

# Power Purchase Agreements

## Power Purchase Agreements: An Emerging Tool at the Centre of the European Energy transition A Focus on France

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*Power Purchase Agreements (PPAs) enjoy great success in Europe. This is especially true of Green Corporate PPAs (GC PPAs), also known as Corporate Renewable PPAs, which are agreements under which a corporate customer agrees to purchase renewable electricity directly from the electricity producer, pursuant to the definition set forth in the 2018 Renewable Energy Directive ('RED II') (Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 Dec. 2018 on the promotion of the use of energy from renewable sources (recast)). Nearly 14GW in PPAs were entered into in 2018 worldwide, of which 1.9GW in Europe (2017: 1GW) and approx. 8GW in the United States (2017: 2.4GW) (Europe Corporate Renewable, PPA Market Report 2018 – 2027). Wind energy accounts for 85% of GC PPAs entered into in Europe to date, with solar energy accounting for the remaining 15%. This progress can be explained partly by an increase in energy demand worldwide, the companies' willingness to reduce their carbon footprint and control energy costs, the need for clear and foreseeable price signals for investors and producers, but also the development of public support schemes for renewable energies ('RE').*

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Norway, Sweden, the Netherlands, the United Kingdom, and Spain are the first European countries in which these agreements were signed, thanks to a favourable political and economic context. Germany, Denmark, Poland and France are among the developing markets. At least eight Power Purchase Agreements (PPAs) have been entered into in France so far. All have been entered into since 2019 (Aéroports de Paris (ADP), Société Nationales des Chemins de Fer (SNCF) Énergie, Métro, Boulanger, Engie, Qwant, Orange and Crédit Mutuel Alliance Fédérale) and other companies such as Régie autonome des transports parisiens (RATP) or La Poste have launched calls for tenders or are considering the option. To such an extent that PPAs are expected to double in France, to

1 GigaWatt (GW) by mid-2021.<sup>1</sup> In France, PPAs come in addition to the range of solutions available to renewable energy producers to market the energy they generate, namely: selling on the electricity market, with or without an public support mechanism, and individual or collective self-consumption, with or without selling the excess production. In comparison with these much regulated solutions, PPAs appear as promising contractual tools for both producers and customers looking for greater flexibility and for visibility in the medium or long term. The purpose of this article is to comprehend the main development factors for PPAs in France (I), and the current regulatory framework under French and EU law (II). The rapid expansion of PPAs represents a major challenge for practitioners, who will need to get familiar with the complex contractual structure of PPAs (III).

### 1 The Development Factors: A Favourable Economic and Social Context

Although Green Corporate PPAs (GC PPAs) appeared very recently in France, this market is expected to grow significantly in the next few years, driven notably by EU law, the Renewable Energy Directive (RED II) in particular, and the evolution of French renewable energies (RE) regulations. However, a PPA being a private contract, the main factors of its development are to be sought in the motivations of the relevant stakeholders i.e. RE producers and businesses. These motivations are mainly of two kinds: economic (A) and environmental (B).

#### 1.1 Economic and political factors

##### 1.1.1 A favourable economic context

Falling production costs of RE and of certain associated technologies, such as storage technologies, make RE an increasingly attractive market in Europe. This combined with increased environmental awareness in the population, stimulate the demand for green electricity. But despite this favourable context, RE prices remain very volatile on wholesale electricity markets (whether forward, day-ahead or intraday markets).

Entering into a PPA, which is a long-term agreement, generally between ten and twenty years, and which provides for a fixed price or minimum price, is a way for producers to secure income over several years, and thus to lower their exposure to market fluctuations. Also, a PPA

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<sup>1</sup> Muriel Boselli, *French PPAs Set to Double by Mid-2021 – Wind Lobby*, Montel (29 May 2020), <https://www.mon-telnews.com/en/story/french-ppas-set-to-double-by-mid-2021-wind-lobby/1118657>. (accessed on 6 August 2020).

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may prove to be more profitable, in comparison with the traditional mechanism under which electricity is sold on the electricity market. By way of example, SNCF Energie and Voltalia signed a twenty-five-year PPA in June 2019. To Voltalia, this long term was a ‘*necessary condition for competitive electricity selling prices*’.<sup>2</sup>

Entering into a PPA may also be a means of facilitating the securing of financing for new RE projects, like the PPA announced by Engie in December 2019. This ‘greenfield’ PPA will relate to approx. 25GWh per year, produced by a photovoltaic power plant to be built in Fanjeaux (Aude, France) as from November 2020. The electricity produced will be supplied to certain Engie customers (authorities, tertiary sector, and manufacturers). It is also the case of the PPA entered into by Boulanger. The agreement relates to a solar power plant that will be built, owned and operated by Voltalia, and which will account for at least 10% of Boulanger’s consumption by 2022.

On the corporate customer side, the signature of PPAs allow companies to plan their power purchase policy in the shorter or longer term, and to control and secure their energy costs. For Métro for instance, the first company in France to sign a PPA in March 2019 with Agregio, a subsidiary of Electricité de France (EDF), the PPA is part of a strategy to diversify power purchases in the aim of reducing risks and securing volumes.<sup>3</sup> Métro explains that a large part of its power supply currently comes from nuclear energy, which prices are expected to rise with the coming reform of the *Accès Régulé à l’Électricité Nucléaire Historique* (ARENH) mechanism and the difficulties currently experienced by the nuclear sector.

In addition, the development of PPAs in Europe can be explained by the threat of the rising price of the carbon tax weighing on companies. Indeed, within the European quota market, the price of a ton of carbon could reach 40 euros in 2020/2021 (against 35 euros in 2019).

