RE-Source's corporate PPA guide

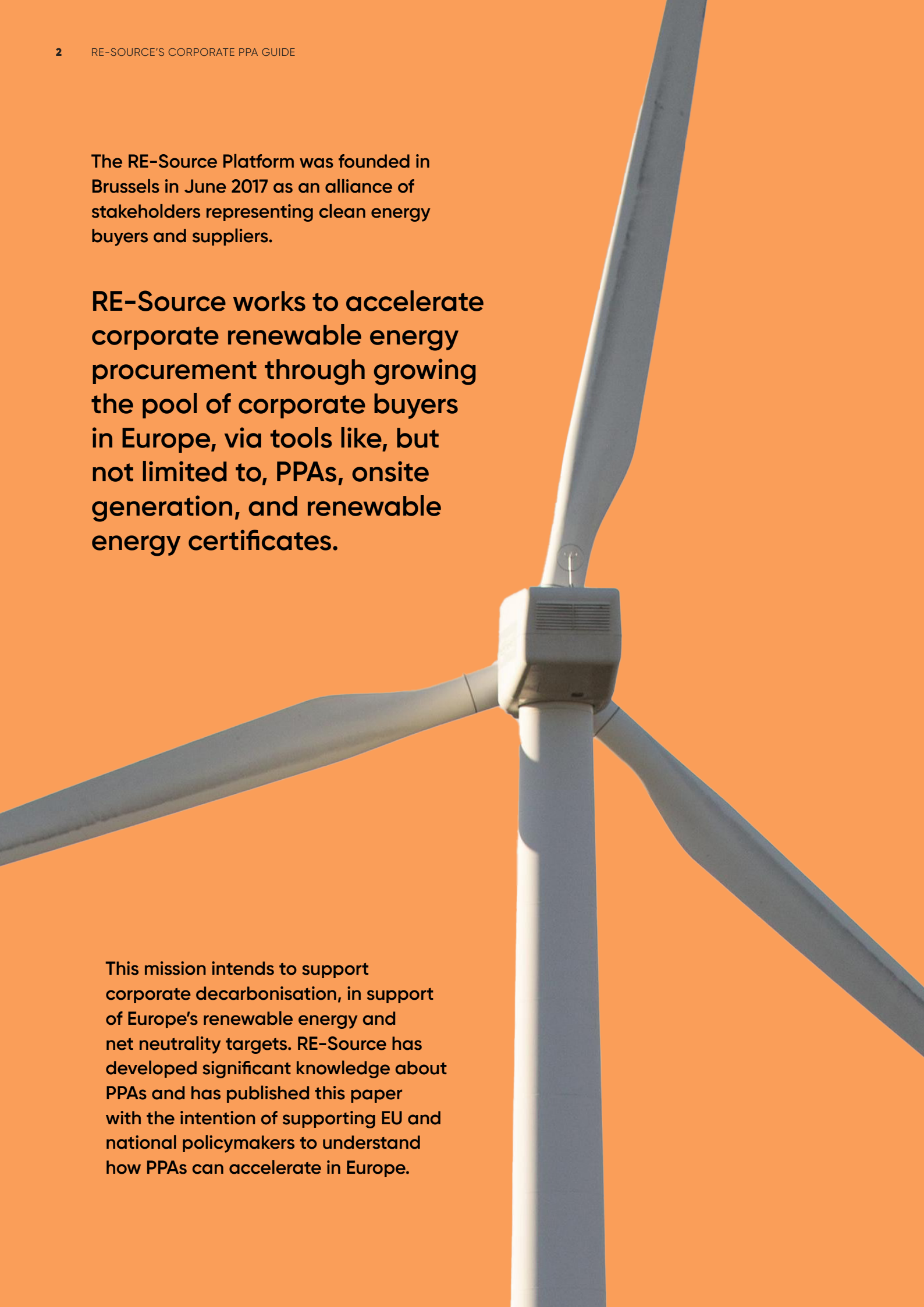
HOW TO HELP MORE CORPORATES SIGN RENEWABLE POWER PURCHASE AGREEMENTS

JULY 2025

RE-Source
European platform for corporate renewable energy sourcing

The RE-Source Platform was founded in Brussels in June 2017 as an alliance of stakeholders representing clean energy buyers and suppliers.

RE-Source works to accelerate corporate renewable energy procurement through growing the pool of corporate buyers in Europe, via tools like, but not limited to, PPAs, onsite generation, and renewable energy certificates.



This mission intends to support corporate decarbonisation, in support of Europe's renewable energy and net neutrality targets. RE-Source has developed significant knowledge about PPAs and has published this paper with the intention of supporting EU and national policymakers to understand how PPAs can accelerate in Europe.

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EXECUTIVE SUMMARY

Corporate power purchase agreements (PPAs) are a key part of Europe's energy transition and industrial decarbonisation, increasingly recognised in European policy – from the Clean Industrial Deal to the Affordable Energy Action Plan and the 2024 reform of the Electricity Regulation (Regulation (EU) 2024/1747). These long-term power contracts between renewable energy buyers and suppliers provide predictable energy prices, facilitate decarbonisation, and drive new investments in renewable energy. Nevertheless, while demand for PPAs is growing, deployment across European markets and industries remains uneven. This report identifies enablers and drivers for the development of PPAs, outlining challenges and solutions.

Many issues impacting the broader renewables roll-out, impact PPAs. The EU institutions and Member States must focus on removing these bottlenecks, whilst adopting targeted policies and support for PPAs. If these efforts are undertaken, there is huge potential demand for PPAs. This will drive forward Europe's renewable energy and industry decarbonisation targets.

More details on the solutions to these challenges are available in the paper:

CHALLENGE	SOLUTION
→ **Demonstrating creditworthiness to conclude contracts can make PPAs inaccessible to unrated companies**	Reduce the cost of being rated by rating agencies; and design state-backed guarantee schemes based on developing best practice.
→ **Design of national renewable energy support schemes can distort market signals and corporate PPAs**	Organise CfD auctions with PPA carve outs, learning from first examples, and ensure the design enables a level playing field between financing models, in line with Electricity Regulation provisions.
→ **A lack of energy system readiness and unresponsiveness to price signals increases costs and risks**	Build out grids and interconnectors, facilitate cross-border PPAs, and consider, under certain conditions, prioritising grid access for projects with a corporate PPA for an electrification project.
→ **Slow pipeline of renewables projects in some EU markets, meaning PPA demand outstrips supply**	Faster permitting timelines and simplified digitised processes for both renewables projects and grid access.
→ **Market interventions create significant market uncertainty and reduce the volume of PPAs signed**	Preserve the marginal pricing system for electricity and avoid intervention in electricity markets, particularly in wholesale prices.
→ **Corporate buyers' lack of in-house knowledge can make it harder to negotiate complex PPA contracts**	Promote knowledge-sharing via events, workshops, and best practice tools for negotiating long-term PPAs.
→ **Need for a more fit-for-purpose Guarantee of Origin (GO) system**	Assess gaps in legislation, encourage all Member States to be AIB members, harmonise information across registries, encourage national registries to digitise and provide more granular time stamping.
→ **Inconsistent EU legal framework risks inconsistent treatment of PPAs under EU law**	Follow the Product Environmental Footprint (PEF) method which recognises PPAs in all product carbon footprint regulations.
→ **Low awareness of tools which could help SMEs sign PPAs**	Raise awareness of market solutions like multi-buyer PPAs; facilitate best practice sharing between advanced and newer buyers.
→ **Few Member States have implemented the reformed EU Electricity Regulation obligations on PPAs**	Each Member State should assess regulatory limitations; ACER data should be used to monitor progress; the Commission should facilitate long-term transmission rights to enable cross-border PPAs.
→ **Non-energy related taxes on electricity make electrification and PPAs less attractive**	Member States must reduce and remove non-energy related taxes from household and industrial consumers' electricity bills.
→ **Unharmonised and insufficient implementation of EU Electricity Regulation**	Speed up the implementation of EU electricity market rules, including a liquid power exchange for both spot and forward electricity markets, and consider joining market coupling processes to integrate markets.
→ **Expectations of standardisation of a PPA contract**	Safeguard contracting flexibility to allow negotiating parties to develop innovative terms that fairly balance risks to each parties' needs.
→ **Misunderstandings around PPA transparency**	Stick to current reporting rules (EMIR and REMIT), and ensure against new regulatory obligations to report sensitive information negotiated in a PPA contract.
→ **Lack of demand or suitability to sign a corporate PPA**	Companies less able or willing to commit to long-term PPAs should explore alternatives to PPAs.

