



State of the European Renewable Energy Market

H1 2022 Market Observations and Key Trends for Corporate Buyers



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Executive Summary

The regional market is dynamic with a high corporate demand

As per our [H2 2021 State of European Renewable Energy Market report](#), there has been a continued high level of activity in the European market. An increasing number of companies are considering PPAs (Power Purchase Agreements) as a way to source renewable electricity and reduce their carbon footprint, and to mitigate record-high wholesale market volatility.

Sweden and France provide interesting market opportunities

Sweden is a popular market with many developers providing innovative renewable solutions and opportunities.

Corporate demand for renewables and new-build projects is increasing in France.

There is a greater diversity of renewable instruments

More renewable options are available to corporates in term of PPA prices and structures, carbon offsets and Energy Attribute Certificates (EACs) such as Guarantees of Origin (GOs).

The availability of renewable projects is being delayed across Europe

This is mainly due to permitting and administrative roadblocks.

The highly volatile market conditions are calling for new policies

Due to the geopolitical tensions of the last few months, gas prices reached unprecedented levels across Europe, severely impacting the wholesale power markets. To reduce gas dependency, European governments are considering new policies centered on low-carbon energy solutions. Key factors in the reduction of gas demand will come from the democratisation of energy efficiency practice, electrification of gas sectors, and acceleration in green hydrogen. Together, these solutions make up the core strategy to phase out Russian gas over the next five to eight years as part of the REPowerEU Plan.

The energy market volatility has impacted renewable prices

The volatility and increase in price for GOs that we reported in H2 2021 continued during H1 2022, with price reaching record high in the first quarter of the year.

Stakeholders' internal alignment is key for a successful renewable project

The participation of all the stakeholders and their alignment from the start of a project is fundamental to structure a bespoke RFP (Request For Proposal) and move efficiently through the PPA negotiation process.

Mega Trends to Watch

Renewable energy demand is rising

Demand for renewable energy continues to grow at a fast pace. This is due to an increasing number of companies setting ambitious decarbonisation targets and looking at long-term renewable energy contracts as alternative options to manage market risk and price fluctuations. The rise of supply chain programs encouraging low-carbon energy procurement also pushes new entrants into this market.

Because of this rising demand, we are seeing an increasing level of corporate activity and competition for all forms of renewable energy procurement.

Energy price volatility

High energy price volatility is posing unparalleled challenges to all renewable market players: generators, suppliers, developers and consumers.

Generators are facing high 'input' costs, supply chain challenges, and changes to legislation. Suppliers have to manage high wholesale costs which puts pressure on cash flow and finances needed to support hedging and risk management activities.

For developers, increasing raw material prices are impacting the cost of building renewables infrastructure.

Energy consumers have fewer suppliers to choose from and restrictions to products and contracts, which is increasing costs. Credit terms will also be under more focus.

To pursue ambitious decarbonisation goals, companies need a comprehensive energy risk management and sustainability strategy to overcome current and future market complexity.

Project availability lagging behind

Across Europe (and in Southern Europe especially), slow permitting and administrative barriers hamper the availability of new projects for renewable energy generation.

A significant number of companies have set decarbonisation and/or renewable electricity targets for 2025. Companies wishing to utilise PPAs that stimulate the construction of new-build assets will struggle to achieve that ambition if they are not already well underway with that procurement process, as many projects currently available for PPAs now have commercial operation dates beyond 2025. Those companies may have to rely on other instruments such as unbundled GOs or electricity supply contracts that include GOs from existing assets in order to achieve their 2025 ambitions.

A policy framework that simplifies and harmonises the administrative and permitting processes across Europe is now essential to achieve both national and corporate decarbonisation targets. The European Commission's work seems to be heading in this direction.

An enhanced variety of solutions are available

Recent market conditions have produced a more varied offer of renewable energy solutions responding to the different needs and requirements of distinct offtakers. From greater focus on preserving existing assets and opportunities for shorter-term PPAs, to innovation with new products and price structures, corporates have more diverse and nuanced options to source renewables. Increased variety can also mean more complexity, however.