## 1.2 The transformation of renewable energy support policies is another factor contributing to the expansion of PPAs in France

### 1.2.1 The transformation of renewable energies supporting policies

The French government has committed itself to align with the 2009 Renewable Energy Directive (‘RED I’)<sup>4</sup> and the RED II goals by increasing the portion of RE in the French energy mix to 33% by 2030, i.e. to 40% of the electricity produced.<sup>5</sup>

In order to reach these goals, the RED II requires Member States to ensure that national rules on RE are necessary and proportionate and specifies that Member States shall assess the regulatory and administrative barriers to long-term green PPAs, and remove any unjustified barriers to, and facilitate the uptake of, such agreements.<sup>6</sup> In addition, Member States shall ensure that those agreements are not subject to disproportionate or discriminatory procedures or charges. The policies and measures intended to promote PPAs shall be described in the Member States’ integrated national energy and climate plans

(‘NECPs’) and progress reports pursuant to Regulation (EU) 2018/1999.<sup>7</sup> These plans had to be notified by each Member State to the Commission by 31 December 2019 (covering the period from 2021 to 2030), and subsequently by 1 January 2029 and every ten years thereafter. After having received the twenty-eight draft NCEPs, the Commission published specific recommendations and a detailed ‘Staff Working Document’ for each Member State. Interestingly, neither the draft NCEP for France,<sup>8</sup> its final NCEP released in March 2020, nor the Commission’s recommendations and working document for France, mention measures related to the PPAs, in breach therefore with both the RED II and the Regulation 2018/1999 requirements.

While France has not put in place specific measures to promote PPAs, the transformation of renewable energy support policies in France is contributing to their expansion. As a reminder, the French Decree of 27 May 2016, which derives from the French Energy Transition Law, marked the move from a Feed-in-Tariff system (FIT-*purchase contract*) to an Feed-in-Premium system (FIP – *contract for difference*), after the FIT system was deemed to run contrary to the European Commission’s state aid guidelines.<sup>9</sup> While the FIT system guarantees a fixed selling price for twenty years to RE producers, who enter into a purchase contract with EDF, the 84% State-owned electric utility company, the FIP system stimulates competition by encouraging producers to sell on electricity markets, with the State paying them an additional premium to ensure a ‘normal’ profitability for such projects. For small-scale wind installations (below six wind turbines), this premium takes the form of a reference tariff set in by Ministerial Order and indexed to the evolution of market prices (‘*guichet ouvert*’ mechanism).<sup>10</sup> For small solar rooftop installations (below 100 kw), the FIT system is still in

<sup>2</sup> Press release of 26 June 2019 published by Voltalia and SNCF, available [online](#).

<sup>3</sup> *Éolien terrestre: les PPA, un outil incontournable dans la stratégie d’achat de l’entreprise METRO*, Actu Environnement (18 Oct. 2019).

<sup>4</sup> Directive 2009/28/EC of the European Parliament and of the Council of 23 Apr. 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

<sup>5</sup> French Energy Code, Art. L. 100–4.

<sup>6</sup> RED II, Art. 15.8.

<sup>7</sup> Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 Dec. 2018 on the Governance of the Energy Union and Climate Action.

<sup>8</sup> *Projet de Plan National Intégré Energie-Climat de la France*, Janvier (2019), [https://ec.europa.eu/energy/sites/ener/files/documents/france\\_draftnecp.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/france_draftnecp.pdf). (accessed on 6 August 2020).

<sup>9</sup> Commission, *Guidelines on State Aid for Environmental Protection and Energy 2014–2020* (Communication) 2014/C 200/01.

<sup>10</sup> Order of 6 May 2017 setting the conditions for the additional premium of electricity produced by electricity production facilities using mechanical energy from the wind, of up to 6 wind turbines, NOR: DEVR1708388A.

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force, with tariffs set in by Ministerial Order.<sup>11</sup> For solar and wind installations of a larger scale,<sup>12</sup> the premium is paid to successful applicants to the Commission de Régulation de l'Énergie (CRE) tender, the French Energy Regulator. In this case, the price depends on the price set by each producer when submitting its tender.

The first consequence of this transformation is that many projects, which were authorized in the 2000s, will soon be exiting the FIT regime (their purchase contracts will expire). These wind parks would account for 1,200 MW in the coming years (approx. 500MW per year as from 2020–2021). The challenge for producers is to find new market opportunities for these parks. In this context, and while policies supporting the repowering of wind farms have yet to be clarified, PPAs appear to be an attractive solution. For instance, the PPA that Métro entered into, is about the Eurowatt wind farm, which shall exit the FIT system as from 2021. A disadvantage of this type of 'brownfield' PPA is that these agreements are not associated with new generation capacity and they are therefore less virtuous from an energy transition perspective.

A second consequence is the reduced attractiveness of support tariffs. The average tariff granted as a result of tender process is indeed decreasing. In the latest tender process on onshore energy projects, thirty-five projects were accepted, and the average tariff was 62.9 euros/MWh (against an average tariff of 65.4 euros/MWh for the very first tender process in February 2018, and a tariff of 72 euros/MWh under the FIT system). With respect to ground mounted solar plants, the average tariff noted during the seventh call for tenders was also lower than the one noted during the sixth call.<sup>13</sup>

Finally, beyond tariffs, support schemes present regulatory and/or operational constraints, to which PPAs offer an alternative. For example, the open counter (*guichet ouvert*) mechanism is only available to the smaller-scale installations.<sup>14</sup> Larger-scale installations will use the tendering procedure mechanism, which implies operational constraints in terms of time schedule and an inherent risk not to be chosen. In addition, as only new facilities (not built yet) may submit a tender, the companies which are under the obligation to install solar panels on 30% of their roof surface may face an obstacle in practice. Compliance with this obligation, which was created by the so-called 'Energy & Climate' Law of November 2019 and is notably applicable to new warehouses<sup>15</sup> will be checked during the building permit's examination. If the company is not the successful tenderer, it could face either an economic risk (the solar installation is built but not profitable as the operator cannot apply to another tender process) or a legal risk (the buildings are not compliant with the building permit as the solar installation has not been built). Until the legislature resolves this regulatory inconsistency, the company has basically two options: either to try again at the next call for tenders and delay its construction schedule – or try to find another way of making the energy produced profitable. A PPA may appear to be an interesting solution for those new constrained RE producers.

