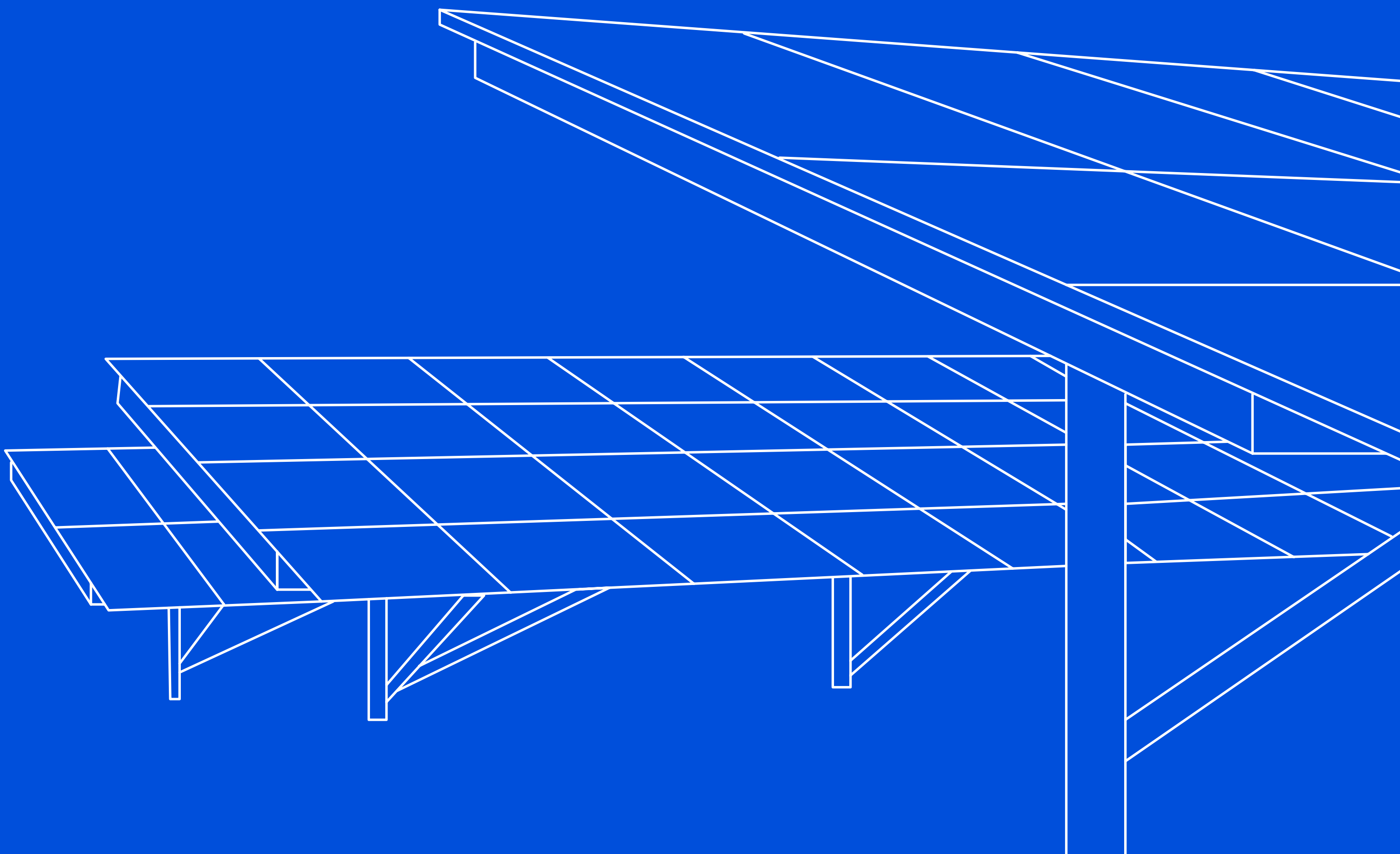
French cPPA market study



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After 2022 surge in cPPA demand, and anticipating an evolution of French State subsidies schemes towards renewables, IPPs are showing an increasing interest in cPPA for their renewable projects to hedge their strategies

