Offtaker is a major barrier in most sectors, particularly in heavy industry and manufacturing, and in European economies with less developed financial markets. For example, an organisation might have an appropriate consumption pattern for long-term power agreements but lack a rating from any major credit rating agency. Lenders to RE projects typically require Offtakers to have a strong investment grade credit rating to consider a cPPA-dependent project bankable.

One other factor limiting the popularity of cPPAs in Europe is the limited ability of corporates to take on electricity market risk. The Offtakers' demand depends mainly on the capacity of corporates beyond large institutions to access cPPAs, because of their inadequate/missing credit rating. The analysis of transactions over the last few years has also revealed that, in some markets, activity was limited/slowed down by utilities that have only limited balance sheets and have not managed to pass on their market risk exposure at sufficient pace. Small size RES Generators and SMEs/Small-Midcap Offtakers, representing a portion of that market potential, seem to require specific support from a targeted FI and advisory package to facilitate their access to cPPAs, as the market is still limited to a small number of EU Member States and large companies, with significant administrative, technical and financial barriers remaining in large parts of the EU.

Conclusion

The potential market size for cPPAs in the European Union (EU) depends on market fundamentals; project economics, government support, merchant risk appetite and Offtaker demand.

Based on different scenarios developed in a cPPA market study[11] from March 2022, funded by the European Investment Advisory Hub, the aggregated volume of cPPAs required by RE project promoters is estimated to range between 140 TWh and 480 TWh by 2030[12]. That market estimation, excludes the recent proposals by the European Commission under REPowerEU for a 45% renewable energy target and the production of 10 million tonnes of renewable hydrogen by 2030 as well as the "Hydrogen Plan" [13] which aims to set out the criteria for the production of renewable liquid and gaseous transport fuels of non-biological origin. Subject to the final outcome of the draft Delegated Act - according to which hydrogen producers would be required to sign cPPAs with unsupported renewable power generation projects - the RE generator's appetite for "bankable" cPPAs may result in these previous estimations reaching between 360 TWh and 980 TWh by 2030.

Nevertheless the cPPA Offtaker demand continues to be constrained by market barriers like insufficient creditworthiness of Offtakers, difficulties in managing the power price risk exposures, and the longer term nature of cPPA contracts.

This market gap between the RES generator demand and corporate energy purchased could be adequately addressed by financial instruments and advisory support.

[11] *CPPAs: A Market Study including an assessment of potential financial instruments to support renewable energy Commercial Power Purchase Agreements,* 2022, available here: https://eiah.eib.org/publications/index

[12] CPPA Market Study, slides 13 -14, available at: https://eiah.eib.org/publications/attachments/commercial-power-purchase-agreements.pdf

[13] European Commission, *Production of renewable transport fuels – share of renewable electricity (requirements)*, available at: Production of renewable transport fuels – share of renewable electricity (requirements) (europa.eu)

4 Proposed FIs and advisory support solutions addressing cPPA economic barriers

Based on the above and the key barriers identified, the proposed FIs are:

- An **Offtaker Guarantee** to support the demand of cPPA by providing a credit risk coverage against Offtaker payment default. The offtaker guarantee could be proposed as a stand-alone guarantee for larger corporates and/or as a risk-sharing product dedicated to multiple Offtaker cPPAs, where a pool of smaller corporates (consortiums of mid-cap Offtakers) could be jointly responsible (thereby diversifying also counterparty risk). This Offtaker Guarantee instrument may also improve the bankability of the RE projects by securing longer-term fixed revenues for the promoter and, in turn, banks and other financiers of the project.

and

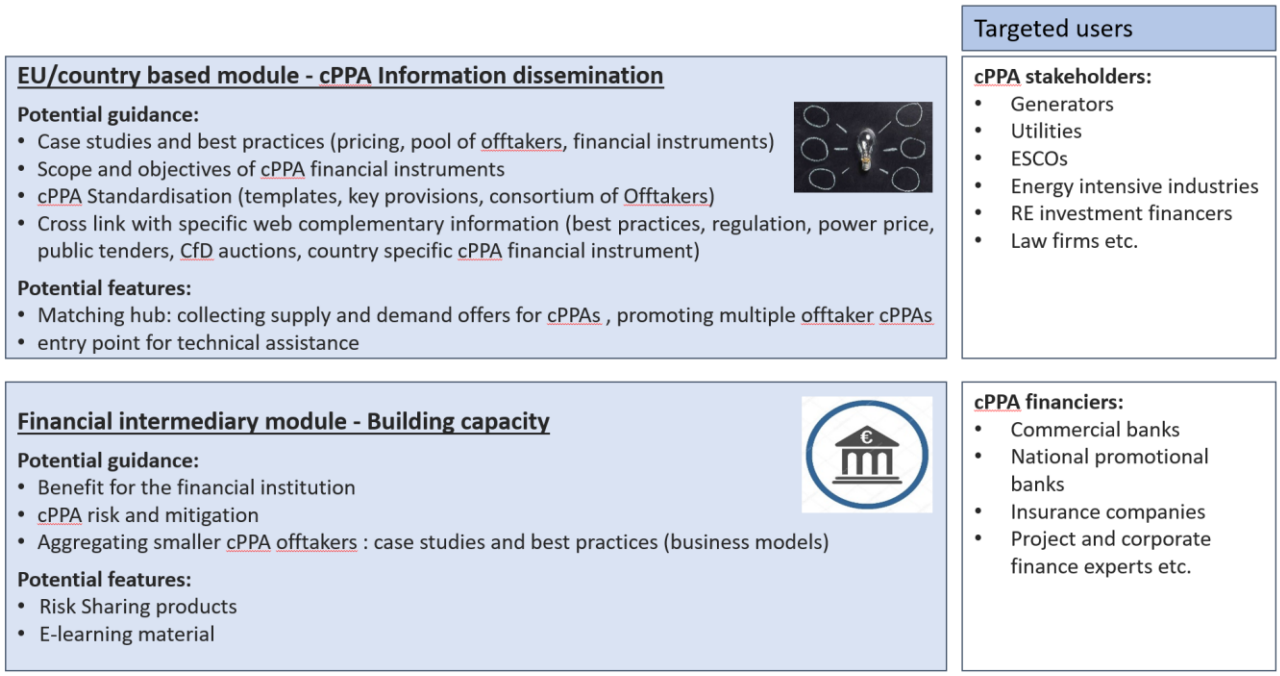
- A **Subordinated Debt instrument** aiming at increasing the supply of RE projects. This Subordinated Debt instrument would provide long term financing to RE investment projects where future cash flows are only partially secured and/or secured by short/medium term cPPAs. The borrower for FI would be the RE promoter/Generator, and generally via a dedicated financing vehicle/borrower for the project itself (such as a special purpose vehicle). The expected impact is to facilitate the access to senior loans with longer tenor and/or other better financing conditions, as a result of increasing the equity/quasi-equity buffer financing that would absorb first any losses on revenues or higher than anticipated costs. The access to such subordinated debt should probably be conditional to the conclusion of cPPA(s) for a minimum tenor of, say, 3 years and securing still a relatively large volume of the project's RE generation potential. This subordinated debt instrument could be deployed in EU members states where the cPPA market is not yet mature and where corporate Offtakers are not ready to commit to longer term cPPAs.