## 1.2 The emergence of new actors on the market

The opening up of the sector to competition and the difficulties encountered by RE producers on the wholesale markets (difficulties in anticipating and maximising their production according to market opportunities and a lack of in-house expertise in trading activities) has notably led to the emergence of a new profession, that of aggregator. Its job consists in selling the electricity on the market but also in expanding its asset portfolio so as to optimize risks. The aggregator plays a key part in the development of PPAs, an instrument it masters the complexity of.

## 1.3 Environmental factors

Another reason for the emergence of PPAs is the increased environmental awareness in society, including among leading groups of companies concerned about making their electricity consumption greener.

### 1.3.1 The companies' CSR approach

GC PPAs may be a tool at the service of the Corporate Social Responsibility (CSR) goals of companies. One will notably recall here that the companies which are based in France and employ more than 500 people, have an obligation to draft an inventory of their greenhouse gas emissions, which notably include Scope 2 greenhouse gas emissions, i.e. emissions that are associated with electricity consumption.<sup>16</sup> These companies are required to attach to this inventory a summary of the steps, which they are contemplating to take to reduce greenhouse gas emissions.

## 1.4 PPAs are precisely a way for companies to decarbonize their electricity consumption, through the buying of guarantees of origin

PPAs are precisely a way for companies to decarbonize their electricity consumption, through the buying of guarantees of origin. A guarantee of origin ('GO') is an electronic document which enables an electricity supplier to prove to its customer that a given share or quantity of

<sup>11</sup> Order of 9 May 2017 setting the conditions for the purchase of electricity produced by installations installed on buildings using photovoltaic solar energy, with an installed peak power less than or equal to 100 kilowatts as referred to in 3° of Art. D. 314–15 of the Energy Code and located in mainland France, NOR: DEVR1712972A.

<sup>12</sup> For wind energy, the 'guichet ouvert' mechanism applies to installations comprising up to six turbines with an input not exceeding 3MW per turbine. These thresholds will be reduced soon (cf. Deliberation No. 2019–192 of the Energy Regulation Commission (CRE) of 24 July 2019). For solar energy, a tendering procedure is required for those projects in which the installed capacity is higher than 100kW. The threshold should be raised to 300kW soon.

<sup>13</sup> Deliberation of the CRE No. 2020–050, 12 Mar. 2020.

<sup>14</sup> *Ibid.*

<sup>15</sup> Article L 111–18-1 of the French Town Planning Code.

<sup>16</sup> Article R. 229–47 of the French Environmental Code.

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the energy sold to it was produced from renewable sources.<sup>17</sup> POWERNEXT, now renamed European Energy Exchange (EEX), is the body in charge of ensuring the issuance, transfer and cancellation of GOs since 2013.<sup>18</sup> In concrete terms, this body issues GOs corresponding to the quantity of electricity produced, to producers requesting such guarantees (one guarantee of origin shall be issued in respect of each 1MWh of energy produced,<sup>19</sup> which is in accordance with the RED I<sup>20</sup>). Once GOs are acquired by producers, they can be sold during a maximum of twelve months, through the EEX platform. They may be sold either independently, or jointly with a business transaction relating to the associated amount of energy. GC PPAs, in that they generally provide for the sale of the GOs associated with the contracted volume of electricity, thus allow undertakings to provide proof of their green energy supply. This is all the more precious as the number of GOs currently available on the French market is low.

By way of an example, the signing of a PPA between ADP, manufacturer and producer Urbasolar and supplier/aggregator GazelEnergie, which was announced in February 2020, is expected to cover 10% of the electricity required to operate the three Paris airports, and will enable ADP to announce in 2021 that 100% of its electricity consumption is from green energy. It is expected that many other PPAs will be signed in the coming years, notably by companies having joined the RE100 initiative. 235 leading companies have joined the RE100 initiative to date, and they commit to sourcing 100% renewable electricity by 2050 at the latest. Among these companies, one will notably find the following ones in respect of France: Axa, Crédit Agricole, La Poste, Groupe L'Occitane, and Schneider Electric. According to the report entitled *'RE100 Progress and Insights'* published by the Climate Group in January 2018, the sourcing of energy through PPAs has grown from 3% to 13% of RE100 members' total renewable power consumption between 2015 and 2016. The web giants may also contribute to the rapid expansion of PPAs in France. Google, Apple, Facebook and Amazon, and the kind (GAFA) are indeed the first to have had recourse to PPAs in Europe, notably to power their European data centres with green energy.

## 1.4.1 *Customers are at the centre of the energy transition*

With the *'Clean Energy for All Europeans Package'*, the European Union intends to become the first RE producer worldwide and to achieve carbon neutrality by 2050. These objectives notably resulted in a reform of the organization of the electricity market,<sup>21</sup> which notably aim at a better integration of REs in electric networks and at putting customers at the centre of the energy transition. The RED II is another Directive that is part of the *'Clean Energy'* Package. This Directive notably creates renewable energy communities (Article 22), in which final customers may group among them or with producers so as to produce, consume, store, and sell renewable energy, including through PPAs. The

emergence of these communities, which is also provided for in the French Energy & Climate Law<sup>22</sup> (may thus contribute to the development of a new type of PPAs, at a very local scale, associating small local producers and customers (household customers, local authorities, Small and medium-sized enterprises (SMEs)) that would e.g. be grouped as a cooperative.

Beyond green energy, an increasing number of 'custom-actors' want electricity that is produced locally. And PPAs precisely make it possible for a company to source electricity directly from a producer of its choosing and to create a closer connection with such producer, on which the company can communicate. PPAs also allow greater transparency and a better traceability of energy, in comparison with the trading system for GOs on the European market that can be decorrelated from the electricity actually consumed.

## 2 PPAs in Practice: Variable and Complex Contractual Arrangements

### 2.1 *The various types of PPAs*

Three main types of contractual arrangements may be identified. Even though these arrangements mainly concern two parties, i.e. the producer and the customer, it is in reality always a tripartite relationship.