1/ Evolutions in renewable state subsidies anticipated by most industry stakeholders

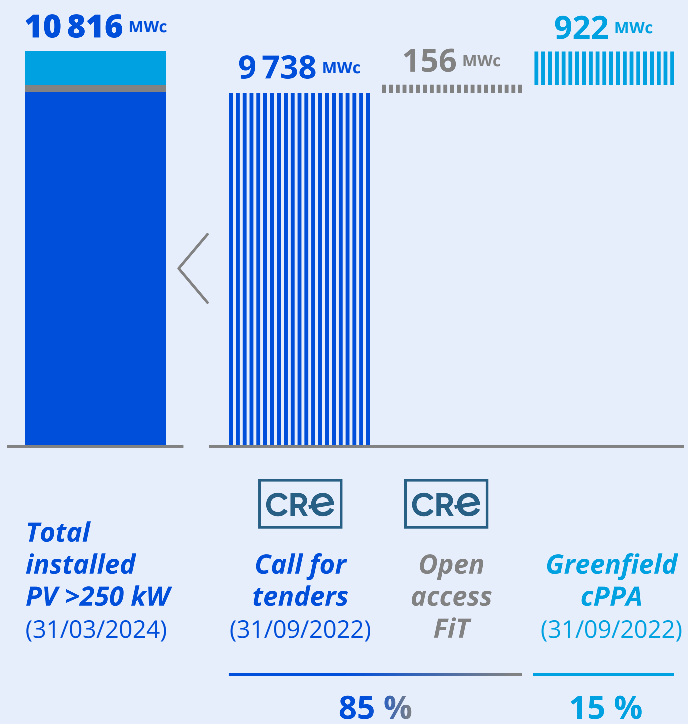
Historical pivotal role of subsidies for French renewables project financing • Since the inception of the solar industry, nearly all developed capacities have sold their energy through CRE support mechanisms (FiT or CfD), which provided and still provides highly attractive tariffs enabling to finance these CAPEX-intensive assets making purely merchant revenues.

Widely expected evolution of state support • French Independent Power Producers (IPPs) all anticipate changes in CRE support mechanisms. A drastic or complete removal of support is seen as unlikely, considering France national renewable development objectives. However, a reduction in subsidies or tighter access conditions seems plausible, given the strong historic level of support to the sector and the current tight budgetary context.

A selective reduction across segments: the example of S24 • Whereas some renewable segment might be less supported in the future, other segments might on the contrary see their support increase. It is for example the case of the 'Petit sol' S24 decree, aiming to support <1MWc ground-mounted solar projects on artificialized lands. The decree is currently under review by the CRE and is expected to be released before the end of 2024.

Potential CRE/PPA hybridisation • The possibility of hybridising support mechanisms with corporate Power Purchase Agreements (cPPAs) offers a pathway for projects to exit CRE support once mature, with the option to return if necessary, thereby reducing state expenditures. The APER law – although its exact specifications are yet to be detailed – has recently opened this opportunity in France, already well implemented in Germany.

Total volumes of installed PV >250 kW per valorisation route in 2024 (MWc)