Summary of H1 YTD Data

The H1 YTD data set which informs this report considers corporate request for proposal (RFP) responses that have been gathered between January and May 2022. It represents over 1,500 renewable energy offers across Europe, submitted by more than 40 solution providers across 13 countries, resulting in a strong overview of the European renewable energy market for corporate buyers.

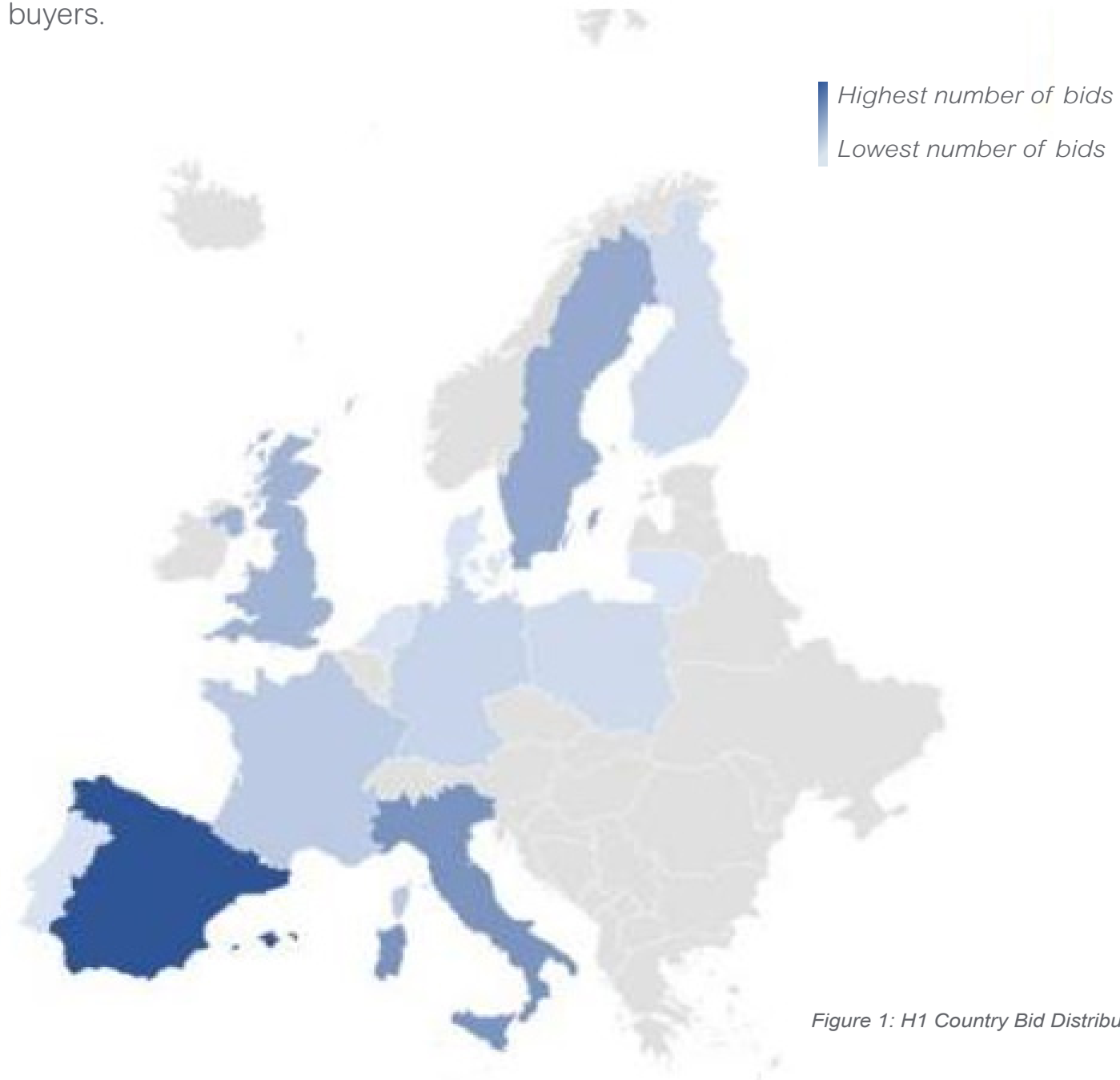


Figure 1: H1 Country Bid Distribution

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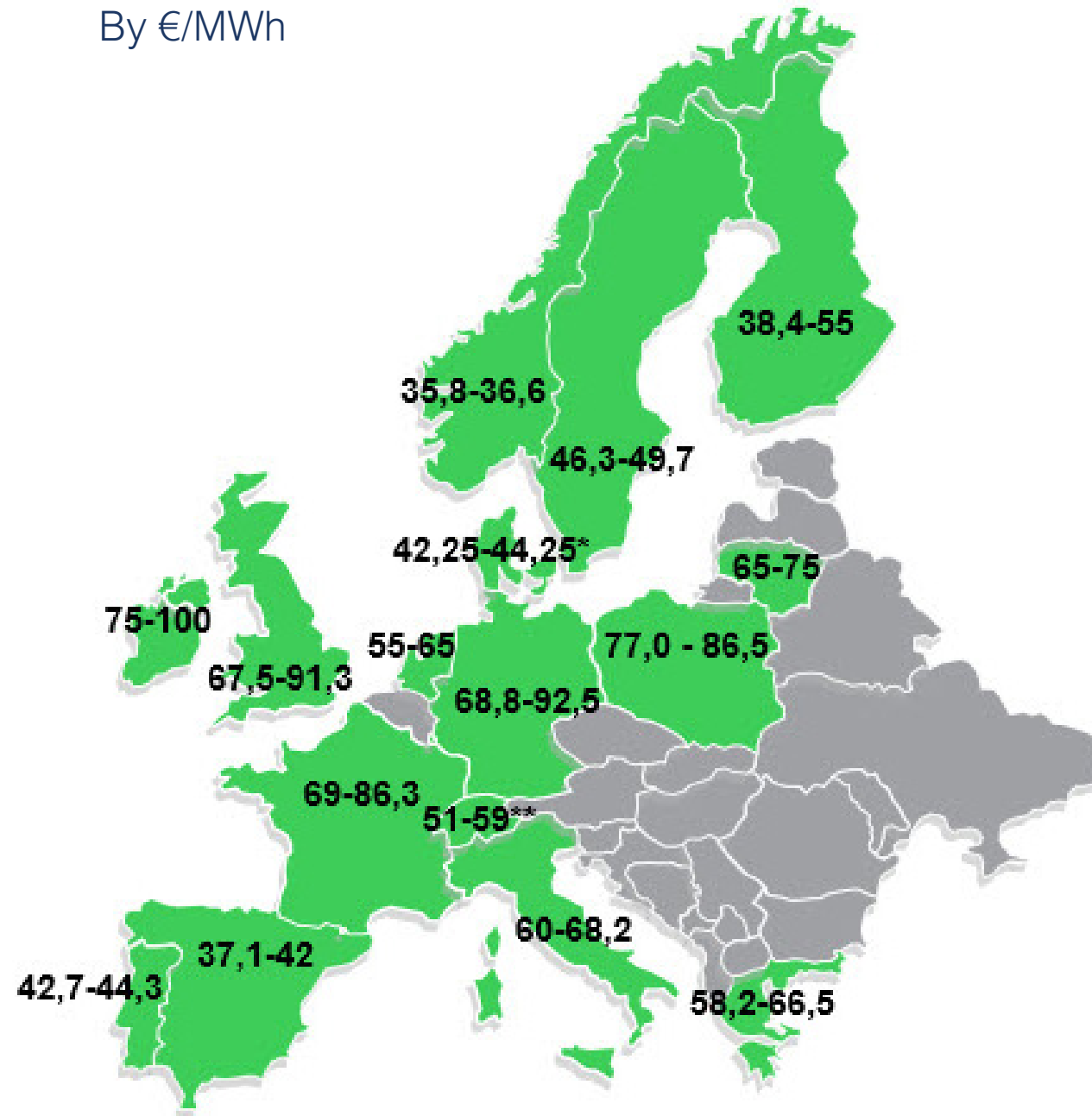


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Indicative Pricing

By €/MWh



*Price range observed is from the H2 2021 data set
 ** Price range observed is from the H1 2021 data set

Overview

- Price ranges displayed represent the 25th to 75th percentile of offers across VPPA (Virtual Power Purchase Agreement) structures from our H1 2022 YTD data set (see page 5).
- Prices displayed have been rounded to the nearest decimal.
- Both wind and solar technologies are considered.
- Past performance is not suggestive of future results.
- Prices should be considered in context of the local market.