#### 2.1.1 *'On-site' or 'local' PPAs*

'On-site' PPAs are agreements entered into between a producer and a customer, which sites are located nearby and are connected via a direct line. It is nevertheless necessary that, in parallel, the customer enters into a contract with an electricity supplier in respect of the part of its power consumption that is not covered by the PPA. Similarly, the producer will need to ensure it has a market for any excess production not covered by the agreement.

#### 2.1.2 *'Sleeved PPAs' or 'physical PPAs'*

Where there is no direct connection between the production site(s) and consumption site(s), the electricity produced is fed into the grid. This requires the involvement of an intermediary, who is generally a supplier or an aggregator. In concrete terms, the customer and the producer are bound by the terms of a PPA. The intermediary ensures the 'physical' integration of the volumes of electricity contracted under the PPA (the 'sleeving') and provides a balancing service (balance responsible party) against payment of a sleeving fee. This balancing service is required to make up for the intermittent character of the

<sup>17</sup> Article R. 314–53 of the French Energy Code.

<sup>18</sup> Order of 24 Aug. 2018, NOR: TRER1823771A, JO, 4 Sept.

<sup>19</sup> Article L. 314–14 of the French Energy Code.

<sup>20</sup> RED I, Art. 15.

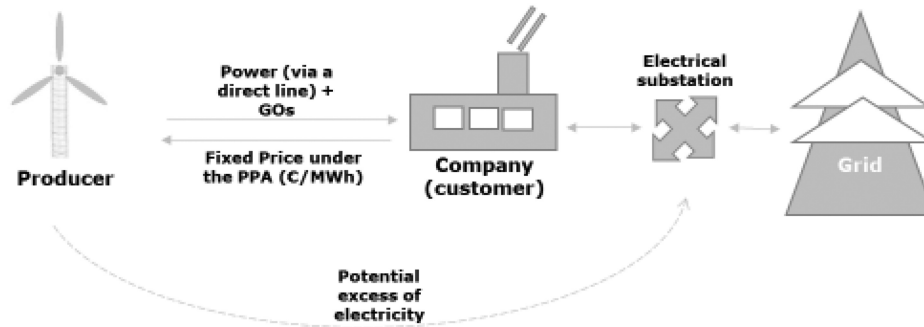
<sup>21</sup> EU Directive No. 2019/944 of 5 June 2019.

<sup>22</sup> Articles L. 211-3-2 and L. 211-3-3 of the Energy Code.

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Figure 1

## Corporate PPA - on-site/private wire PPAs



energy produced. A supplier (which can be the same entity as the intermediary or another entity) supplies the part of the power consumption which is not covered by the PPA, via an complementary supply agreement. Besides, the producer and the supplier will be bound by the terms of an 'Agreement for the Provision of Balancing and Related Services' (as per the France Energie Eolienne (FEE) template, which also organizes the sale and purchase of capacity guarantees, if the option was chosen by the contracting parties).

To date, 100% of the PPAs entered into in France are physical PPAs. This can be explained by reasons related to communication and marketing purposes of companies: the links with the producer are stronger under a physical PPA than under a virtual PPA, which is nothing but a hedging instrument.

### 2.1.3 'Financial' or 'virtual' PPAs

A virtual PPA is a financial instrument used for managing risks. It includes no physical delivery of the electricity. Even though there are most certainly as many forms of financial PPAs as there are agreements, virtual PPAs may basically be grouped in three main categories:

- **'Contract for difference'**: in this type of contract, a strike price is set in the PPA in respect of a given amount of energy produced. The producer sells the electricity on the electricity market, and the company sources electricity from its habitual supplier, at market price. If the market price is higher than the strike price, then the producer will pay the buyer the difference. Conversely, if the market price falls below the strike price, the buyer will pay the producer the difference.
- **Options** (put options, call options, or collars): the put option gives the producer the possibility to sell the electricity produced at a set price, notably if the wholesale price of electricity falls below that price. Reciprocally, call options enable a customer to buy the electricity at a given price.

- **Commodity price hedges**: companies may also mitigate the impact of fluctuations in electricity prices by hedging the price of the products used to produce the electricity.

The leading multinational companies, especially the US ones, rather use financial PPAs. Local or physical PPAs are indeed not always possible for large groups, in terms of logistics, notably when the energy is to be consumed by several sites, e.g. via intra-group agreements, potentially located in different countries. When the consumption site(s) and production site(s) are not within the same electricity transmission network (this is not the case in France), financial PPAs make it easier to manage the issues related to the interconnections between networks.

## 2.2 The main contractual provisions and the related risks

Particular attention should be paid to the drafting of the contractual provisions of PPAs, and particularly to the drafting of those provisions which are about the term of the agreement, prices, and the volume of purchased electricity, as these are all contractual provisions that have a direct impact on the bankability of PPAs for the parties.

### 2.2.1 Standardisation efforts

In order to encourage the development of PPAs in France, some organizations such as FEE, Open Solar Contracts or the European Federation of Energy Traders (EFET) drafted standard power purchase agreements. Also, a 'drafting and negotiation guide' (*Guide de rédaction et de négociation*) was published by *La Plateforme Verte*. In a standardization effort as well, some actors<sup>23</sup> speak in favour of the creation of a platform grouping all of the calls for tenders related to PPAs, so as to establish a common framework and strengthen transparency in relation to these agreements.

<sup>23</sup> *La montée en puissance des corporate PPA, nouveau défi pour les acteurs de la filière des énergies renouvelables*, an article published by SIA Partners, 4th Dec. 2018.