This document introduces PPAs, and outlines areas which could be improved to help more companies sign PPAs. This guide aims to help Member States implement the 2024 reform of the Electricity Regulation (Regulation (EU) 2024/1747); to inform the European Commission's 2026 guidance on PPAs for Member States; and to aid implementation of the Affordable Energy Action Plan elements on PPAs.

WHAT IS A CORPORATE PPA?

Corporate renewable electricity procurement covers many tools, including corporate PPAs backed by guarantees of origin to demonstrate a unique claim on the energy, onsite generation, and renewable electricity supply from a retailer. More information on these tools, and the definitions below, can be found in ***RE-Source's 'Introduction to corporate sourcing' paper***.[1]

A corporate PPA is not an "off the shelf" electricity supply contract available at every consumer's hand, offered by a retailer. A PPA is an individually negotiated, financing and risk-reducing instrument, which is an active partnership between the energy buyer/offtaker and the energy supplier. A corporate PPA is not traded on a regulated marketplace (exchange) because it is not possible to standardise a PPA product.

Guarantees of Origin (GOs) generally accompany PPAs to make sure that renewable electricity is only claimed once (no double counting). GOs are energy attribute certificates to track and prove to electricity buyers that a given share of electricity supplied to their business originates from renewable sources.

- Bundled GOs can be purchased as part of a PPA contract, allowing corporate buyers to prove mitigated scope 2 emissions (from energy), and that the corporate has a unique claim on the energy procured.
- With unbundled GOs, energy buyers can purchase non-renewable electricity from an electricity supplier but source renewable GOs from a separate GO supplier. Whilst spot purchases of GOs from existing assets are unlikely to support investment decisions, the purchase of GOs helps support the income of renewable energy installations. It is also possible to buy all GOs generated by a specific plant.

[1] https://resource-platform.eu/wp-content/uploads/files/statements/RE-Source-introduction-to-corporate-sourcing.pdf

WHAT ARE THE MODELS OF A CORPORATE PPA?

A corporate PPA is a non-standardised product, so no two PPAs are the same. However, some general categories of PPAs have developed.

On-site PPA: A third party builds, owns, operates, and maintains the installation on-site of the corporate offtaker. The electricity generated by the renewable energy installation is consumed by the corporate, which can secure a long-term fixed price for the electricity through a PPA. The electricity produced is not injected to the power grid but consumed locally. The PPA electricity supply price will depend on the characteristics of the plant and the retail price of the electricity.

Private-wire PPA: The renewable installation is located on land adjacent or near to the power consumer (typically less than 10 km) and the two are connected via a purpose-built direct or 'private' wire. The costs of building the private wire are incorporated into the costs of the project and hence into the PPA price.

OFF-SITE MODELS

Physical PPA: A physical PPA involves the physical delivery of electricity via the electricity grid, with contracts between a developer and corporate power consumer setting the pricing structure for the contract duration, e.g. 5-20 years.

Financial PPA or virtual PPA: A financial/virtual PPA is a financial derivative contract in which the price for underlying electricity is settled with a Contract for Different (CfD) that provides corporates with a financial hedge against long-term electricity price fluctuation (i.e., the generator/offtaker sells/buys the physical energy they produce/consume in the market; the net price received/paid is equal to the market price plus/less the CfD settlement). The contract does not involve a physical transmission of power between the producer and offtaker, and does not necessarily use the same grid allowing it to be signed across national borders (i.e. cross-border PPA). In the case of a cross-border PPA, the basis risk, (i.e., price differential at each side of the bidding zone) must be managed through additional hedging products (i.e., long-term transmission rights (LTTRs). Note: Almost all LTTRs auctioned in Europe are financial products, with some exceptions in southeast Europe or countries that are not market coupled. However, financial PPAs can also be signed within the same bidding zone and country.

CROSS-BORDER PPA
A cross-border PPA can be signed across national borders, thereby allowing corporates to procure renewable energy irrespective of where their businesses operate.

MULTI-BUYER PPA
A multi-buyer PPA occurs when corporates form a consortium of buyers to contract electricity (either physically or virtually) from a single large generator.

WHAT IS ADDITIONALITY?

Renewable PPAs can be signed with new or existing assets, which can be physical or virtual, and include the corresponding GOs. Renewable PPAs backed with new assets allow corporate buyers to prove 'additionality': that the new electricity demands are accompanied by new renewable energy, thus not reducing the availability of renewable energy for existing demands. These tend to have on average a longer duration (10-20 years). According to RE-Source's data, around 80% of the corporate renewable PPAs signed to date are for new assets.