2/ Strong appetite of IPPs for greenfield cPPAs

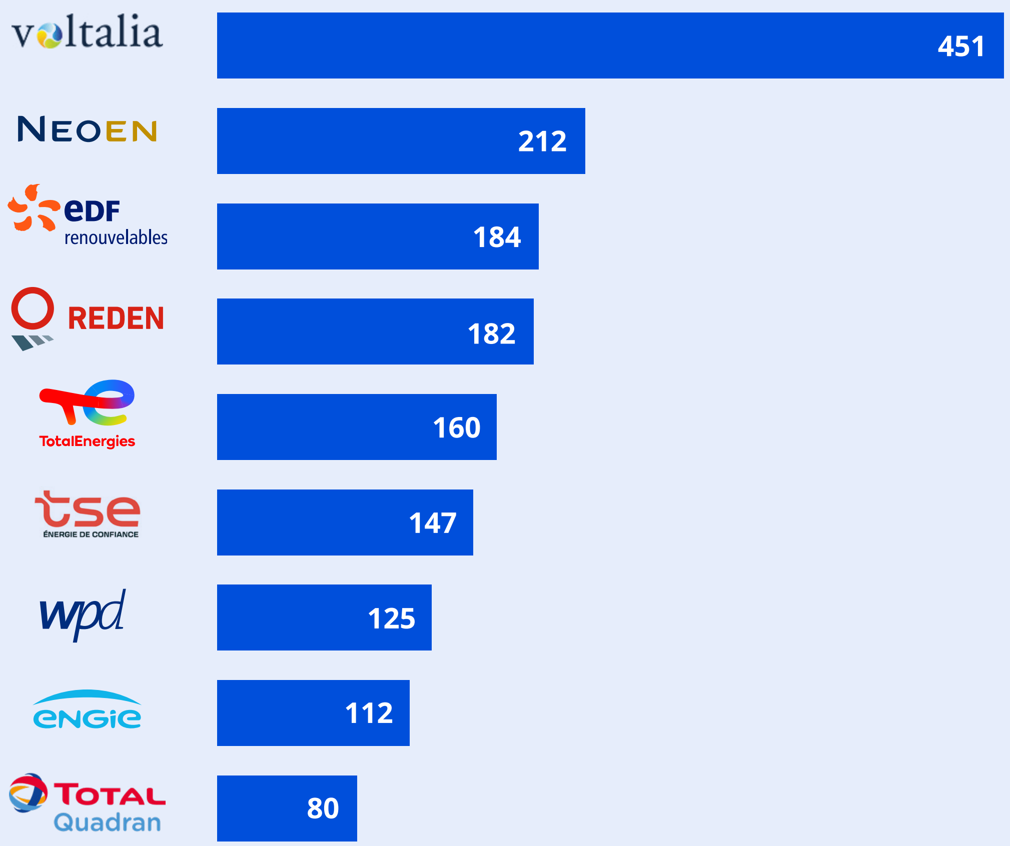
cPPA grasped by IPP as a hedging strategy to future-proof their activity • Anticipating a potential evolution in CRE support, many IPPs are aiming to decrease their reliance on state support. They are therefore increasingly incorporating PPAs into their project pipelines – up to 30% for most surveyed IPPs –to finance greenfield assets, since cPPA allow for securing long-term revenue streams and ensuring cash-flows visibility.

Aim to build expertise and experience around the topic • This shift in IPP strategy has, in recent years, translated in the creation of dedicated in-house PPA teams designed to build expertise around these types of contracts. The overarching goal being to be prepared for a potential paradigm shift in renewable energy support and sales options. It also helps IPP to get closer to final clients.

cPPAs already relevant for projects not CRE-covered • Several types of projects are currently not eligible for CRE support and rely on PPAs for their development (e.g. some agri-PV projects).

Dual CRE/cPPA track for some developments • IPP sometimes apply to the CRE as a safety net while simultaneously trying to negotiate a cPPA with a corporate in case they achieve to secure slightly higher prices.

Signed cPPA capacity per IPP in France (MWc) *(up to Sept. 2024)*



Only one type of contract is currently financeable and marketed in the French market: the physical 'Pay-as-Produced' cPPA, spanning 15-25 years with capacities over 10 MW

3/ Pay-as-Produced as the only type of cPPA currently financeable and marketed in France

Recent upskilling of the banking industry around cPPAs • Financing renewable projects involving cPPAs has been a recent development for some French banking institutions, which were historically not accustomed to evaluating 20-year counterparties risks. Risk and coverage teams were not used to assess clients' solvency over such extended periods.

Investment grade status and asset quality as essential bankability factors • French banks, which vary in their level of experience with financing projects through cPPAs, rely on three key criteria to determine a project's bankability:

- 1) The solvency of the corporate offtaker (investment grade being a go/no go criteria)
- 2) The sponsor's level of commitment
- 3) The intrinsic quality of the renewable asset (assets with excessively high LCOE being less competitive in case of default).