The envisaged Subordinated Debt and Offtaker Guarantee FIs shall be negotiated at the RE project development phase but only be **available during the operational phase** of the project (after the construction phase and following the project commissioning) to limit exposure to the construction risk. In order to ensure these instruments will eventually be provided during this operational phase, and thereby help secure bank financing upfront, the eligibility of the Offtaker and the Generator to such FIs might need to be confirmed at the earlier project preparation phase, and before the end of the construction phase (i.e. before commissioning).

<u>Such FIs may be combined with:</u>

- An **advisory platform**, part on-line, supporting the absorption capacity/market demand of the proposed FIs and providing best practice across the EU, building the capacity of relevant stakeholders, as well as proposing standardised approaches/template contracts, etc. The **advisory support**, available ideally on-line, would have a modular structure, adaptable to the extent possible to cPPA market specificities. The content and structure of this advisory platform shall be further fine-tuned but shall focus mainly on awareness, matching RE power demand and supply, case studies, online tools and training material.

The diagram below illustrates a potential modular approach of the cPPA web-based platform.



This web-based investment platform could be fine-tuned during a scoping exercise as an immediate next step aiming to assess the potential costs and applicability, avoid overlaps with existing EU or national platforms (if any) and support the setup of the general framework.

Such de-risking instruments, and related advisory support package, shall primarily target medium-size wind and solar RES projects, aiming at promoting more cPPA usage with smaller corporates (or larger corporates with insufficient credit rating).

The proposed FIs and advisory support would hopefully help to address several of the barriers hindering cPPAs that were identified in the cPPA market study[14] issued early 2022, as follows:

(1) **Offtaker creditworthiness**: This is a clear barrier across most markets, deriving from lenders' strict credit risk criteria. The limited creditworthiness prevents a large number of corporates with suitable energy demand but lacking an investment grade balance sheet to enter into cPPAs. The removal of this risk has been demonstrably effective in Norway through the power purchase guarantee scheme provided by the Norwegian Export Credit Guarantee Agency. Therefore, an **Offtaker Guarantee** could help address this issue, by improving the bankability of cPPAs with less credit worthy corporates;

(2) **Generator's/Promoter's capacity to hedge their Merchant risk and Volume risk**: This was found to be a barrier in markets with lower long-term liquidity and/or weaker competition among power traders e.g. Italy, Central and Eastern Europe. A Subordinated Debt instrument would mitigate such risks by providing a quasi-equity buffer (i.e. additional to promoter equity) that would compensate lack of future revenues to ensure senior debt service;

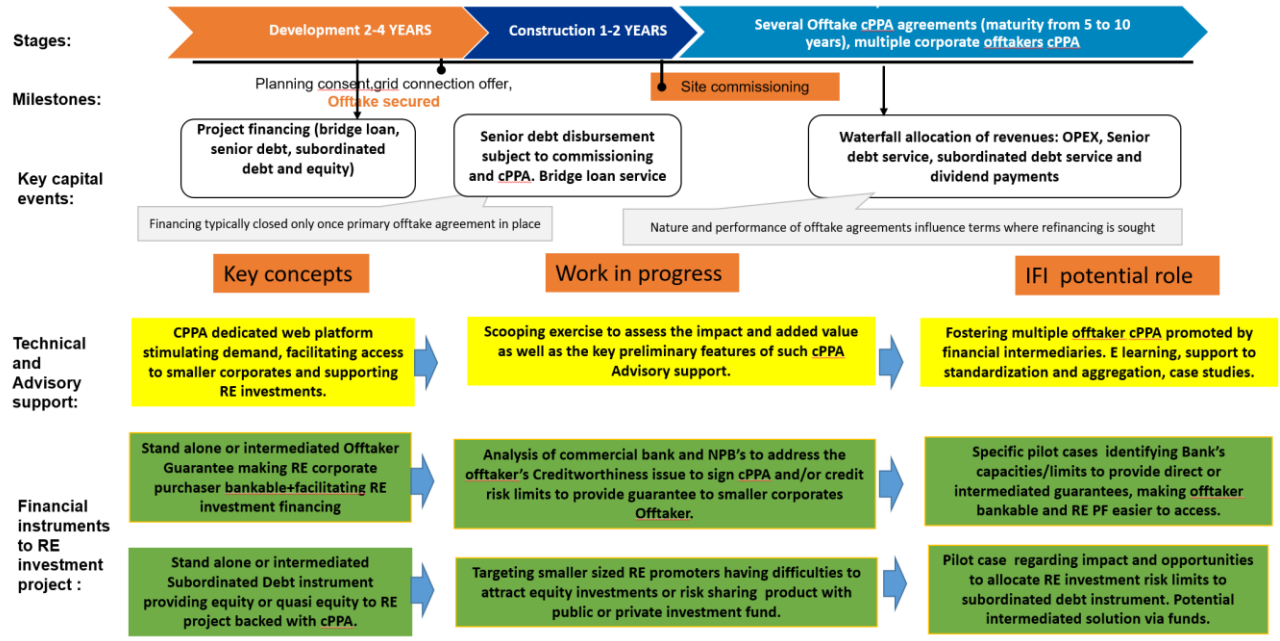
(3) **Contract complexity/length:** Complexity and cost of contracting can be a barrier to executing PPAs for less sophisticated energy consumers. The proposed dedicated advisory platform (like some EU utilities are already attempting) aims to simplify and streamline cPPAs. Additionally, the proposed Offtaker Guarantee aims at facilitating the standardisation and aggregation of small and medium-sized cPPAs (portfolio approach);

[14] *CPPAs: A Market Study including an assessment of potential financial instruments to support renewable energy Commercial Power Purchase Agreements*, 2022, available here: https://eiah.eib.org/publications/index

(4) **Additionality and corporate recognition:** Subtle barrier but widespread impact. The proposed instruments will support long-term cPPAs with an asset in construction making a material differentiation between a Guarantee-of-Origin (GoO) backed deal and new RES capacities. Both Offtaker Guarantee and Subordinated Debt instruments could be a material enabler of further funding for new build assets within portfolio Generators.