PPAS AND LONG-TERM SUPPLY CONTRACTS

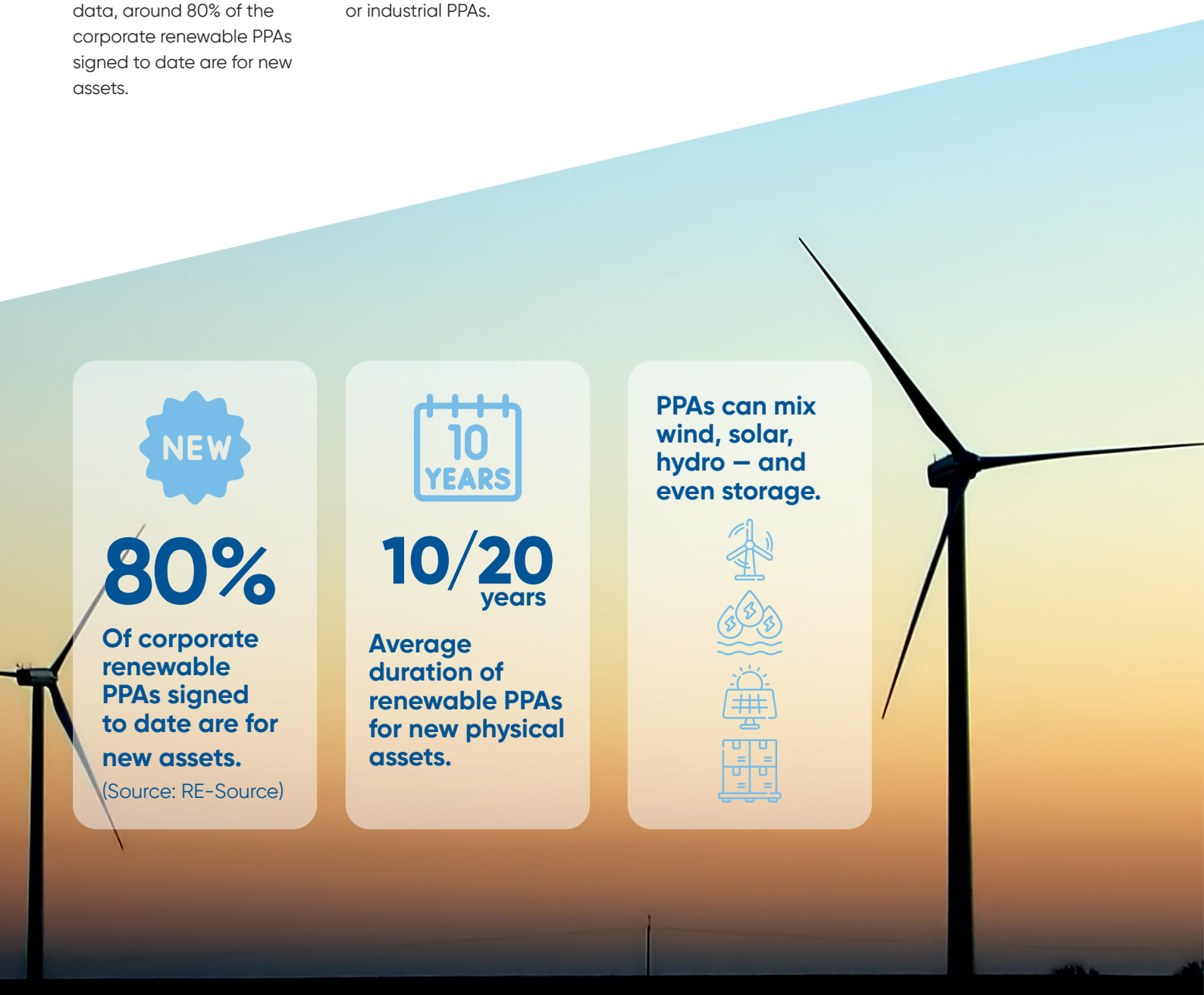
It is important to note the difference between renewable PPAs for financing new assets which are on average 10-20 years and include GOs; and long-term industry supply contracts ("industrial PPAs") normally used prior to the emergence of renewable PPAs and still common across Europe, which are PPAs mainly from existing renewable assets on a portfolio-basis. In recent years, it is common to see industrials combining futures/forwards with renewable PPAs or industrial PPAs.

CORPORATE PPAS AND UTILITY PPAS?

This paper addresses bottlenecks to corporate renewable PPAs – deals whereby a corporate energy buyer, say a data centre or manufacturing facility, procures renewable energy to power their sites. A utility PPA, sometimes known as a merchant PPA, is a deal between the owner of a wind or solar power plant, and a utility or energy trader procures this energy for their portfolio to then sell to its customers.

WHAT KIND OF TECHNOLOGIES?

Corporate renewable PPAs in Europe have taken off. Typically either single technology, wind or solar, depending on the bidding zone, technologies can now be combined. Renewable portfolio PPAs can combine wind, solar, and hydro; or wind + solar; or renewables + storage. Each bidding zone's geography and market provides for the type of technology which can be deployed. Hybrid PPAs will make sense in bidding zones where cannibalisation is driving down capture rates.



ENABLERS AND DRIVERS FOR THE DEVELOPMENT OF PPAS

MARKET ENABLERS

- Long-term regulatory stability: no sudden energy and climate policy changes, and minimal government intervention in the electricity market (including full compliance with Art 19a.9 Regulation 2019/943).
- Market liquidity on the forward markets to enable price references and PPA uptake.
- Fast renewables development and non-fossil flexibility and strong pipeline for projects - including infrastructure developed to ensure sufficient grid access for both generators and consumers and streamlined permitting procedures.
- Smartly designed CfDs or other government price support schemes which do not distort price and market signals, in particular energy and ancillary services markets; nor crowd out the interest of developers and potentially PPA offtakers. This enables the full potential of PPAs.
- Contracting freedom - allowing for innovation in how contracts are structured by safeguarding parties' ability to develop bespoke contract terms (i.e. not imposing standardisation or regulation on the PPAs terms and conditions) and ensuring multiple routes to market for developers.
- Buyers have ease in accessing information about their procurement options and suppliers to partner with.
- Access to project finance and PPA guarantee at market-based terms for all developers, particularly for smaller offtakers and independent power producers.

MARKET DRIVERS

- Strong demand for PPAs from corporates looking to decarbonise their scope 2 emissions (energy) driven by ESG commitments, CSR strategies, and climate neutrality targets.
- Competitiveness, predictability, and resilience via electrification - where cost-efficient - and electrified industries (e.g., industrial low/mid heating processes already at hand). Long-term contracts allow for (partial) hedging of energy costs amid market volatility.
- Attractive offer: price, technology, innovation in electricity procurement.
- Political ambition not only in terms of energy and climate policies, but also industrial policies.

To see how corporate PPAs are developing in Europe, here[2] you can find a full overview of RE-Source's corporate PPA data, by capacity, technology, country and industry.

[2] https://resource-platform.eu/buyers-toolkit2/ppa-deal-tracker/

WHAT CHALLENGES DO WE SEE ACROSS EUROPE THAT ARE HOLDING BACK SOME MARKETS?

1 PAYMENT DEFAULT RISK AND NEED TO DEMONSTRATE CREDIT WORTHINESS

Long-term corporate PPAs involve allocating risks between the parties. Deals can span up to 20 years. Both parties will conduct a due diligence of the counterpart to ensure the ability to commit to the responsibilities (payment and delivery). Credit risk guarantees to conclude the contract can, for example, be 10% of the total value of the contract, making PPAs inaccessible to retailers and smaller consumers. State-backed guarantees could mitigate this issue.

As part of the reform of the Electricity Regulation (Regulation (EU) 2024/1747), Member States should ensure that private or state-backed guarantee schemes are available. We also very much welcome the EUR500 million announced EIB pilot project for PPA guarantee schemes and support the initiative to find best practice to allocate EU funds across the Member States.

PPAs are private agreements (between energy producers, or intermediaries, and buyers) and do not constitute State aid. However, if a Member State provides support for PPAs through guarantees that are not granted under market conditions, such support might qualify as State aid (e.g., if such support is selective/not granted to all energy offtakers) and requires prior approval from the European Commission unless it falls within the De Minimis Aid Regulation (EU) 2023/2831. Such State aid measures in the form of guarantees can be beneficial, especially for SMEs.

€500 million
EIB pilot for PPA guarantees

SOLUTION

→ Reduce the cost for being rated by rating agencies. This can be a big hurdle for SMEs who want to list on the stock exchange.
→ Design national state-backed counterparty guarantee schemes based on these principles:

- Are accompanied by accelerated national renewables roll-out plans: shorter permitting timelines for grids and projects reduces risks and costs further.
- Are accompanied by guidance for business to understand PPAs and options for renewables procurement.
- Are applicable to market innovation, like multi-buyer PPAs.
- Could have shorter durations, which are reviewed over the course of the PPA.
- Are simple, easily accessible and well-publicised to ensure buyers are aware the scheme exists.
- Have low associated fees – government financial institutes should refer to fees for products on the private market and ensure it is not disproportionate.
- Are open to all industries and sectors apart from companies in poor financial state.
- Recognises the role of intermediaries between the developer and the offtaker.
- See best case example of France's BPI scheme[3] – although this could be improved by recognising the role of intermediaries.