No cPPA financed beyond PaP in the French market as for now • Currently, banks do not take on non-investment-grade risks or market risks (induced by shaping services for baseload and pay-as-nominated contracts) with cPPA contracts. As a result, whether they are experienced or new to cPPAs, financial institutions in France are almost exclusively funding greenfield projects through PaP (Pay-as-Produced) cPPA. These contracts typically span 15-20 years, involve large capacities (with a minimum of ~5-10 MW), and are executed with major investment-grade corporates whose top management is committed to ESG objectives.

Financial players' bankability criteria for cPPA-backed renewable project

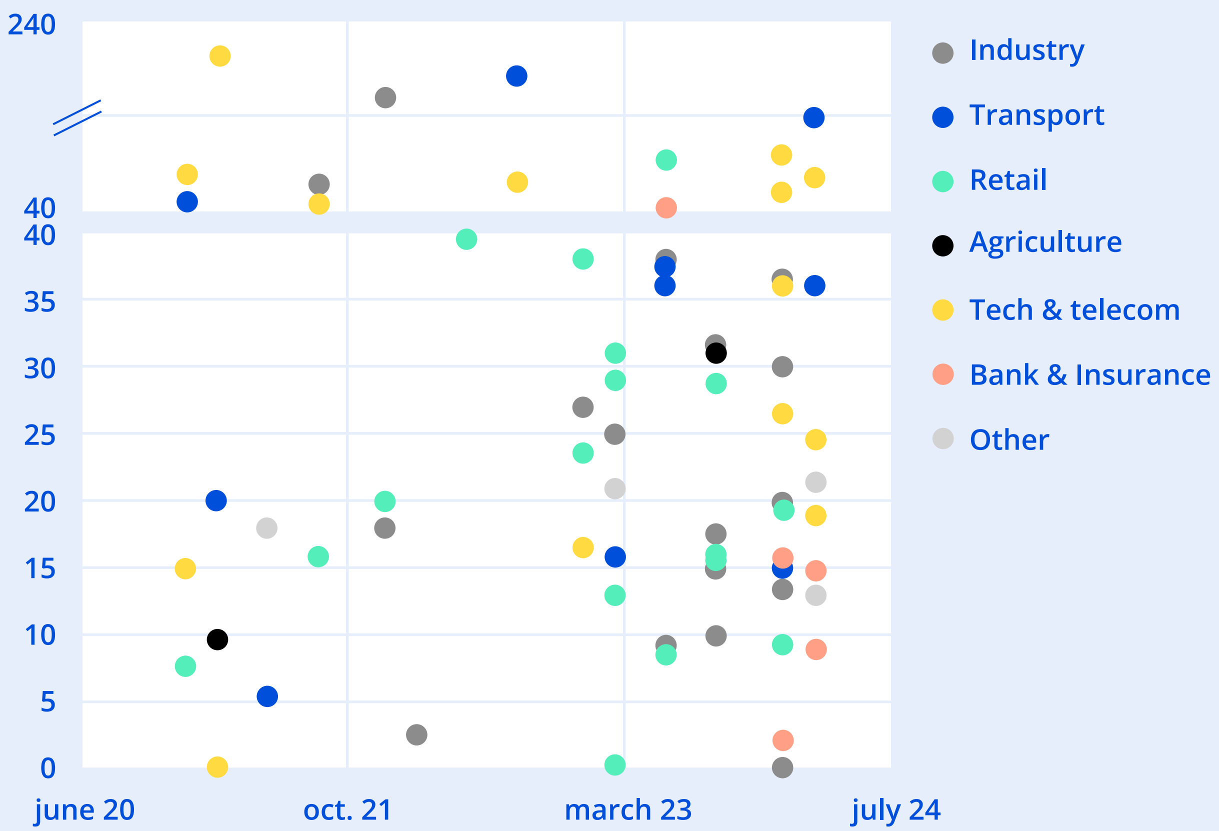
1. Investment grade solvency	IG status for the corporate offtaker as #1 go/no go criteria
2. Sponsor commitment level	IPP equity engagement as key decision factor, esp. for unconventional assets
3. Asset quality	Competitive LCOE critical to market the production in case of corporate default

Predominance of large >10MWc projects • Due to stringent creditworthiness requirements and the lengthy and complex nature of cPPA negotiations, the majority of projects currently financed are large-scale, with a minimum capacity of ~5-10 MW. Negotiation processes are often time-consuming and include a significant educational component to reach completion.