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Figure 2

## Corporate PPA – sleeved or physical PPA

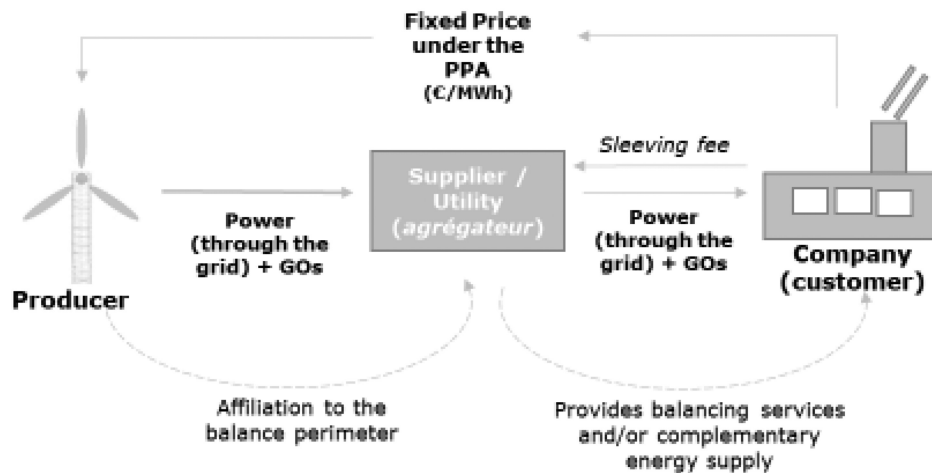
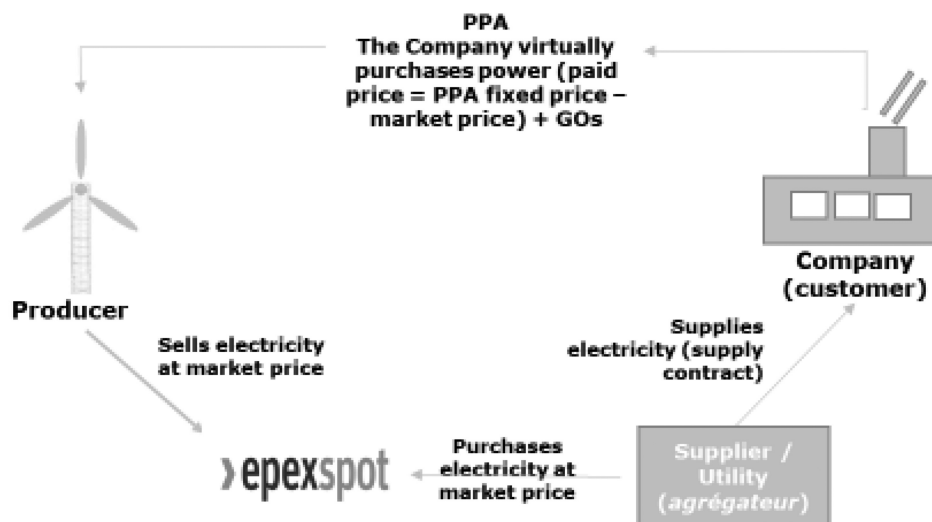


Figure 3

## Corporate PPA – virtual/financial/synthetic PPA



2.2.1.1 Some actors speak in favour of the creation of a platform grouping all of the calls for tenders related to PPAs

The standard agreement prepared by FEE provides that the PPA may be entered into with or without a support mechanism. However, in practice, as explained below, companies would rather choose a PPA related to an installation that does not benefit from a support mechanism, so that they can benefit

from GOs. The conditions precedent will naturally depend on the project maturity. The model chosen by FEE is that of a physical PPA, which relates to the selling of electricity, guarantees of origin, and possibly capacity certificates. Both the FEE standard agreement and the guide published by La Plateforme Verte are about bilateral GC PPAs only, i.e. GC PPAs entered into between a sole buyer and a sole producer. These standard agreements would have to be adapted

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in the event there are several customers and/or several producers.

## 2.2.2 The main contractual provisions and points of attention

- **Term.** PPAs are generally entered into for a long term (ten to twenty years) or even a very long term (e.g. the PPA between SNCF Energie and Voltalia is for a term of twenty-five years). The term of brownfield PPAs is generally shorter. Metro,<sup>24</sup> which signed a 3-year PPA with the Eurowatt farm exiting the FIT mechanism, explains that signing an agreement that has a short term may have advantages: the company avoids committing on its capacity to purchase electricity in the long term, and the short term of the PPA may also serve as a ‘test’ phase of this new, complicated contractual arrangement. A short-term GC PPA may also appear as a temporary solution for producers who are planning a repowering a few years after exiting the FIT mechanism. In physical PPAs, the link between the duration of the PPA and the associated complementary supply agreement, which needs to take into account the volume of electricity that has been provided for in the PPA, may turn out to be complicated. In practice, the term of a supply agreement (i.e. approx. three years) is generally much shorter than that of a PPA. One may also see an obstacle to the reopening of competition between suppliers, and, therefore, to the customer’s freedom to choose its suppliers<sup>25</sup>: given the complicated link between the agreements, it may be easier to keep the same supplier throughout the term of the PPA.
- **Price.** In physical or local PPAs, prices are generally fixed prices, which may be index-linked or not. In financial PPAs, it will be a supplement (contract for difference). PPAs may also provide for minimum prices or maximum prices, and that the price structure will vary over time. The price level will naturally depend on several factors: technology costs, the cost of grid-connection and the contribution that is provided for under Schémas Régionaux de Raccordement au Réseau des Énergies Renouvelables (S3REnR), the term of the PPA, the creditworthiness of the buyer (on this topic, one will note that PPAs have an impact on credit rating as they create long-term liabilities), the financing structure, etc. The managing of negative spot prices – which result from an offer of electricity that is higher than demand on the network – is also a key stake of PPAs. PPAs may, or not, give producers the opportunity to stop producing electricity when prices are negative prices, and, if appropriate, provide that penalties shall be paid to the buyer. Besides, it may be interesting to distinguish between the price of GOs and the selling price of electricity, notably so as to quantify the value of the energy sold that is produced from renewable sources.
- **Volumes provided for in the agreements.** Two main options may be contemplated here. In the first option,