(5) **Promoters' capacity to invest in new RE projects** (access to long term financing and equity and limited balance sheet size of Generators): Both the Subordinated Debt and the Offtaker Guarantee instruments aim to improve the bankability and financing terms of RE projects, as well as reduce related risks, hence promoting more RES project investment.

The diagram below illustrates the holistic approach proposed by the complementarity between the cPPA financial instruments and the advisory support package.



Main challenges for the implementation of the proposed FIs

There are however certain elements that need to be further examined to structure and develop the proposed FIs, some of which have been additionally identified during a market testing conducted by the EIB for a potential Offtaker Guarantee Instrument (see Annex 2).

Regulatory and implementation considerations

Regulatory aspects should be carefully assessed, such as potential State aid and double financing issues, to also allow the combination of both FIs in the same project. The possibility to combine the FIs with local schemes such as tax incentives, regulatory support as well as synergies with EU climate related toolbox initiatives should also be explored. In the case that public funds are utilised to support the FIs, such as InvestEU, eligibility criteria and related requirements should be considered when designing the FIs.

Matching the market demand and the product offer

Based on the feedback received by the market testing exercise, there was significant interest from the financial intermediaries for a potential FI that would cover part of the risk related to medium and long-term cPPAs, particularly for consortiums of smaller Offtakers via multiple Offtakers cPPA. However, for the time being, there are few successful

examples of multiple Offtaker cPPA FI instruments set up by financial intermediaries. The final structure of such financial products allowing risk sharing and risk aggregation with financial intermediaries needs to be further assessed.

At the current time, the market demand for cPPAs by smaller Offtakers is still low and needs to be stimulated by means of simplification. A degree of standardisation could help incentivise smaller corporates to consider cPPA solutions, who often lack the technical and legal resources to negotiate a large cPPA directly with RES promoters. The market has recently demonstrated the key role of an utility/energy provider, acting as an aggregator, offering streamlined marketing cPPA to smaller corporates.

Attractiveness of the cPPA de-risking instrument

The structuring of both FIs would depend on the risk appetite of the guarantor and the availability of public resources to cover the risk going beyond usual risk policy in order to maintain the FI attractive. The risk pricing and conditions of the proposed instruments must be carefully set in order to be accepted by the beneficiaries (i.e. the final Offtaker for the guarantee and the RE generator for the the subordinated debt instrument).

One of the main challenges for the pricing and implementation of the FIs is the assessment of the associated risks, particularly in regards to the power price trend over the longer term and the delivery of the RE volume. The power risk coverage can be mitigated by means of price floors, refilling mechanisms and/or limited recourses but shall remain economically attractive for the generators.

Based on market feedback received to date, measuring and pricing such credit and power price risk accurately over the longer-term could be challenging. Therefore, in order to implement the proposed FIs, there is need to develop and refine a dedicated risk assessment methodology that would subsequently enable an appropriate pricing mechanism, while standardisation efforts may also enable risk aggregation possibilities.

Financial Intermediaries and other stakeholders

Based on the market testing, financial intermediaries may need support to deploy the proposed FIs. The deployment of the FIs would thus require adequate promotion and training of relevant stakeholders, for instance, by informing and building the capacity of RE senior lenders and RE promoters in relation to the implementation of the FIs. Ad hoc cooperation with an power supplier/utility acting as an aggregator and offering “easy to use” RE supply contract/ cPPA has been recently observed in the market and shall be further promoted over Financial Institution with potential risk sharing FIs.

Nevertheless, in order for the FIs to be deliverable in the medium term and align with available public funding support in case such support is utilised, the FI concepts should try to remain close to the banking sector’s current capabilities and proposals under mandates such as InvestEU.

Combining the two FIs

Subject to further risk analysis and double financing aspects, the Subordinated Debt and the cPPA Offtaker Guarantee FIs may be combined within the same RES project since they address different objectives, capital expenditures and final recipients. In such case, the RES project risk limit may be impacted, eventually with different risk weightings, since both instruments are ultimately exposed to the RES project power price market risk.

5 Some reflection on further specifications of the proposed FIs

5.1 Guarantee securing the Offtakers' creditworthiness

Objectives

The proposed stand-alone/ multiple mid-sized Offtaker Guarantee product should aim to secure RE power suppliers against the lack of capacity of the power purchasers to pay the fixed cPPA power price over the cPPA tenor.

This Offtaker Guarantee would help improve the bankability of RES projects backed by cPPAs by helping to secure longer-term revenues to the project promoter. As such, the hedging nature of cPPAs against power price volatility would hopefully be enhanced and should lead to easier access to long-term, and more affordable, financing.

Targeted final recipients and beneficiaries

The Offtaker Guarantee might target corporates with no or insufficiently strong credit ratings, to access cPPAs. In such cases the final recipients of the Offtaker Guarantee would be the RE project final corporate clients, where the cPPA would cover a given volume of RE to be delivered over a minimum period of time (probably 5 years at least), and for a fixed price.

Key features

Such an Offtaker Guarantee might also be standardised in form in order to potentially allow for their aggregation within a portfolio, to achieve sufficient scale and diversification of risk. The structuring of such Offtaker Guarantee may take several forms, depending on the availability of public funding (like InvestEU or other EU funding schemes), RES market development, and taking into account potential regulatory or eligibility of funding constraints, including State aid.

Based on market experience with State aid rules, this guarantee would probably not cover more than 80% of the Offtaker credit risk and, in the absence of a State aid exemption or clearance, may also need to be priced at market conditions. The State aid aspects would certainly need to be further assessed at a future development phase in order to comply with the Commission Notice on the application of Articles 87 and 88 of the EC Treaty to State aid in the form of guarantees (2008/C 155/02) – and in particular section 3.4 – lists the conditions to be fulfilled in order to rule out the presence of aid[15].