State-backed guarantee schemes and simplified rating processes can unlock renewable PPAs for SMEs by reducing costs, risks, and complexity.

[3] https://www.bpifrance.com/2023/02/02/bpifrance-to-provide-a-guarantee-for-the-long-term-supply-of-green-electricity/

2 DESIGN ELEMENTS OF NATIONAL RENEWABLES SUPPORT SCHEMES: DISTORTING EFFECTS & UNDERUSE OF COMBINED CFD AND PPAS

Design decisions made when developing national renewable energy support schemes can have significant knock-on effects for corporate PPAs. Corporate PPAs and state-backed CfDs are the two primary routes to market for renewable generators, and they will consider both routes when looking to de-risk a project. If developers can secure certain contract terms by entering into a CfD it can create an expectation that the same terms should be replicated within a PPA in order to make it an attractive alternative option, and certain terms can create additional costs or risks for buyers, and stymie corporate PPAs.

It is therefore essential that Member State governments are mindful of how i) auction design (e.g. the choice of whether to adopt a CfD or zero-subsidy model; the choice of whether or not to use non-price criteria), and ii) the terms of CfDs (e.g. the decision as to whether or not generators are compensated during negative price hours) can materially impact the negotiation of PPAs.

The recent reform of the EU's Electricity Regulation (Regulation (EU) 2024/1747) also introduced Article 19d of the Electricity Regulation which mandates that all two-way CfDs and equivalent support schemes should be designed to 'preserve incentives for the power-generating facility to operate and participate efficiently in the electricity markets, in particular to reflect market circumstances,' and 'prevent any distortive effect of the support scheme on the operation, dispatch and maintenance decisions of the power-generating facility.'

This means that generators should be incentivised to efficiently dispatch, and should not be subsidised for the production, for example, during negative price periods. ENTSO-E's Sustainable Contracts for Difference (CfDs) Design paper[4] points out that the incorrect design of CfD support schemes significantly impact system operations. In ENTSO-E's view, CfD design impacts consumers, in terms of pricing possibly hampering demand side response, or by reducing supply on the market if indexed to the spot market, hence impacting in liquidity. Adopting non-production based CfD designs is one way to satisfy the obligations introduced by the Electricity Regulation reform. Crucially, Member States are permitted to combine CfD funding models with corporate PPAs – but few have done so to date. The new article 19a(5) of the Electricity Regulation protects the option of developers to choose between corporate PPAs and state-backed CfDs for any portion of their volume.

Poorly designed CfD schemes can distort market signals and undermine the viability of corporate PPAs– Member States must ensure both routes to market remain compatible and efficient.

[4] https://eepublicdownloads.blob.core.windows.net/public-cdn-container/clean-documents/Publications/Position%20papers%20and%20reports/2024/240220_ENTSO-E_CfDs_Position_Paper.pdf

SOLUTION

CFD PROJECTS SELLING PART OF THE VOLUME UNDER A PPA

- CfDs or any other non-direct price support schemes should be designed to not distort price and market signals, nor to crowd out the interest of developers and potential offtakers in PPAs.
- Building on Art 19a.5 Regulation 2019/943, Member States should plan for hybrid CfD and PPA renewables auction schemes to allow volumes, on an open market basis, for corporate PPAs (i.e., allow for the participation in renewables support schemes of projects which reserve part of the electricity for sale through PPAs). Market basis means no restrictions or caps on price, on PPA carve-out volume, or buyer type. Models should not distort market price signals. This is the preferred model for ensuring a level playing field between CfDs and PPAs, as long as contracting freedom is preserved for the PPA part. An optimal auction design would incentivise developers to maximise corporate PPA volumes as part of their bid, something which will ultimately reduce the taxpayer's bill. There should also be a pragmatic mechanism for developers should the PPA offtaker default or there is no PPA demand, where the government can provide revenue predictability to the developer.
- Design of these projects must also not crowd out pure commercial PPAs, i.e. a 2-tier system for PPAs should not inadvertently be created whereby preferential treatment is given to PPAs connected to a state-subsidised project. This would risk significant volumes of renewables development and crowd out other corporate buyers.
- Offshore wind zero bid model: governments have sought to cut subsidies, resulting in the first auctions won by "zero-subsidy bids," where wind farms offer to sell their electricity at the wholesale price. Applying this model to PPAs, a model that could be promoted is a CfD model without a subsidy and 100% of volumes are sold through a PPA, under pure market terms (no government intervention in price, volume, or offtaker choice).
- GOs must be issued for all of the volumes falling under a PPA.
- Always allow developers to choose between PPAs and CfDs, as the mandatory obligation under Electricity Regulation foresees, Art.19a (5), for any portion of the volume.

SOLUTION

SUPPORT SCHEME DESIGN

- Undertake a review of design elements of future national renewables support schemes and ensure that all parts of the scheme (auction rules, CfD terms etc.) are designed in such a way so as to avoid distortions that undermine corporate PPA as a route to market for projects.
- Implement Article 19d of the Electricity Regulation by ensuring that CfD design incentivises efficient dispatch by generators.
- Non-production based CfDs (see paper, p.5)[5] can avoid distortive bidding behaviour and introduce incentives to more efficiently dispatch and market liquidity. We welcome that the Commission has recognised this in the 2024 Electricity Regulation reform, and look forward to the 2025 CfD guidance.
- Member States could also assess bids with PPAs in terms of system integration where relevant.
- Member States could include non-price criteria that reward projects that intend to contract part of their capacity with a PPA – without complicating auctions, e.g., only a letter of intent rather than fully signed PPA.

CfD design must support corporate PPA, efficient dispatch, and system integration.

[5] https://eepublicdownloads.blob.core.windows.net/public-cdn-container/clean-documents/Publications/Position%20papers%20and%20reports/2024/240220_ENTSO-E_CfDs_Position_Paper.pdf