i.e. ‘pay as produced’, 100% of the energy produced is purchased at the price set in the PPA. If there is a difference between the energy actually produced and the forecast figures, it is the buyer which bears the financial cost, by turning to its supplier for the missing energy. This first option is the one chosen in the standard agreement prepared by FEE. The volume sold is measured at the delivery point (injection meter). Under this system, the producer makes no commitment as to volumes, but may make commitments as to a maximum rate of unavailability, like in the FEE agreement. The second option consists in the producer committing to a given volume and/or production profile. Here, it is the producer and the third party intermediary (aggregator and/or supplier) who bear the consequences of intermittent production. The option chosen also has an impact on GOs: under the ‘pay as produced’ system, there is no problem because there is a perfect match between the number of GOs issued and the amount of energy produced and sold. In the option including a commitment as to production, the number of GOs issued by the producer may not cover the whole amount of energy that is eventually sold, where the amount of energy that is eventually sold is higher than the amount of energy actually produced (the difference between these two amounts will be purchased on the market by the third party intermediary).

- **Liabilities – Termination of the agreement.** PPAs may provide that penalties shall be payable by the producer, e.g. in the event the installation is commissioned after the deadline set in the agreement (this situation has been selected by FEE). To guarantee that the project is bankable, penalties will have to be capped in the agreement. If the cap is reached, the parties may contemplate terminating the agreement. As regards termination events, the standard agreement published by FEE mentions the following ones for example: the third party intermediary loses its capacity to act as the balance responsible party; network availability above a certain threshold; events of force majeure lasting for a certain time; a total shutdown of the park following an incident or following a request from the *préfet* (i.e. the local representative of the French State). The agreement may provide that an indemnity shall be payable for certain types of termination events, notably in the event of unfair termination of the agreement by the buyer. The amount of the indemnity shall be sufficient to cover the risk related to lost income for the producer, as this risk will have consequence on the producer’s repayment of its debt.

Finally, we may also mention the provisions about unforeseeable circumstances (*imprévision*). The parties will be keen to anticipate the consequences of a change of

<sup>24</sup> See reference in n. 3.

<sup>25</sup> Article L. 331–1 of the Energy Code.

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circumstances affecting the balance of the agreement, like a pandemic or the consequences of a change in regulations, which is particularly likely to occur in agreements of such a long duration.

## 3 PPAs in France: A Regulatory Framework with Blurred Contours

As seen above, as PPAs are private agreements freely negotiated by the parties, they offer great flexibility. Nevertheless, in France, these agreements arise in a much regulated environment (A) and notably come up against the constraints related to the valuation of GOs (B).

### 3.1 Constraints related to the marketing of electricity and to grid-connection

PPAs are likely to be subject to several types of energy regulations. Whether these new agreements fall within the scope of these regulations is something that remains to be clarified.

#### 3.1.1 *The supply of electricity and the balance perimeter*

In France, the direct selling of electricity (outside the regulated tariff) is permitted without a prior authorization. Thus, under the FIP system a producer is free to market the energy as it wants, and it can accordingly use a PPA.

At first glance, a PPA, which is a purchase contract, would not come within the scope of the supply of energy, being an activity that is subject to authorization.<sup>26</sup> Producers don't purchase electricity to resell it to final customers. Rather, producers produce electricity. The risk that a PPA be requalified as a supply contract nevertheless exists when the PPA is a so-called 'virtual' PPA, which involves an electricity supplier (See above, Part II). One will remind here that, beyond the authorization requirement, the supplier of energy has obligations to communicate and give information on its activity, to connect to a balance perimeter, and to participate in the capacity mechanism. This qualification issue for PPAs may also have tax consequences (see below).

Another specificity of the French regulatory framework is that, except under the so-called 'on-site' PPAs, the producer will have to be connected to a supplier's balance perimeter. Each electricity producer connected to the public transmission or distribution networks, and each electricity customer having an electricity supplier, is responsible for any difference between injections and withdrawals. Electricity producers may either define the terms and conditions on which they shall be financially responsible for these differences under a contract with Réseau de Transport de l'Electricité (RTE), or enter into a contract with a balance responsible party, who will assume responsibility for differences.<sup>27</sup> These balance responsible parties are operators, who are contractually committed to RTE to finance the cost of any difference between the electricity fed into the grid and the electricity

consumed, within a specific balance perimeter. Such operators are often electricity suppliers. For a better management of deviations, the standard PPA prepared by FEE provides that the producer will connect to the balance perimeter of the entity designated as the balance responsible party by the purchaser, i.e. generally its supplier.

#### 3.1.2 *The financial instruments legislation*

The so-called 'virtual' PPAs (See above, Part. II), as financial instruments related to derivatives, fall within the scope of the European Market Infrastructure Regulation (EMIR).<sup>28</sup> This Regulation, which took effect in 2012, aims at improving transparency on over-the-counter derivatives markets, which were previously unmonitored. Until very recently, both financial and non-financial parties entering into derivative contracts had an obligation to report any new derivative contract (including any virtual PPA), as well as any modification or termination of the contract to a 'trade repository' no later than the working day following the conclusion, modification or termination of the contract.<sup>29</sup> From 18 June 2020, pursuant to the new EMIR Regulatory Fitness and Performance (REFIT),<sup>30</sup> in case of an Over-the-Counter (OTC) derivative contract concluded between a financial counterparty and a non-financial counterparty not subject to the clearing obligation, the financial counterparty will be solely responsible and legally liable for reporting on behalf of both counterparties. In addition, EMIR REFIT provides that the reporting obligation shall not apply to derivative contracts within the same group where at least one of the counterparties is a non-financial counterparty or would be qualified as a non-financial counterparty if it were established in the Union.<sup>31</sup> As PPAs are generally entered into between two non-financial parties, these new exemptions should not apply in our views and both parties should remain subject to the reporting obligation.

Non-financial parties which transactions aim at hedging risks (i.e. derivative contracts which are objectively measurable as reducing risks directly relating to the commercial activities and treasury activities of a non-financial counterparty),<sup>32</sup> or, if this is not a hedging instrument, which activity on derivatives markets remains below a certain threshold, will however not be subject to the other,

<sup>26</sup> *Ibid.*

<sup>27</sup> Article L. 321–15 of the Energy Code.