Intermediated Offtaker guarantee dedicated to smaller corporates:

The availability of creditworthy Offtakers for long-term cPPAs is limited. Therefore extending the cPPA market demand, by making access easier for smaller corporates, is required. An Offtaker guarantee instrument adapted to the smaller and/or lower rated corporate market may be very welcome to foster more RES investment with more acceptable cPPA backing.

Based on a recent market testing, however, with financial institutions (see Annex 2), there appears to not yet be a clear business model or established product offer that would immediately be able to target smaller corporates in this way. In addition, the financial institutions interviewed were also concerned about their own capacity to manage such relatively sophisticated financial products.

An Offtaker Guarantee targeting smaller corporates as final recipients, and deployed with or through financial intermediaries, might therefore be developed at a later stage. The development of such an Offtaker intermediated guarantee, dedicated to smaller corporates organised in a pool of RE power buyers (consortium of Offtakers), will also no doubt require more market awareness, capacity building and standardisation.

Such Offtaker intermediated guarantee instruments may also be explored via Energy Service Companies (ESCOs) or utility/ energy traders, also acting as aggregators of multiple Offtaker cPPA/RE supply contracts. The Offtaker guarantee

[15] Commission Notice on the application of Articles 87 and 88 of the EC Treaty to State aid in the form of guarantee, available at: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:155:0010:0022:en:PDF

would then secure the final payment (guarantee for price difference) of the ultimate smaller sized Offtakers. Preliminary models have been mentioned in recent reports or identified via market testing, such as:

- Financing "light as a service" schemes: model of RE micro solar panel providers offering standardized RE supply solution to smaller corporates.
- Promoting cPPA consortiums of smaller corporates, via syndicates or consortia of corporate electricity buyers formed to enter into cPPAs for larger capacity assets. This would help diversify the individual Offtaker credit risks amongst the consortium.

Risk considerations and product structuring for the Offtaker Guarantee.

An Offtaker guarantee aims to make the RE project bankable in the views of the RE promoter and the project financers. The Offtaker creditworthiness issue, in the context of a cPPA, can be further analysed into several sub risks such as early termination, payment default, and Offtaker bankruptcy/solvency risk.

An Offtaker Guarantee could cover, for example, up to 80% of the revenue gap between the spot market power price and the cPPA contracted fixed price, in case of a payment default (similar to existing Norwegian and Spanish schemes).

Subject to further market testing, the Offtaker Guarantee instrument could be structured in order to minimise the exposure and therefore reduce the need for public resources. The following risk mitigation measures could be applied:

- a capped guarantee amount to cover the estimated value of the economic losses/gains, and breakage costs, due to the RE Generator for the early termination of the cPPA. Such capped guarantee would secure the cPPA termination indemnity and would potentially de-couple the Offtaker guarantee exposure from the power price market. Such capped guarantee amount and premium should keep the guarantee price attractive for each of the cPPA contractual parties. The Offtaker guarantee schemes in Spain and Norway include such capped exposure (via an energy power price floor) which seems acceptable for the guarantee beneficiaries.
- Alternatively, a pari passu portfolio guarantee solution for smaller size Offtakers could be envisaged, in the context of a "consortium" of purchasers for example, where each energy purchaser would accept to increase its initial cPPA volume purchase up to 20% in order to compensate the default of one of the other consortium members.
- Provide the guarantee only for a partial "pricing gap" coverage, i.e. the guarantee would cover only a portion of the difference between the power price spot market price and the cPPA fixed price (i.e. like in the Norwegian guarantee scheme, that covers 80% of the pricing gap).
- Utilise a revolving guarantee buffer mechanism to generate cash reflows, after the guarantee enforcement, in case the spot market power price goes over the cPPA fixed price, the positive cash difference would be transferred into a buffer/collateral account. Spain and Norway offtaker guarantee schemes request respectively 80% and 100% of the cash surplus generated by selling the RES Power in the spot market to be transferred back to them as guarantor.
- Use of an adapted selection process of the Offtaker Guarantee final recipient in order to reduce the probability of default risk to an acceptable maximum level over the guarantee tenor. Such Offtaker selection criteria could be based on sectors (domestic industries, services, and long-term business cycle), track records, and financial ratios. By mitigating the credit default risk, the likelihood of the Offtaker Guarantee being called is reduced too.
- For the Offtaker portfolio guarantee to smaller corporates, the credit risk may even eventually be mitigated further by having a granular portfolio across a country or even across the EU.
- Pledge of cash collateral, up to 3 months of energy invoices, in order to secure the non-payment risk. This pledge of cash collateral is usually acceptable to corporate Offtakers.

The Offtaker guarantor risk exposure will mainly depend on 3 variables related to the nature of the cPPA, the Offtaker's profile and the security expectations of the RE Generator/RE financers:

- The key characteristics of the cPPA, especially physical or synthetic nature of the agreement, the volume risk (take as produced or fixed volume) as well as the underlying RE assets (wind versus solar) and the geographical

production delivery points have a material impact on the overall risk exposure to be undertaken by the Offtaker guarantor.

- The Offtaker's profile in terms of credit rating, energy mix supply strategy, long term industrial cycle, localisation and potential aggregation in consortium of purchaser's agreements will impact the risk appetite of the guarantor.
- The RE promoter/Generator may require conditional or on demand guarantee to make the Offtaker bankable, the guarantee amount can be related the price difference (CfD structure) or secure the payment of a lump sum (early termination indemnity) and the Offtaker guarantee may provide some capital relief effect to the RE financer via assignment provision and minimum guarantor rating requirements.

Therefore, to assess an Offtaker guarantee exposure, at least three aspects of the RE cPPA should be assessed simultaneously: the cPPA key features, the Offtaker's profile and the guarantee beneficiaries expectations.

Attractiveness

The conditions to access the Offtaker guarantee shall remain attractive for both the RE power supplier (which can enforce it) and the Offtaker.