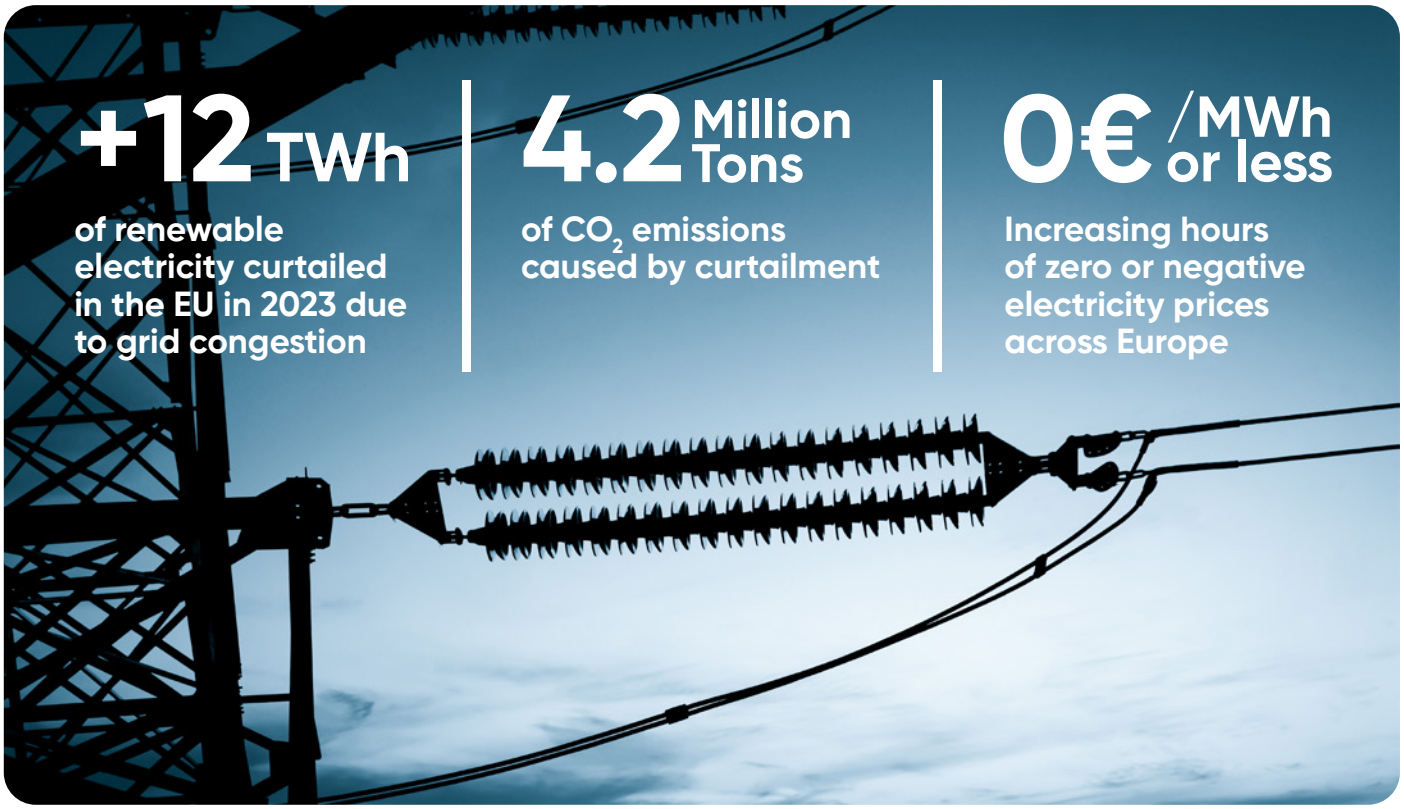
3 LACK OF ENERGY SYSTEM READINESS AND UNRESPONSIVENESS TO PRICE SIGNALS WHICH INCREASE COSTS AND RISKS

Even in markets which are developing renewables at pace, a lack of system readiness or poor subsidy design can increase risks. Renewables production can in some cases exceed what the grid can securely take (congestion) or exceed instantaneous electricity demand from local industrial energy consumers. This can alternatively be due to congestion and due to a lack of system flexibility and storage. Additionally, subsidised renewable power can be unresponsive to price signals due to an incentive to keep producing. This is leading to greater instances of zero/negative prices (during hours where renewable energy output exceeds demand) in many European markets. This adds significant risk to PPA counterparties because more negative price hours mean lower capture rates for generators supported by a PPA – if an offtaker is long in a given hour (i.e. generating more than we are consuming) then there can be significant losses. This renders PPAs (typically pay-as-produced) a less attractive option for off-takers depending on their consumption profile and flexibility potential. Conversely, in some cases and under certain conditions, baseload PPAs have become more difficult to manage for some energy suppliers, see example[6] in footnote, given the risks of having to sell back to the market at low price hours, and potentially needing to buy from the market at high-priced hours to meet the baseload demand.

There have been instances where developers have defaulted on baseload PPAs projects as they were not able to deliver.

The combination of a lack of sufficient electricity demand and/or lack of grid capacity pressures the system (congestion), leading to curtailment (wasted renewable energy). ACER figures shows that over 12 TWh of electricity from renewable sources was curtailed in the EU in 2023 due to grid congestion, causing 4.2 million tons of CO_2[7]. This is highly challenging for the agreement of electricity delivery to corporate customers (underperforming asset) and Europe's decarbonisation goals.

Corporate energy buyers can also struggle to get grid connection, acting as a delay or disincentive to sign a PPA. As Europe improves system integration, with future proofed grids and sufficient flexible assets (such as energy storage, demand side response) consumers are expected to increasingly benefit from cheaper electricity prices. This would also bring down costs associated with PPAs, like shaping the profile of renewables to industrial demand under pay-as-produced PPA models. In some cases targeted market-based, non-market distortive derisking tools implemented outside of the electricity market may be considered in the short-term.



[6] https://www.hydro.com/en/global/media/news/2024/reorganization-plan-for-markbygden-ett-ab-approved-in-umea-district-court/
[7] https://www.acer.europa.eu/monitoring/MMR/crosszonal_electricity_trade_capacities_2024

SOLUTION

- Rapid grids buildout and interconnectors. Investment in grids (supported by long-term planning and anticipatory investments), together with the development of flexibility services for grid management where efficient, faster and optimised queue management for grid connections. Cost-reflective grid charges that, combined with wholesale energy prices, allows agents from both the demand and supply sides to capture the value of flexibility. See WindEurope and SolarPower Europe recommendations here[8], here[9] and here[10].

- Facilitate cross-border PPAs via long-term interconnector products – TSOs must provide multi-annual long-term transmission rights (currently already mandated in EU law) and to that end collaborate with TSOs in neighbouring countries. Longer time horizons for transmission rights should also be developed. This must be matched by building more interconnector capacity. TSOs must work together on a regional level to ensure more capacity is allocated to the market as early as possible. Care should be taken not to impact short-term trading and balancing.

- Cross-border deals will also need to navigate legal and financial risks given differing regulatory frameworks and prices. Extra interconnector capacity alone will not solve this. Such risks must be solved in discussions between parties. Harmonisation of the GO system across Europe, in particular information required by registries would also be important here (see section 8 for more information). A physical cross-border PPA needs investors and contracting parties that are willing to accept the cross-border risk. Bidding zones which correlate well would help here.

- Rapid industrial electrification where possible, efficient, and cost-effective to increase demand for PPAs – with the cost-hedging from PPAs presenting an attractive incentive to electrify. See recommendations of the Antwerp Dialogue on Industrial Electrification[11] and Competitiveness and the Electrification Alliance for an EU Electrification Action Plan[12].

- As part of Member States initiatives to reduce speculative grid capacity reservations, consider prioritising grid access for most robust projects based on objective and transparent criteria as, e.g., a binding commitment to a corporate PPA in the context of an electrification project.

[8] https://windeurope.org/policy/position-papers/electricity-grids-deliver-on-the-action-plan/
[9] https://windeurope.org/policy/position-papers/power-grids-from-bottleneck-to-accelerator-of-the-energy-transition/
[10] https://www.solarpowereurope.org/advocacy/position-papers/a-grids-and-flexibility-action-plan-targeted-towards-implementation
[11] https://cms.antwerp-declaration.eu/uploads/The%20Antwerp%20Dialogue%20Industrial%20Electrification%20and%20Competitiveness%20-%20Recommendations.pdf
[12] https://electrification-alliance.eu/wp-content/uploads/2024/09/EA_RECS-FOR-AN-EAP_2024.pdf

4 COMPLEX BUSINESS ENVIRONMENT ADDING COST AND COMPLEXITY TO PPAS

Point 3 outlines the system challenges which add complexity and risk to PPAs for both parties. Further adding to this, whilst the cost of wind and solar technology has dropped, the cost of borrowing capital to build new wind and solar projects has increased, with a more challenging supply chain environment.