<sup>28</sup> Regulation (EU) No. 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories.

<sup>29</sup> EMIR, Art. 9.

<sup>30</sup> Regulation (EU) 2019/834 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) No 648/2012 as regards the clearing obligation, the suspension of the clearing obligation, the reporting requirements, the risk-mitigation techniques for OTC derivative contracts not cleared by a central counterparty, the registration and supervision of trade repositories and the requirements for trade repositories.

<sup>31</sup> EMIR REFIT, Art. (7).

<sup>32</sup> EMIR, Art. 10.3.



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more stringent, requirements set out in the EMIR. Virtual PPAs operate as hedging instruments, as their main purpose is to hedge both the producer and the purchasing company against the risks of fluctuating electricity prices on the wholesale market. Therefore, in most of the cases, parties entering into a virtual PPAs will not be subject to the other EMIR requirements, which include notably additional reporting requirements, a clearing obligation, stricter risk management procedures and valuation and bilateral margin requirements.

### 3.1.3 Tax and accounting uncertainties

From an accounting standpoint, an uncertainty remains as to the International financial reporting standards (IFRS16) standard, which may be applicable to PPAs depending on the terms of the agreement. Under this standard that is applicable to leases, lease agreements should be recognized by lessees as assets in their balance sheets. In exchange for this asset, the lessee will also recognize a liability on the liabilities side of its balance sheet. This liability may have significant consequences in terms of financing. However, while in a lease agreement, the lessee has control on the asset, this is *prima facie* not the case with PPAs, as it is the producer who has control on its installation and on the energy produced. To avoid that a PPA be requalified as a lease agreement on electricity, it is necessary to draft carefully the clauses relating to the mutual obligations as regards information, liabilities, and penalties, so as there is no ambiguity about the fact that the RE installation is controlled by the operator/producer.

From a tax standpoint, an uncertainty exists as to how the internal tax on the final consumption of electricity ('TICFE') will be treated in the context of a PPA. A narrow interpretation of Article 266 *quinquies* C 2 of the French Customs Code, may lead one to consider that the producer is liable for the payment of the TICFE to the extent this producer invoices the electricity directly to a final customer, to whom he delivers the electricity in France. Under this interpretation, it could be conceived that the producer contractually entrusts a third party, who may be the supplier, with the collection and repayment of the tax. By the way, one will note here that a producer would more easily be qualified as a supplier within the meaning of the French Customs Code than within the meaning of the French Energy Code, because the definition in the French Customs Code also refers to the person who 'produces' electricity for resale to a final customer. A wider interpretation would infer that only the supplier (and not the producer) would be liable for the payment of the TICFE.

### 3.1.4 Grid-connection

Generally, when there is a direct selling of electricity, the energy sold is transferred via the public electricity grids. There are however two special cases. One is the 'on-site' (or 'local') PPA, in which the energy produced is routed using a direct line connecting the producer to the customer. The other case is the direct selling of energy, which is provided for in the Decree No. 2008-865 of 28 August 2008, which concerns those producers which operate

installations using performing energy techniques (combined waste heat and power) and benefiting from a FIT contract.

No 'on-site' PPA has been entered into in France to date. Beyond the logistical and commercial aspects – a producer must be found close to the customer's site and be able to supply at least part of the electricity consumed – this may be due to the particularly restrictive procedure for setting up direct lines. An authorization from the administrative authority, taking into account, in particular, the applicable environmental requirements, is indeed required.<sup>33</sup> The authorization shall be granted only if it is shown that the structures of the existing networks, or the networks that are being built, do not allow the same functions to be performed under equivalent or better conditions as the planned direct line.<sup>34</sup> This criterion will be difficult to meet in areas where the availability of the public distribution network and the quality of service are good.<sup>35</sup>

One may also wonder whether the regulations on closed distribution networks, which operation is also subject to authorization, would be applicable to local PPAs.<sup>36</sup> Closed distribution networks, which were created by the French Ordinance of 15 December 2016,<sup>37</sup> are defined as a system which distributes electricity within a geographically confined site and which supplies non-household customers who run industrial, commercial or shared services businesses.<sup>38</sup> In our views, these regulations should not apply to local PPAs because, practically speaking, one will only talk about a closed network when the operator is connected to the public transmission or distribution network and merely 'redistributes' the electricity, through its own installations, to one or several customer(s) established within the site managed by the operator. This is not the case of a producer.

As regards the other types of PPAs, the grid-connection follows the standard procedure, including an application for connection to the grid and the payment of the cost of connection and of the contribution that is provided for under the Regional network connection schemes for renewable energy sources (S3REnR, which stands for *Schémas Régionaux de Raccordement au Réseau des Énergies Renouvelables*).

### 3.2 The regulatory constraints related to the valuation of GOs

The regulations on guarantees of origin explain both the slow emergence of PPAs in France and, in a way, the interest of PPAs.

<sup>33</sup> Article L. 343-1 of the Energy Code.

<sup>34</sup> Article R. 343-4 of the Energy Code.

<sup>35</sup> See e.g. the Deliberation of the CRE of 10th Dec. 2014, containing an opinion on an application for the authorization to build a direct line between the Refuse Incineration Plant located in the district of Gerland, in Lyon (France) and the Lyon Metro network.

<sup>36</sup> Article L. 344-7 of the Energy Code.

<sup>37</sup> Ordinance No. 2016-1725, 15th Dec. 2016.

<sup>38</sup> Article L. 344-1 of the Energy Code.