✓ From the Offtaker's perspective:

The guarantee shall:

- Allow the Offtaker to access long term cPPAs (e.g. over 10 years) at a reasonable RE fixed price.
- Avoid exposing the Offtaker to unacceptable contingent liabilities (margins calls, cash collateral security in case of trigger event (covenants/ratings), step up pricing, etc)
- Propose a guarantee fee which will not too severely deteriorate the "all in" cPPA contracted power price

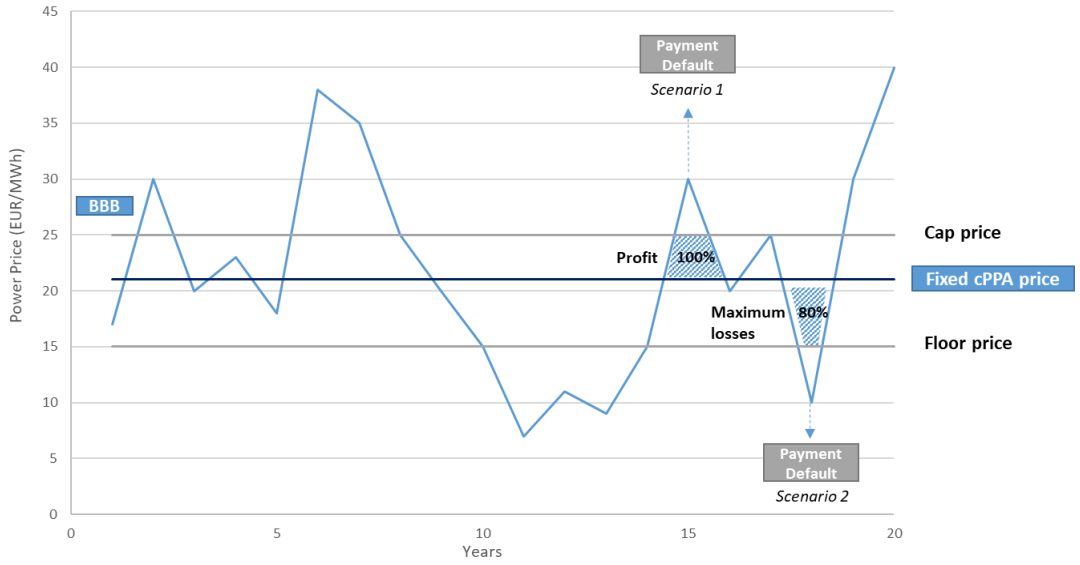
✓ From the Generator's perspective:

- Ensuring easy enforcement (on demand or with "light" pre-condition).
- Provide ideally a AAA credit enhancement to the Offtaker's credit worthiness
- Providing acceptable step in provisions
- Agreeing on an acceptable power price floor (maximum guarantee exposure) and power price cap (maximum spot market recovery/bonus proceeds)
- Agreeing on acceptable legal provisions to be included in the cPPA contract (to refer to the Offtaker guarantee and the step-in rights for instance)

Illustrative case of a stand-alone Offtaker guarantee structure similar to the Norwegian and Spanish schemes.

In case of an Offtaker default under the cPPA agreement, the Generator will have the option to either enforce the guarantee or substitute the defaulted Offtaker with an equivalent eligible Offtaker at the same or better cPPA price.

If the Generator enforces the guarantee, the guarantor will preferably step into the cPPA contractual rights and obligations where the following two outcomes are possible:



Scenario 1: The spot price is higher than the fixed cPPA price

At the time of the Offtaker's default, the Generator will sell the power at the spot market. If the spot price is also higher than the cPPA price, the power supplier will pay the positive difference (surplus) between the cPPA price and the cap price, to the guarantor.

Scenario 2: The spot price is lower than the fixed cPPA price

At the time of the Offtaker's default, the Generator will sell the power at the spot market and the guarantor will compensate for this with an upfront payment for 80% of the difference between the spot market price and the cPPA price, down to the floor price.

Illustrative case of an intermediated portfolio Offtaker guarantee targeting consortium of energy purchasers.

Risk mitigation:

In terms of the Offtaker guarantee risk assessment, the financial intermediary, corporate banking sector, shall consider the longstanding relationship with its clients, ensuring cash flow domiciliation and updated internal credit ratings/available credit limits.

The multiple Offtakers cPPA shall consider a joint liability of the consortium members, representing for example, a commitment to increase up to 20% their initial RE purchase volume to compensate a consortium member's default. This "joint" liability shall facilitate a portfolio risk management and a granular portfolio risk approach.

Pledge of cash deposit, individual guarantee pricing and volume can be considered but the key CPPA terms shall be fixed within a cPPA framework contract (same tenor and power pricing).

The financial intermediary could benefit from a pledge on the RE volume in case of residual payment default (after enforcement of the consortium join liability and enforcement of the collateral) and a recourse against the defaulted Offtakers.

Legal documentation

The "Multiple Purchaser cPPA" product shall be standardised and proposes the same tenor contract at fixed price to every Offtakers within the consortium. It is articulated via a cPPA framework contract similar for each Offtaker consortium member and a simplified cPPA individual contract with ad-hoc specificities (volume, guarantee premium, early indemnity etc)

The guarantee premium is individual to each purchaser consortium member and depends mainly from the credit rating.

The Offtaker guarantee to the RE project promoter shall be capped.

5.2 Subordinated Debt aiming at securing future cash flows

Objectives

CPPA markets are at different development stages across the EU[16] with some countries having higher potential (e.g. Spain, Germany), others having economic challenges (e.g. France, Netherland, Ireland), poor/constrained demand (e.g. Italy, Poland, Netherland) or good fundamentals but lacking a supportive market structure (e.g. Romania and other Central European Member States). Considering this heterogeneous environment, the Subordinated Debt instrument would aim to support the supply of RE project investments eventually supported by cPPAs, by providing a quasi-equity buffer to RE Generators that do not necessarily have strong enough balance sheets and/or proper access to equity needed to assume Merchant risk. This FI, subordinated to senior loans, would help hedge the Merchant risk (flooring the power price as a trigger event). The Subordinated Debt instrument would also provide a quasi equity buffer, of up to a certain percentage of the total investment cost. The access to this Subordinated Debt instrument would ideally be made conditional upon signing a cPPA of at least a minimum number of years for a significant portion still of expected RE volume to be generated.

The Subordinated Debt instrument will aim to secure the future cash flows of the RE project investment, especially for smaller sized Generators that have constraints in terms of access to equity and/or appropriate hedging tools.

Targeted final recipients and beneficiaries

Such Subordinated Debt instrument, by reducing the probability of default payment of the RE Generator, would enhance the senior loans credit assessment and limit the senior lender's request for a larger share of equity, thereby making the overall RE investment more financially viable.

The targeted final recipients could be wind and solar projects of medium size.

The indirect beneficiaries of the Subordinated Debt instrument would be senior lenders as this quasi-equity instrument would hopefully incentivise them to provide additional long-term funding by increasing the share of senior loans, i.e. from 50% of the total project cost to 60% for example.