Potential role of intermediaries to broaden financed projects spectrum • Some entities, such as traders, can act as intermediaries – playing the role of an offtake company – between IPPs and corporates. They leverage their own creditworthiness to finance more unconventional projects, thereby expanding the range of financeable assets and projects.

Potential similar role of guarantee funds for cPPA • The development of guarantee funds for historically non-bankable projects could expand the addressable cPPA market in France. In this regard, BPI (Banque Publique d'Investissement) already provides such a guarantee, currently limited to projects above 5 MW capacity. While market participants reportedly find this offering costly, it is expected to evolve in the short term, potentially making financing more accessible for a wider range of cPPA projects.

***French cPPA per date of signature and sector (MWc)*[1]** *(up to Sept. 2024)*



1. cPPA with a capacity of 0 MW on the graph are the ones with an unknown capacity.
Sources: Capgemini Invent; Blunomy analysis

Demand for this type of contract is currently limited to large investment-grade corporates with CSR commitments, within a context where merchant prices remain more competitive and more attractive than renewables for most consumers

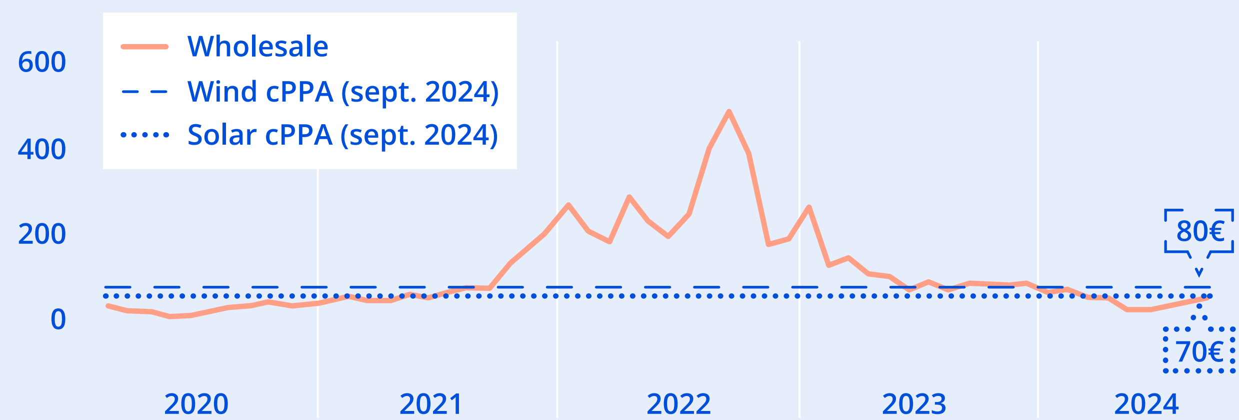
4/ A French market size currently limited to major players, with blurred lines between corporate and project financing

Renewable energy still less competitive than merchant prices in France • Given the low electricity merchant prices and the already decarbonised nature of the French grid electricity, renewable electricity through cPPAs currently represent limited economic benefits for most corporates. Furthermore, cPPAs provide limited electricity cost stability, as PaP cPPA only guarantee stable costs during the production hours of the plant – during which market prices are also likely to be low (or even negative).