SOLUTION

- Increase the value of projects by solving system issues outlined under points 3 and 5.
- Support increased demand for PPAs by executing the recommendations in this paper, to provide renewable developers more options for long-term financing.
- Governments must plan commissioning deadlines for projects for the long term to create market predictability through cross-border planning, while ensuring sufficient flexibility on commissioning dates to allow for optimal supply chain utilisation and investments.
- Improve the EU's funding framework for R&I on wind and solar to make funds larger and more accessible.

Solving system challenges is key to unlocking PPA demand and financing new renewable projects.

5 SLOW PIPELINE OF RENEWABLE PROJECTS IN SOME MARKETS

Whilst some markets have abundant renewables, some markets are not progressing a suitable pipeline of renewable energy capacity and are unable to meet potential demand from corporate energy buyers. Restrictive or slow permitting processes; lack of grid capacity to connect new generation and/or demand; public opposition; and risk in clean tech supply chains impact the ability of renewable projects to come online quickly - thus also slowing PPA development. The slowest permitting timelines can be seen in Finland, Croatia, Czechia, Greece, Estonia, Italy, Belgium, Poland, Bulgaria, and Sweden. Many governments have not set up 1-stop-shops for permitting, are not applying the overriding public interest rule, and have created 'no-go' areas, rather than 'go-to' areas, for renewables deployment.

SOLUTION

- Faster permitting timelines and simplified, digitised processes. Full implementation of the revised Renewable Energy Directive on speeding up permitting. See WindEurope and SolarPower Europe recommendations on permitting here[13] and here[14].
- Speed up the planning, permitting, investment and digitalisation of distribution and transmission grids – grids are the key market enabler, also for PPAs.
- Bolstering clean tech supply chains. See SolarPower Europe and WindEurope positions with recommendations here[15] and here[16].

Accelerating permitting, grid development, and market stability is essential to enable PPAs and scale up renewables.

[13] https://windeurope.org/wp-content/uploads/files/policy/position-papers/20220517-WindEurope-position-paper-Wind-industry-permitting-recommendations.pdf
[14] https://www.solarpowereurope.org/advocacy/position-papers/permitting
[15] https://windeurope.org/wp-content/uploads/files/policy/position-papers/20241217-WindEurope-position-on-the-Clean-Industrial-Deal.pdf
[16] https://www.solarpowereurope.org/advocacy/position-papers/strengthening-eu-competitiveness-with-solar-pv

6 REGULATORY RISK AND ADDITIONAL BURDENSOME REPORTING

Market interventions (e.g., inframarginal revenue caps/ claw-back measures) create significant market uncertainty and reduce the volume of PPAs signed. Myths or limited understanding of PPAs can worsen this effect.

SOLUTION

- It is essential Europe preserves the marginal pricing system for electricity. This market model is delivering significant efficiencies to the EU and PPAs thrive under this model.
- Avoiding intervention in electricity markets, particularly in wholesale prices, is essential to preserve market signals. Avoid sudden and retroactive regulatory changes. Governments should facilitate stable market conditions and avoid market interventions like price caps or clawing back inframarginal rents, which hinder renewables development and also compromise the possibility to sign PPAs.
- Non-market measures - e.g., aiming at reducing consumers' supply costs - must be designed so that they have no direct impact on electricity market price formation or liquidity.
- PPAs are already reported in the EU under REMIT and EMIR – so governments should not adopt extra reporting requirements.

Stable, market-based pricing is key to support PPAs and renewables investment.

7 LEVEL OF CORPORATE BUYERS' IN-HOUSE KNOWLEDGE WHICH CAN MAKE IT HARDER TO NEGOTIATE COMPLEX CONTRACTS

Long-term PPAs can be complex and involve lengthy negotiations, especially for corporate energy buyers who are non-energy experts. However, it should be noted that negotiations take time to ensure proper allocation of risk – this is in the interest of both buyers and suppliers.

SOLUTION

- Knowledge sharing via events and tools. RE-Source's Energy Buyers Toolkit[17] and events[18] bring together buyers and suppliers to share best practice and simplify processes. Member States could consider launching a similar one-stop-shop website in the national language with information about corporate PPAs. PPA negotiation trainings could be organised in collaboration with energy providers and consultants.
- These kinds of tools, workshops, and events also facilitate sharing of innovative models, like multi-buyer, which can open the market to smaller buyers; multi-technology PPAs, which can help buyers with large energy loads work with variable renewables; or market-based voluntary energy pooling which can aggregate demand.
- Template contracts, such as the EFET/RE-Source PPA template contract[19], can be a good starting point for negotiations and can be tailored as required. Contracting freedom is essential: as outlined by ACER[20], further voluntary standard templates are not necessary. Various industry-provided templates (e.g., by Energy Traders Europe, ISDA, DENA) already support market participants and there is no need to develop any other voluntary PPA contract standards.
- PPA providers normally have in-house standard templates which enable faster progression in negotiations.
- Voluntary market platforms can ease access to projects, however less-experienced buyers should always reach out to consultancies which can advise them on navigating negotiations and contracts.

Knowledge-sharing tools, standard templates, and targeted trainings can streamlined PPA negotiations and broaden market access for diverse buyers.

[17] https://resource-platform.eu/buyers-toolkit/
[18] https://resource-platform.eu/events/re-source-2024-event/
[19] https://resource-platform.eu/ppa-template/
[20] ACER, Assessment on the need of ACER's voluntary Power Purchase Agreement contract templates, October 2024. https://www.acer.europa.eu/news/no-need-more-power-purchase-agreement-templates#:~:text=ACER%20concludes%20that%20there%20is,remove%20barriers%20to%20market%20integration

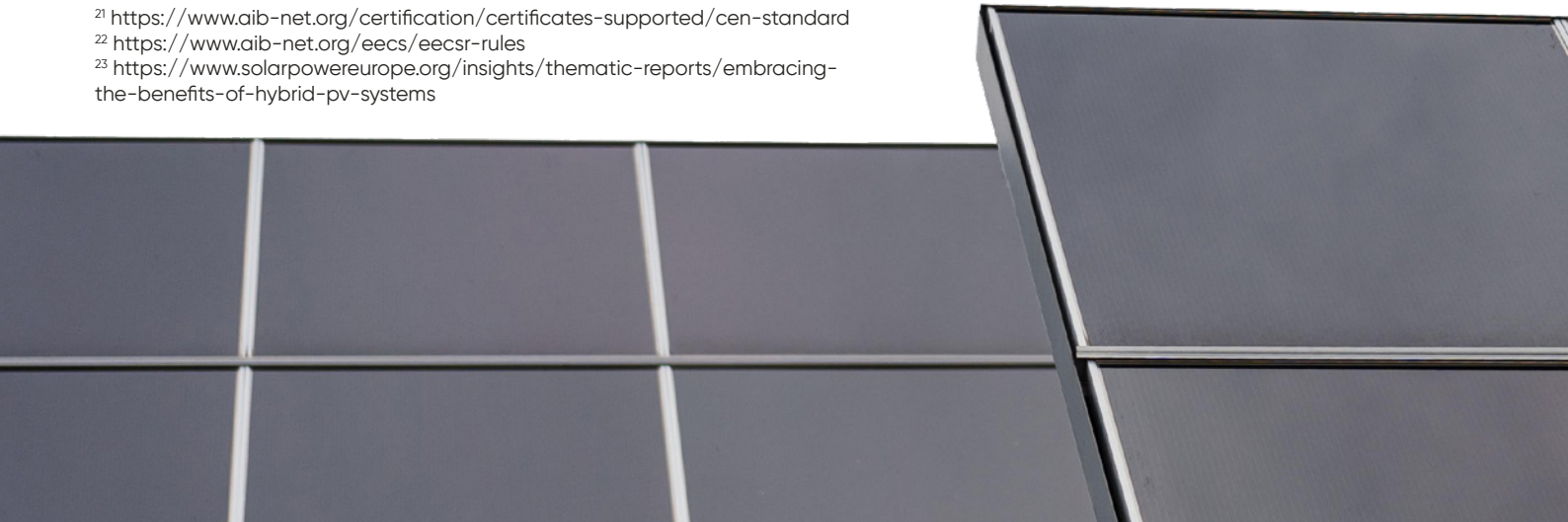
8 NEED FOR A FIT FOR PURPOSE GUARANTEE OF ORIGIN (GO) SYSTEM

GOs are an essential element of corporate PPAs as they prove the generation is renewable by certifying this attribute and enable corporates to demonstrate decarbonisation of scope 2 emissions. This is one of the main drivers for corporates looking to sign renewable PPAs. GOs build trust in the system (no double counting). However, the system can be improved to further facilitate industrial decarbonisation via PPAs.