Structuring options

The Subordinated Debt instrument could also be structured as a funded or unfunded standby credit facility, enforceable only in case of predefined trigger events, like power price fluctuation below a threshold for a given period.

In case of surplus revenues, above a given power market spot price, and when additional RE volume is available, the proceeds would be utilised to ensure the Subordinated Debt instrument capital is repaid, ahead of distributions to equity investors.

Risk coverage

Such Subordinated Debt would help mitigate the Merchant tail risk exposure remaining after the initial cPPA period elapses and/or for the RE volume not covered by a cPPA. As such, the risk exposure is comparable to the Offtaker Guarantee instrument in an Offtaker payment default situation. A similar risk assessment approach to that of the Offtaker Guarantee instrument, and mainly based on assessing the downside/worst case long-term power price scenario, could therefore be implemented.

Similar risk mitigating proposals and application procedure, as outlined for the Offtaker Guarantee, could be envisaged to minimise the need for public resources to fund such instrument.

State aid considerations

[16] *CPPAs: A Market Study including an assessment of potential financial instruments to support renewable energy Commercial Power Purchase Agreements*, 2022, available here: https://eiah.eib.org/publications/index

If the subordinated debt financial instrument involves State aid that does not meet the conditions allowing for an exemption from notification, prior to implementing the measure the Member State concerned must submit a State aid notification.

State aid is potentially excluded at the **level of the financial intermediary** when:

a. the financial intermediary carries out the investment on a pari-passu basis, i.e. under the same terms and conditions, at the same time, they bear at any time the losses and benefits in proportion to their contributions (pro-rata) and there is an economically significant participation of the financial intermediary in the subordinated loan;
b. the remuneration (i.e. management costs and/or fees) of the financial intermediary and the holding fund reflects the current market remuneration in comparable situations, which is the case when the latter has been selected through an open, transparent, non-discriminatory and objective selection procedure; or
c. the financial advantage of the programme public contribution to the instrument is fully passed on to the final recipients in the form of an interest rate reduction and/or a decrease in collateral requirements.

State aid at the **level of final recipient** is potentially excluded where the subordinated loan fulfils the conditions set out in the Reference Rate Communication[17] . Where subordinated loan does not fulfil the conditions of the Reference Rate Communication, it is not considered market conform and State aid cannot be excluded.

[17] Communication from the Commission on the revision of the method for setting the reference and discount rates (2008/C 14/02).

6 Potential role of InvestEU

The new long-term funding programme of the EU, InvestEU, aims to support sustainable investment, innovation, small companies and social investments in Europe over the period 2021-2027. The programme consists of three pillars: i) the InvestEU Fund, ii) the InvestEU Advisory Hub and iii) the InvestEU Portal.

The InvestEU fund is a guarantee programme, by which an **EU budget guarantee of EUR 26.2bn** will be used to mobilise more than EUR 372bn of public and private investment by supporting financing from implementing partners, namely the EIB Group and National Promotion Banks and institutions. This EU budgetary guarantee will increase the risk-bearing capacity of implementing partners by backing their investment projects and will be distributed across four policy windows, indicatively as follows:

- **Sustainable Infrastructure** window: EUR 9.9bn
- **Research, Innovation and Digitisation** window: EUR 6.6bn
- **SME** window: EUR 6.9bn
- **Social Investment and Skills** window: EUR 2.8bn

The cPPA de-risking instruments proposed in this study are a debt instrument (subordinated debt) and a guarantee instrument (Offtaker guarantee) supporting both Climate objectives. Subject to further development, the proposed cPPA FIs could potentially be designed and deployed under the SIW[18] general or thematic financial products.

Both the cPPA FIs could be classified as sustainable investments under the policy area targeting clean energy transition through renewable energy generation, supporting projects with market risk exposure[19]. In line with the InvestEU eligibility of operations, proposed cPPA FIs could be funded or unfunded and may take the form of debt financing[20].

The Sustainable Infrastructure Window General financial products could support a cPPA backed subordinated debt instrument subject to the proposed operation being within the scope of the implementing partners' regular risk metrics, while carrying a high level of risk .

The subordinated debt product could be included in this category (under the sustainable infrastructure window), and could be included in an equity-type portfolio because it is considered as mezzanine debt, subject to further risk analysis.

The Sustainable Infrastructure Window thematic financial products could potentially support a longer-term Offtaker guarantee product since it relates to high-risk operations that are unlikely to be addressed by general financial products of implementing partners, as the operations would fall outside the scope of their regular risk metrics.

Considering the specific strategic sector (RE) and the obvious additionality of the cPPA Offtaker guarantee, a specific increase of the EU budget guarantee dedicated to thematic financial products under the SIW could prove necessary in order to secure dedicated FLP resources for a cPPA Offtaker guarantee product.

Deeper analysis, via potential cPPA de risking pilot cases and/or other means, would be needed to help with the assessment of the eligible priority areas under the InvestEU Windows, assess the risk profiles of the proposed FIs and analyse the attractiveness of that product for the cPPA stakeholders with and without Invest EU support.

State aid considerations

Where the InvestEU guarantee is used, the funding from EIB Group (provided its own resources) is still not classified as aid; however, it is needed to demonstrate that it is consistent with the principles of State aid.

[18] SIW – Sustainable Infrastructure Window of the InvestEU Programme.
[19] Instead of relying on revenues coming from government support schemes, being exposed to market price signals which may take different forms in different jurisdictions and in some cases, revenues may come only from electricity markets, potentially with offtake agreements.
[20] Debt financing term may include inter alia loans, guarantees, letters of credit, securities and standby credit facilities; which may be senior, mezzanine or subordinated; and which may include features such as the option to defer or skip interest payments, participation in profits or revenues, contingency of payments or redemption, and convertibility (including convertibility into equity); and shares, partnership interests or other participation rights in a vehicle that engages in debt financing.

If an InvestEU operation complies with the conditions set out in the InvestEU guarantee agreement signed between the European Commission and the EIB, the operation shall be considered State aid consistent ex ante, and no further State aid considerations should be relevant to establish the consistency of that operation with State aid rules.

For EIB operations under InvestEU, a number of eligibility conditions apply for projects concerning large-scale manufacturing. Moreover, operations which would not be in the main Policy Priority Area of InvestEU have to meet certain criteria or receive a specific clearance from the Commission. Typically, projects in the renewable energy sectors are considered eligible and state-aid consistent.