Demand currently concentrated among large ESG-committed corporates • Demand for cPPAs is currently primarily driven by a small number of large, investment-grade corporates with top management committed to renewable energy (e.g., SNCF, Les Mousquetaires, Leroy Merlin, Carrefour), which represents a limited pool of addressable players (there are a total of 170 large enterprises in France against 5,800 ETI). In this regard, it is noticeable that corporates' top management strategy matters more than belonging to a specific industry when it comes to cPPA adoption. Indeed, various economic sectors are currently represented among cPPA signatories.

cPPA seen as an insurance against potential future energy crisis • Today, some corporates willing to sign cPPA are motivated to back themselves against future energy crisis, as in an insurance process.

Wholesale electricity prices versus cPPA prices (sept. 2024) (€/MWh)



Sources: Blunomy research; Ember EPEX data (02/10/2024 extract); Expert calls

Current initiatives to expand cPPA to ETI, still to be proven • Some initiatives are emerging to expand cPPAs beyond large corporate and develop multi-offtaker cPPAs involving several mid-sized enterprises (ETIs). For instance, Club ETI Nouvelle-Aquitaine has recently launched a still-pending tender to address the electricity consumption of 11 local ETI. However, challenges remain, not just in terms of the individual creditworthiness of each ETI, but also in terms of ability to show solidarity in case of default and align their energy goals.

Recently signed cPPA still largely stemming from the 2022 energy crisis • Recent significant number of signed cPPA in France is allegedly still a legacy of the 2022 energy crisis, when many corporates sought to secure part of their energy purchasing cost against skyrocketing merchant prices. Due to lengthy negotiation processes, many contracts now made public are still the result of this period.

30% cPPA limit for corporates' energy supply • Corporates incorporating cPPAs into their energy sourcing strategies generally limit these contracts to a maximum of 30% of total volumes, to avoid being classified as energy sellers under IFRS standards.

A different dynamic for brownfield projects • Brownfield cPPAs follow a market logic distinct from greenfield projects. They market energy produced by already amortised renewable assets, making it significantly cheaper, more competitive against merchant, with shorter contracts and less time-consuming to negotiate.

French corporates with the largest signed cPPA capacities
(up to Sept. 2024)

1 number of cPPAs

SNCF	7	398 MWc
RENAULT	1	350 MWc
orange	3	208 MWc
bouygues TELECOM	1	203 MWc
Les Mousquetaires	6	172 MWc
PRONY Resources New Caledonia	1	160 MWc
EQUINIX	1	100 MWc
ALSTOM	1	95 MWc
LEROY MERLIN	3	88 MWc
Data4	2	77 MWc
TERREAL	1	70 MWc
LESAFFRE	2	55 MWc

Sources: Blunomy research; Ember EPEX data (02/10/2024 extract); Expert calls

Under current market conditions, expanding the addressable market to other corporates would require to finance and market non-PaP structured cPPAs, requiring a significant increase in sponsor commitment level; Alternatively, market conditions would need to change to better balance the competitiveness of renewables against merchant prices

5/ Structured PPAs currently hardly financeable without increased sponsor commitment

Corporate appetite for shaped curves • The demand for traditional PaP cPPAs is waning, as they expose corporates to both price and volume risks. As a result, more corporates are seeking structured PPAs with shaped curves (e.g., baseload or guaranteed / nominated), which offer more predictable and tailored energy supply patterns to better manage their risk and align with their consumption needs.

An extremely minor share of structured PPAs • While structured PPAs – especially wind baseload contracts – are increasingly being brought by IPPs to financial players, none have been successfully financed to date and these projects still represent a very minor share of cPPA projects reviewed by financial players (the vast majority of cPPA projects are traditional PaP with major corporates).

Lack of long-term liquidity in the French market • Structured PPAs are currently not financeable in France by banks due to insufficient visibility on medium- and long-term cash flows. This lack of visibility arises because aggregators in France cannot find long-term market liquidity (unlike in Spain or Germany) and are unable to commit to 15-year terms.