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## 3.2.1 *The impossibility to use GOs and benefit from support schemes concurrently*

In France, producers are prohibited from marketing GOs when they also benefit from a support scheme such as an FIT or FIP contract.<sup>39</sup> As the prices of GOs (approx. 2 euros/MWh in the last two years) are less interesting than the amount of public subsidies, producers will prefer public subsidies for the projects that are being developed, and give up valuating their guarantees of origin. This is a first disincentive to the use of PPAs: the companies consuming electricity, which want to buy guarantees of origin (the only way of proving they source green energy), will have to conclude PPAs relating to new parks designed without subsidies, or parks exiting the FIT mechanism. This clearly reduces opportunities.

For the installations which benefit from a FIT or FIP contract, it was considered so far that GOs corresponding to the electricity produced were transferred automatically to the actors with whom the contract was entered into, i.e. to EDF or to local distribution companies. Since the French Finance Law of 30 December 2017, GOs of producers benefitting from a support scheme can be issued to the benefit of the State, upon the State's request. These GOs are then either transferred, free of charge, to cities requesting such transfer, or sold by auction.<sup>40</sup> In a letter sent to the Minister in April 2018, FEE stressed that this reform was a '*major barrier*' to the development of PPAs in France. These auctions, which are spot-type auctions, do not make it possible for purchasers to secure the price of GOs in the long term and to buy the guarantees of origin related to a given power production installation. FEE considers that this mechanism will mainly benefit the leading electricity suppliers willing to offer green energy, even though its traceability is lower than under a PPA. This reform is also an obstacle to the emergence of a real market for GOs (the value of a GO could rise to 3 euros/MWh if it were valued with the electricity sold, notably through PPAs). Nevertheless, this did not prevent the conclusion of the first PPAs – obviously out of the support mechanism.

## 3.2.2 *Compliance of the French system with the RED I and RED II*

French deputies<sup>41</sup> and senators attempted to go back on this rule during the debates on the Energy & Climate Law, but without success.<sup>42</sup> According to their amendment, the remuneration related to guarantees of origin could however be deducted from the amount of public subsidies received by producers. This would thus contribute to reducing the global amount of public subsidies granted, such subsidies being in the end borne by final customers.

This proposed solution would be in accordance with EU law. RED I indeed laid down as a principle that producers shall not be compensated twice for the same production, but leaves it to Member States to decide the terms of application.<sup>43</sup> While RED I only indicated that Member States may choose to decide not to issue guarantees of origin to producers who already benefit from a support scheme and reciprocally (this is the case in France

or in Germany), RED II is less restrictive and details the conditions under which GOs and support schemes can be cumulated. Pursuant to its Article 19.2, Member States shall ensure that when a producer received financial support from a support scheme, the market value of the GO for the same production is taken into account appropriately in the support scheme the producer benefits from. It shall be presumed that this market value has been taken into account 'appropriately' in any of the following three cases: (1) where the financial support is granted by way of a tendering procedure; (2) where the market value of the guarantees of origin is administratively taken into account in the level of financial support; or (3) where the guarantees of origin are not issued directly to the producer but to a supplier or customer who buys the energy produced from renewable sources either in a competitive setting or under a PPA. The application of this last case is not clear in the French context where GOs are issued to producers who then can sell them to third-parties, notably under a PPA. But it may be just a terminology issue. In any case, the objective pursued by the directive is clearly to remove unjustified obstacles to the development of PPA and, through its Article 19.2, it sets the path for France to provide for an exemption to its non-cumulation principle, for GOs trade under a PPA.

## 3.2.3 *The advantages: the concept of additionality*

This regulatory constraint related to GOs could however have a positive side effect in terms of the development of renewable energies. As companies are forced to conclude PPAs only with respect to wind parks exiting the FIT system or to new parks designed without subsidies, these companies directly contribute to the development of the existing pool (*brownfield* PPAs) and, above all, to the development of new facilities producing electricity from renewable energy sources (*greenfield* PPAs – concept of additionality), at the least cost to public finances. The current GO trading system does not enable this development, in so far as the vast majority of the guarantees of origin that are available on the market correspond to installations that have already been depreciated. In addition, the existence of a European market for GOs<sup>44</sup> should make it possible to conclude cross-border PPAs.

It is nevertheless a fact that the massive development of PPAs in France will require removing the obstacle consisting in the prohibited valuation of GOs for those parks which benefit from a financial support scheme.

<sup>39</sup> Article L. 314–14 of the Energy Code.

<sup>40</sup> Article L. 314–14-1 of the Energy Code.

<sup>41</sup> Amendment No. 537, presented notably by Mr Lambert to the French National Assembly, 21 June 2019.

<sup>42</sup> Amendment No. 47 (second correction), presented notably by Ms Prévile to the French Senate, 16 July 2019.

<sup>43</sup> RED I, Art. 19.2.

<sup>44</sup> Article 15.9 of Directive No. 2009/28/EC: Member States shall recognize guarantees of origin issued by other Member States.

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## 4 Conclusion

In a few years' time in France, renewable energies will have become competitive enough to continue expanding without the need for public support schemes. Faced with the planned disappearance of the FIT and FIP systems, producers of energy from renewable sources will be left with two options only (if we set aside self-consumption, which has a limited scope for the time being): either they sell their electricity and guarantees of origin on a fluctuating and uncertain market, or they sign a long-term Green corporate PPA with a company concerned to make its energy consumption greener and to control associated costs. For producers as well as for informed customers, a Green corporate PPA is what should be chosen.

If the obstacle relating to guarantees of origin is overcome, one will probably see RE producers quickly turn to

PPAs, provided however that energy customers, which are of various sizes, provide themselves with the means to understand and adhere to GC PPAs. Otherwise, the emergence of PPAs, although it appears to be unavoidable, will take place more slowly.

The quality of drafting, the clarity, and the equilibrium of the agreement will also be essential. But, as we have shown in our analysis, the complexity of PPAs does not come from the law but rather from the economic and operating aspects: should there be one or several producers? Should we choose a virtual PPA or a physical PPA? How do we manage the 'back-to-back' aspect with the existing supplier? How do we set the 'right' price in a context where prices are uncertain, especially after the current worldwide Covid-19 pandemic? These are all new challenges for power producers and customers committed to energy transition.