7 Envisaged next steps

Based on the work done to date and initial market testing, the cPPA market appears quite fragmented and at different development stages in Europe, making challenging to introduce at this stage a functioning FI capable of assessing and pricing the cPPA related risks adequately. It is therefore recommended that more work is undertaken to identify pilot operations where such instruments might be incubated and tested further.

In particular, the key steps to further develop the proposals would include:

- Fine-tuning the level of Offtaker's risk to be secured in order to make the FIs attractive for the RE Generator and its financers. Considering potential risk mitigation elements like capped guarantee, consortium of purchasers, eligible Offtakers and RE investments projects.
- Prioritising the products and services providing the maximum impact on the identified cPPA market gaps.
- Considering the State aid rules to be applied to such instruments based on EU competition rules and existing examples land/or pilot cases.
- Identifying the optimum features of the cPPA advisory web-based platform that would best support cPPA market development.

8 Annexes

8.1 Market consultation (source:DG ENER)

1. EU Market consultation and strategic importance of cPPAs

1.1 Strategic importance of cPPAs/ Increased expected demand for cPPAs

The current geopolitical situation and EU strategy for climate neutrality reinforce the need to support the development of Renewable Energy commercial PPAs as they can be of strategic importance to the energy security of Europe and the achievement of its climate targets. At the same time, the enhanced focus on green hydrogen is set to further increase the demand for cPPAs, which can be used to supply renewable energy for its production.

Notably, the recently established REPowerEU plan will be one of the main political drivers for the promotion of cPPAs. The initiative came as a response to the ongoing energy crisis and the need to become independent from Russian fossil fuels in light of Russia's invasion of Ukraine. It proposes a number of actions aiming at i) saving energy, ii) diversifying energy supplies, and iii) accelerating Europe's clean energy transition.

A scale-up in the production of renewable energy is necessary to speed up the clean energy transition of Europe. The REPowerEU communication includes various measures and targets to achieve greater deployment of renewable energy in power generation, industry, buildings and transport.

Noteworthy is the increase of the target for renewable energy from 40% to 45% by 2030 and the installation of over 320 GW of solar photovoltaic by 2025, over twice today's level, and almost 600 GW by 2030.

In regards to hydrogen, a target of 10 million tonnes of domestic renewable hydrogen production was proposed. Based on the significant needs for renewable energy, the REPowerEU communication highlights the need to encourage the deployment of PPA-financed renewable energy projects, which will be supported by the relevant guidance document prepared by the European Commission for the Member States.

Consequently, the demand for financial instruments that will accelerate the development of the European cPPA market is expected to increase.

1.2 Market consultation

The European Commission launched a public consultation in January 2022 for the preparation of a guidance document aiming to improve permit-granting procedures for renewable energy projects and to facilitate PPAs. As part of this consultation, twenty-five stakeholders of the European PPA market have provided insights on the main challenges that need to be addressed in order to accelerate the development of PPAs.

The financial and economic obstacles that have been reported by the stakeholders could be broadly summarized in the risks associated with the **duration of the PPA contract** and the **creditworthiness of the Offtakers**, which affect the bankability of the RE projects backed by cPPAs. Industrial power purchasers are interested in long-term PPAs to secure the supply of renewable energy, but the payment default risk exposure associated with such industrial purchasers often discourages potential agreements. Additionally, the current market conditions (bankability, legal complexity, financial and administrative costs) do not allow smaller or less creditworthy buyers to enter into PPA agreements, limiting therefore the potential pool of Offtakers.

Based on the above and according to the cPPA market survey results **disclosed on the cPPA market study**[21], there is significant demand for **financial instruments addressing cPPA identified risks and barriers.**

[21] *CPPAs: A Market Study including an assessment of potential financial instruments to support renewable energy Commercial Power Purchase Agreements*, 2022, available here: https://eiah.eib.org/publications/index

During the EU public consultation, eleven stakeholders have expressed considerable interest for the deployment of a **credit guarantee product** backed by the State or international institutions that would secure the fulfilment of the Offtakers' obligations and thus would reduce their perceived credit risk.

Such a de-risking instrument would enable smaller and/or less creditworthy Offtakers to enter into PPA contracts, which would in turn broaden the Offtaker base and accelerate the uptake of PPAs by the market. Guarantee products could also be used to back up the power generators' obligations and to support the banking sector by securing the RE project cash flows budget forecast.

Other needs that have been expressed in the market consultation include the development of **online platforms** as well as the promotion of **standardized PPA contracts** at European level. Online platforms could connect PPA purchasers and sellers, advertise RE backed PPA projects across Europe and support the dissemination of PPA prices and the advantages of such contracts. Additionally, the standardization of PPA contracts is deemed significant for the promotion and better understanding of such agreements considering the observed differences across Member States, while such an effort could materialize in developing a common glossary for PPAs and providing educational trainings and material to the relevant stakeholders.

8.2 Market consultation with financial institutions regarding a potential Offtaker Guarantee product

Based on the cPPA market study published in 2022[22] and as part of this follow up study, the EIB conducted a small-scale market testing exercise to assess the possibility of providing a bank guarantee that secures the creditworthiness of mid-caps and smaller enterprises that wish to enter into long term RE supply contracts, like cPPAs.

Market interviews, questionnaire and feedback

The market testing exercise was conducted with some of EIB's financial counterparts that are considered to be active in the RE based cPPA market. The questionnaire that was circulated among the participants addressed three main topics: the product design, its attractiveness and the potential design of an advisory package aimed at stimulating the cPPA demand from Midcaps and smaller corporates. EIB collected feedback during the interviews as well as written answers and comments from the intermediaries.

Main topics addressed during the interviews/ questionnaire

Attractiveness of the Offtaker Guarantee product

The financial intermediaries confirmed that such a cPPA guarantee product would help the RE financing to be more affordable for RE investors. To be attractive, the guarantee it was felt should cover cPPA or RE supply contracts for long periods, specifically over 10 years and up to 20 years.

The Offtaker Guarantee coverage shall be set in order to secure the RE project against the Offtaker credit risks, which can be summarized as bankruptcy risk, early termination risk, and payment default risk.

The capital relief effect of the guarantee should incentivize the financial intermediaries to provide longer term and cheaper funding. An AAA, 0% risk weighted guarantor like EIB is appreciated but ideally a pari-passu coverage at minimum 75% of each Midcap/Smaller enterprises exposure portfolio shall be prioritized, especially if the portfolio of risk is not granular (consortium of Midcap offtakers below 100 items).