SOLUTION

- Recognise GOs as the only tool supporting PPAs and industry decarbonisation via mitigated scope 2 emissions. Assess EU legislation for gaps and loopholes.
- Full implementation of provisions in the Renewable Energy Directive with care to ensure that the proposed Union Database does not conflict with GO schemes already in place.
- Every MWh should have a GO attached – regardless of the financing model (PPA, CFD etc.) as GOs pertain to the physical supply of electricity. Subsidised renewable energy assets should issue GOs to the energy asset developer, because the electricity produced is still renewable and consumers should be able to prove it. In the same vein, each unit of renewable electricity stored including hybrid technology renewable projects should qualify for a GO, supported by a transparent metering methodology.
- Every European country should be a member of the Association of Issuing Bodies (AIB), to ease cross border cancellations. Until then, in order to support operators, national GO registries and systems should provide filters and verify the origin of the GOs.
- Full GO consumption disclosure across all Member States: require all consumers, or suppliers on their behalf, to document the origin of the energy they are buying. This means that every consumer has information about what energy they have paid for, be it solar or coal power, renewable or fossil hydrogen. This aids transparency and encourages investments in renewables.
- Harmonise and standardise information required by GO registries to ease administration for companies operating in multiple countries. See new CEN Standard[21].
- Allow corporate buyers to also have accounts with registries. This is essential to allow them to validate their own clean energy claims without having to involve costly intermediaries.
- Digital innovation in the GO registries and tools to cancel GOs is needed, particularly to allow granular tracking, for those who voluntarily opts for this. Registries need to be technically ready for this.
- EECS Rules related to Storage C3.2.4[22] set guidance and processes for managing GOs and storage and against the risk of double counting in the current annual disclosure period systems. However, for more granular tracking, this issue becomes more complicated because of the need to match a specific moment of production with consumption, potentially via a storage facility. AIB and the Commission should encourage and support national registries to digitalise and provide more granular time stamping of GOs – for use by corporate buyers and suppliers on a voluntary basis.
- Hybrid renewable projects should receive GOs for all renewable electricity they generate, whether directly injected into the grid or stored for later use, requiring an updated metering framework. Current systems fail to track renewable energy flowing through storage, leading to gaps in GO certification. More information in SolarPower Europe's report on hybrid renewables systems.[23]

[21] https://www.aib-net.org/certification/certificates-supported/cen-standard
[22] https://www.aib-net.org/eecs/eecsr-rules
[23] https://www.solarpowereurope.org/insights/thematic-reports/embracing-the-benefits-of-hybrid-pv-systems



9 INCONSISTENT EU LEGAL FRAMEWORK

The EU is developing sustainability rules and carbon footprint methodologies for various product areas, starting with EV batteries under the Batteries Regulation. However, there is a risk of inconsistent treatment of PPAs under EU law. Renewable PPAs and corresponding GOs must be recognised across all sustainability rules as decarbonisation tools. If companies' energy procurement is not recognised in the calculation of their carbon footprint, this severely undermines the incentive to sign a PPA.

SOLUTION

→ Follow the Product Environmental Footprint[24] (PEF) method, in combination with the JRC's reports[25] on electricity hierarchy, which recognise PPAs and other corporate energy market instruments, in all product carbon footprint regulations. These methods include criteria to ensure that renewable energy usage claims are unique and verifiable.

10 LOW AWARENESS OF TOOLS WHICH COULD HELP SMES SIGN PPAS

Corporate PPAs are fast innovating, and innovations like multi-buyer PPAs, which can include small buyers, and voluntary market-based energy pooling, are nascent. This can diversify credit risk, reduce legal costs, and sell more of the generator's power under one contract. Shorter lengths of contracts and smaller volumes can also be observed as a trend.

CONSIDERATIONS:

Whilst regulation is not required here, industry and Member States can:

→ Raise awareness of examples like this[26] Danish multi-buyer with 25 companies, including small buyers and those without an investment grade quality credit rating; this German industrial multi-buyer PPA; and this[27] Spanish energy pooling with an energy management platform aggregating renewable energy for large industrial consumers.

→ Share best practice from the suppliers and buyers involved in these deals on negotiating and bringing together a consortium of companies.

→ Develop best practice and innovative financing models to improve credit assessment and risk under these models.

→ Knowledge sharing workshops and events are helpful, and these voluntary market models should be promoted in the Commission's PPA guidelines.

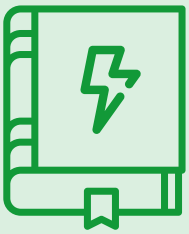
[24] https://green-business.ec.europa.eu/environmental-footprint-methods/pef-method_en
[25] https://eplca.jrc.ec.europa.eu/permalink/battery/GRB-CBF_CarbonFootprintRules-EV_June_2023.pdf?trk=public_post_comment-text
[26] https://www.reel.energy/press-releases/25-companies-sign-historic-ppa-to-build-a-new-solar-park-in-denmark
[27] https://www.acciona.com/updates/news/acciona-energia-fortia-sign-spains-largest-renewable-industrial-ppa?_adin=02021864894

11 MEMBER STATES' IMPLEMENTATION OF THE REFORMED EU ELECTRICITY REGULATION'S PPA OBLIGATIONS

Very few EU Member States included specific non-market distortive strategies to implement the PPA Article 19a of the 2024 reform of the EU Electricity Regulation (EU) 2024/1747 to encourage more PPAs being signed in their national energy and climate plans (NECPs).

SOLUTION

Under the Renewable Energy Directive, Member States "shall" introduce a supportive framework to facilitate the uptake of PPAs, and under electricity market design reform, Member States must "promote" PPAs. How could this look in practice?



THE EUROPEAN COMMISSION SHOULD:

- include ACER PPA monitoring in the State of the Energy Union report to track progress at Member State level.
- reflect the guidance in this report in the upcoming PPA guidelines, to ensure a uniform approach across the Member States and avoid market distortive measures.
- assess functioning of forward markets for the pricing of PPAs.
- facilitate the deployment of long-term transmission rights as a means to enable cross-border PPAs.