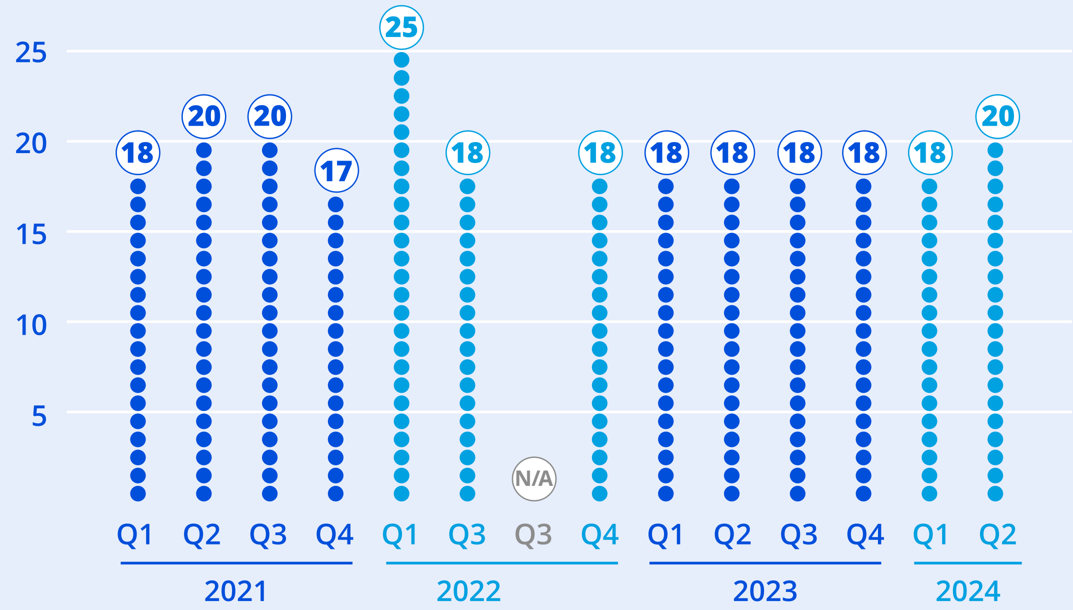
Necessity of 'investment-grade' aggregators • To develop structured PPAs, IPPs will seek partnerships with aggregators. Indeed, few IPPs are considering internalising this expertise, as it requires specialised skills outside their core business as well as a critical size to be competitive. Consequently, in the case of structured PPAs, assessing projects' bankability would require banks to shift creditworthiness assessment from corporate to the aggregator. To this regard, projects would allegedly need to be carried by aggregators with sufficient credibility and balance sheets (even if it is not the aggregator that would carry the market risk but the sponsor).

Limited share of debt's merchant exposure • On average, French financial players do not accept more than 10% of project debt financed with merchant exposure (a contrast to Germany or Spain, where merchant financing plays a significant role in project funding, but where renewables' competitiveness against merchant are very different).

Need for greater sponsor commitment to unlock the development of structured cPPAs • Financing cPPAs without long-term cash flow visibility would require much greater commitment from sponsors, who are currently accustomed to high gearing ratio (up to 90%), historically permitted by CRE support schemes. Increasing the equity portion invested in projects could indeed broaden the addressable corporate base and diversify the types of offers of cPPA contracts.

Sponsors allegedly open to more risk for smaller projects • Some IPPs are reportedly willing to pursue smaller cPPA projects with smaller corporates, who are not necessarily investment-grade, even if it means greater sponsor engagement. Within a 5-year horizon, it is possible that this type of project starts to emerge.

Average duration of French greenfield cPPA signed each quarter (years)



6/ Necessary structural changes to drive cPPA demand growth in France context

Evolution of new nuclear plants costs • The primary determinant for the development of renewables' competitiveness without subsidies, is the evolution of electricity merchant price, which is closely linked to the evolving costs of new nuclear plants in France.

Insurance strategy against crises • Alongside their CSR strategies, how corporates' management teams perceive energy crises risk's intensity and probability will be a key driver in the adoption of cPPAs.

Evolution of green energy traceability rules • The role assigned to PPAs within future European regulations on clean electricity traceability (essential for producing green fuels, inputs, etc.) will also – although to a lesser extent – impact cPPA demand.

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