In case of a first loss piece guarantee structure, the capped rate of the FLP shall be large enough to generate high leverage effect and shall also take account of the non granular portfolio of Midcaps/SMEs.

[22] *CPPAs: A Market Study including an assessment of potential financial instruments to support renewable energy Commercial Power Purchase Agreements*, 2022, available here: https://eiah.eib.org/publications/index

Most of the financial institutions gave priority to Midcap Offtakers where the risk assessment would be fully delegated to them by EIB. Some concerns were expressed in regards to having a list of eligible sectors and/or selection criteria for the Offtakers, considering that this may limit the demand for such cPPA/Energy supply arrangements and therefore reduce the absorption potential.

Some financial intermediaries have already setup specific cPPA offers for their high energy intensive corporates clients, and are seeking risk sharing and/or risk mitigation measures to expand/increase this offer in the corporate market.

Demand/ marketing

Most of the interviewees, coming from the project financing activities of the financial institutions, consider that the market needs an Offtaker Guarantee dedicated to Midcaps and smaller corporates to secure the future cash flow of RE projects because of the extending RE generation capacities and the limited number of bankable larger corporates ready to enter into cPPAs.

Nevertheless, the market demand for cPPAs from Mid-caps and smaller corporates is not well structured yet and needs to be stimulated.

1. One of the solutions could be that financial intermediaries, through their Corporate lending departments, propose such cPPAs as a hedging solution against power price volatility. Combining such cPPA hedging with a dedicated working capital facility aiming to finance the purchase of energy can be considered as well. The target of this midcap Offtaker Guarantee could be a consortium of Offtakers, jointly liable in terms of RE power volume purchase and signing a multiple Offtaker cPPA agreement. In this case, the cPPA default payment risk would be diversified across the Offtakers, who would be committed by step in obligation (The non-defaulted Offtakers would commit to buy the defaulted cPPA Offtaker power volume at contract price).
2. Another way to stimulate the demand for such Midcap-Smaller Offtakers, would be to target RE suppliers, power traders and/or RE promoters that would offer a dedicated Midcap-smaller corporate long term RE supply contract at a fixed price. The financial intermediary would then assess the RE supplier/Power trader/RE promoter risks (construction, volume and remaining market risk) and would provide long-term final Offtakers Guarantee (on a pari passu basis with the guarantor).
3. One interviewed bank mentioned a successful marketing action related to solar photovoltaic ("PV") micro installations on the rooftop of industrial corporates. The promoter of such PV micro installations is proposing simple solutions like "Light as a Service" models, usually proposed by ESCOs (Energy services companies). Usually, the ESCO invests in PV rooftop installations and sells the electricity generated by these installations to the industrial corporate (self-consumption), generating substantial savings by eliminating transmission/distribution costs. The surplus, non-self-consumed energy is sold to the grid at the spot market price. The bank's described model differs from large or mid-sized cPPA transactions, but is similar in terms of risk to be considered i.e. the creditworthiness of the final electricity consumer (industrial corporate/Offtaker) as well as the price difference obtained from the power spot market in case of the corporate's default. The bank is seeking a pari-passu guarantee securing its lending exposure to the project promoter. In such case, the ESCO/promoter will act as an aggregator of Midcap-SMEs risk, which would facilitate the risk management in a portfolio approach.

Nevertheless, most of the financial institutions were not able at this stage to discuss in details a marketing package or an implementation strategy for such a cPPA guarantee product.

Main issues raised:

a) **The aggregation of small cPPAs** (legal standardization, marketing, step in rights to manage the power volume) **seems to not be in the capacities of financial intermediaries**: A specific aggregator (power trader, utility or ESCO) should organize such aggregation of multiple Offtakers cPPA. Standardisation and streamlined marketing are key to incentivize Mid-cap and smaller corporates to enter into long-term cPPAs or similar RE supply contracts.
b) **The low current cPPA market demand for Midcap and SMEs Offtakers:** As of today, few Midcaps and SMEs are aware of this possibility to stabilize their power price and comply with EU green transition targets. They do not have the technical and legal resources to negotiate a large cPPA transaction directly with RE promoters and therefore are seeking for simple solutions potentially structured via a power trader/ESCO.

c) **Financial intermediaries building capacities**: FIs can assess the credit risk of final Offtakers, even that of Mid-caps or smaller corporates, but they cannot manage the technical risk related to the delivery of volume and the power price risk.
d) **The economic model for the FI:** in case of a pure Offtaker Guarantee, the FI shall structure an offer that generates enough earnings for both the corporate lending teams (in charge of the Offtaker relationship) and the project finance teams (in charge of the RE promoter relationship). Such economic models, shall consider overall credit limits (on the RE promoter side) and cannibalization risk (the Offtaker Guarantee as well as the RE promoter financing are exposed to common risks, that is volume, construction and market price risks).

Technical assistance and advisory support to stimulate cPPA uptake

The last point of the market testing questionnaire addressed the need of supporting the cPPA demand with **on-line tools**, **case studies** and/or **awareness raising material**. All financial intermediaries have welcomed such solutions that shall, in the view of a full delegation model, provide some support to the financial institutions' networks, potentially in regards to the eligibility criteria of the Offtakers (eligibility check tool), the application process (on-line cPPA application), automatized reporting lines (reporting and monitoring the portfolio risk exposure) and standardization material (key cPPA terms and conditions, pre-approved acceptable RE promoters).

Conclusion and recommendations

Within the financial intermediary partners, the RE project finance teams are confronted by an increasing number of RE investment projects that require more cPPAs because they provide some security in relation to the RE projects. Signing long-term cPPAs with large bankable corporates becomes more difficult and therefore extending the cPPA market demand by making access to cPPAs easier for Mid-caps and smaller corporates is required. An Offtaker guarantee instrument adapted to the Mid-cap/ smaller enterprise would be very welcome to foster future RE investment with adequate long-term financing.

Financial intermediaries do not appear to have yet a business model or established product offer that would target midcap/ smaller corporates with the purpose of financing/ securing their access to RE power under cPPAs. Those contacted for the market testing questionnaire seemed a bit concerned about their in-house capacity to manage such a product, which is potentially related to the step in right into defaulted cPPAs, margin calls and recourses against the RE promoter.