EACH MEMBER STATE SHOULD:

- undertake a review to assess regulatory limitations, e.g., whether PPAs are possible for the part of an asset that did not receive public support and for an asset that received public non-direct price support; and if CfD (or equivalent scheme with same effect) design affects developers' and potential offtakers' interest in PPAs.
- map out hedging opportunities in their country and potential barriers.
- governments should work with stakeholders to map out market needs and introduce targeted measures to boost PPAs, while carefully avoiding the introduction of new market barriers which would be burdensome or prohibitive for companies to sign PPAs.
- building on Art 19a.5 Regulation 2019/943, establish a plan allowing the participation in renewables support schemes of projects which reserve part of the electricity for sale through PPAs (hybrid PPA and CfD schemes), without regulating the terms & conditions of the PPA and without price caps.
- launch a one-stop-shop website in the national language with information about corporate PPAs, to be promoted by business associations.

12 HIGH TAXES FOR ELECTRICITY MAKE PPAS LESS ATTRACTIVE

Electricity, including from renewables, is currently taxed higher than fossil fuels across the EU today. This is incompatible with the energy transition and makes electrification and renewable corporate PPAs less attractive.

SOLUTION

- Member States must 'clean' both households and industrial consumers' electricity bills by removing non-energy related taxes, reducing taxes to the lowest possible level – as recommended in the Affordable Energy Action Plan. See WindEurope's report on 'Revamping electricity bills'[28].
- Charging consumers for energy supply costs, like financing climate policies, also mitigates the benefits of hedging. So such charges must be borne via other means.
- While ensuring the cost-reflectivity principle (key for efficient grid usage), innovative approaches to grid charges should be analysed, including e.g., intertemporal cost allocation, soft loans, or accelerated accounting depreciation. This is in fact a task to be undertaken by the Commission under the Action Plan for Affordable Energy.

13 UNHARMONISED AND INSUFFICIENT IMPLEMENTATION OF EU ELECTRICITY REGULATION

In countries where the EU's electricity market design rules (Electricity Regulation EU 2024/1747) have not been implemented sufficiently, the possibility for products like PPAs to emerge at mass is limited.

SOLUTION

- Speed up the implementation of EU electricity market rules. Member States should guarantee that target model is implemented in all timeframes (forward, day-ahead, intraday, balancing) including non-monopolised power exchanges, fostering liquid spot and forward electricity markets, and, where relevant, launching joint market coupling processes to integrate markets.
- Well-connected electricity markets minimise costs associated with grid development, storage, and flexibility solutions. However, as stated in the Letta Report, EU legislation mandates that grid operators ensure at least 70% of their interconnector capacity is available for electricity trading with neighbours by the end of 2025 - a target for which Member States currently have a mixed track-record. Sufficient volumes of cross-border capacity made available to the market in all timeframes is necessary, should Europe want to see cross-border PPAs emerge.

Meeting the 70% cross-border capacity target by 2025 is essential to enable efficient electricity trading and unlock cross-border PPAs.

[28] https://windeurope.org/intelligence-platform/product/revamping-electricity-bills-for-a-competitive-and-secure-europe/

14 EXPECTATIONS OF STANDARDISATION

A corporate PPA is not like a regular electricity supply contract, because the terms are individually negotiated and tailored to the project and contracting parties' needs (see section 'What is a corporate PPA?' for more information). It is an active energy partnership between a corporate buyer and supplier – so contractual freedom and flexibility is critical and the most attractive element of the PPA. Whilst a certain degree of standardisation can be observed in the market, in-house contracts, or multi-lingual template PPA contracts[29] (EFET/RE-Source), PPAs must always remain voluntary and flexible. This is essential to safeguard innovation - as market conditions evolve, new ways of sharing the risks and rewards of projects between generator and offtaker are needed. Having flexibility in adapting contract terms allows the negotiating parties to develop innovative terms that fairly balance these risks according to each parties' needs.

Furthermore, the ability to innovate with contracts terms is crucial to allow PPA offtakers to find ways to create an attractive alternative to a CfD for a renewable developer. Safeguarding this flexibility is crucial to allow PPAs to thrive, particularly in markets with high CfD strike prices.

CONSIDERATIONS:

- A PPA is a non-tradable product – see 'What is a corporate PPA?' for more information.
- ACER has rejected the proposal for new PPA standards[30] – assessing that this is not a PPA barrier, and in addition to the EFET template, is not needed to open up the market.
- It is impossible to standardise a PPA in a way that would suit all market participants.
- In addition to the EFET voluntary template, industry stakeholders can develop new 'plug in' standard clauses to aid innovations in the market, e.g., different carbon accounting strategies, or hybrid technology deals.
- Tools, knowledge sharing, and connecting the right partners, including advisory and legal support, will aid corporate buyers in negotiating contracts which suit their needs.

[29] https://resource-platform.eu/ppa-template/
[30] https://www.acer.europa.eu/sites/default/files/documents/Publications/ACER_Assessment_need_to_develop_PPA_contract_template_2024.pdf

15 MISUNDERSTANDINGS AROUND PPA TRANSPARENCY

Corporate PPAs are commercial deals between corporate offtakers and renewable energy suppliers, of which limited details (only technology, duration, and location) are disclosed for that reason. Sensitive information, including elements which could provide a competitive edge within a sector, are included in contracts, such as energy demand, price, and conditions of energy delivery. Market transparency is not a barrier to PPAs or a problem for society. PPAs are facilitating new investments in renewable energy capacity. As more renewables are added to the system, average electricity prices are lowered for everyone.

CONSIDERATIONS:

- PPAs are already reported under the EU's REMIT and EMIR rules. REMIT was updated as of 2025 to add more fields to collect information on PPAs. This is thorough and sufficient. Any extra reporting requirements at Member State level is an unnecessary burden and would be contrary to the simplification objective assumed by the European Commission.
- It is critical that no regulation obliges transparency around sensitive information negotiated in a PPA contract.
- New platforms for PPAs could in fact lead to less transparency given less information would be provided about bids and offers - and even draw liquidity away from regulated marketplaces and even draw liquidity away from regulated marketplaces.
- Accounting treatment of virtual PPAs as derivates has been flagged as a barrier by corporate buyers. Ensure that the clearing thresholds under the EMIR Regulation (EU Regulation No. 648/2012) will be set high enough to prevent energy companies from artificially exceeding them when offering long-term PPA contracts to renewable producers. Alternatively, avoid that virtual PPA contracts count against the clearing thresholds, e.g., by considering virtual PPAs as hedging tools for both sides, buyer and seller, and not only for the buyer.

16 LACK OF DEMAND OR SUITABILITY TO SIGN A CORPORATE PPA

A PPA can be a complex instrument and may not be suitable for some companies in Europe, especially SMEs that are less able or willing to commit to long-term contracts. There may also be lack of demand, if a country doesn't have a strong industrial base. Therefore, companies should explore alternatives to PPAs.

SOLUTION

RATHER THAN SIGN A PPA,

- Maximise possibilities for both onsite, like rooftop solar, storage, or using larger on/offshore areas of land for wind;
- Supplement corporates' electricity supply with buying from the spot, futures or forwards markets;
- Explore green electricity supply contracts and top up models like bundled and unbundled GOs – which also send market signals to developers to invest in wind and solar. More information on different models in these reports:

RE-Source introduction to corporate sourcing[31]

Guarantees of Origin and Corporate Procurement Options[32]

TO INCREASE DEMAND FOR PPAS:

- Member States should follow the recommendations in section 'Lack of energy system readiness' on electrification to open up to new corporate offtakers.

[31] https://resource-platform.eu/wp-content/uploads/files/statements/RE-Source-introduction-to-corporate-sourcing.pdf
[32] https://resource-platform.eu/wp-content/uploads/Guarantees-of-Origin-and-Corporate-Procurement-Options.pdf

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