Observations

- Corporate demand for renewables is increasing. Evaluation of the market is suggested sooner rather than later. Buyers, especially those with 2025 targets, will need to consider the full suite of renewable energy instruments in order to hit goals, and have a flexible procurement strategy that enables them to take advantage of opportunities.
- Due to several factors such as the geopolitical situation, wholesale power market volatility, supply chain issues, and overall inflation, offered prices for corporate PPAs have increased across all European markets. However, in many markets, PPAs still represent a cost-effective way for companies to source low carbon energy, especially given that PPA prices themselves should be viewed in relation to the markets' electricity prices.
- Despite some administrative issues and delays with the permitting processes, the Spanish market is still one of the most interesting markets in Europe for PPAs due to outstanding natural resources for both onshore wind and solar power.
- The Nordic markets, including Sweden, still provide interesting opportunities within the lowest spectrum of price range.
- With a good availability of projects for corporate PPAs, the UK could be a market for active consideration.
- With increasing project availability, the corporate French PPA market is starting to develop and the market for renewable energy in Germany is becoming more attractive.
- With limited project availability, the Polish corporate PPA market has relatively few opportunities.

Past performance is not indicative of future results. Hypothetical performance results have many inherent limitations. No representation is being made that any program will or is likely to achieve profits or losses similar to those shown. Swaps, futures and options trading involve significant risk of loss and may not be suitable for everyone. Therefore, carefully consider whether such trading is suitable for you in light of your financial condition

Current Market Trends

Price Structure

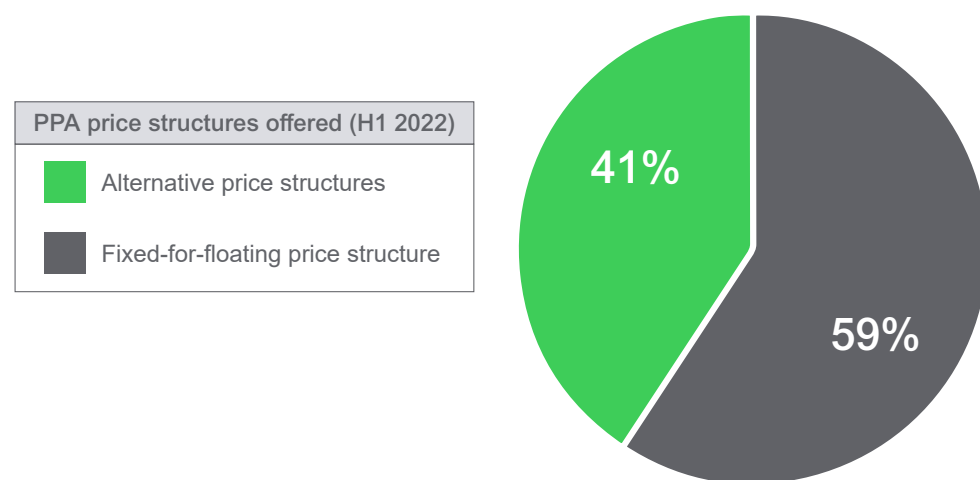
The energy market volatility has impacted renewable prices, but has also encouraged market players to become more creative in terms of new products and price structures to differentiate themselves.

While fixed-for-floating is still the common price structure for a PPA, and typically preferred by corporate offtakers, alternative price structures have grown in recent months. The most common alternative price structures are market-following with discount and floor and internal collars. Creative combinations in terms of settlement periods and price structures result in a variety of PPA products, including hybrid solutions.

A wider range of product alternatives makes it easier for companies to explore customised options that can help meet unique organisational goals, enhance risk management opportunities, and address accounting hurdles.

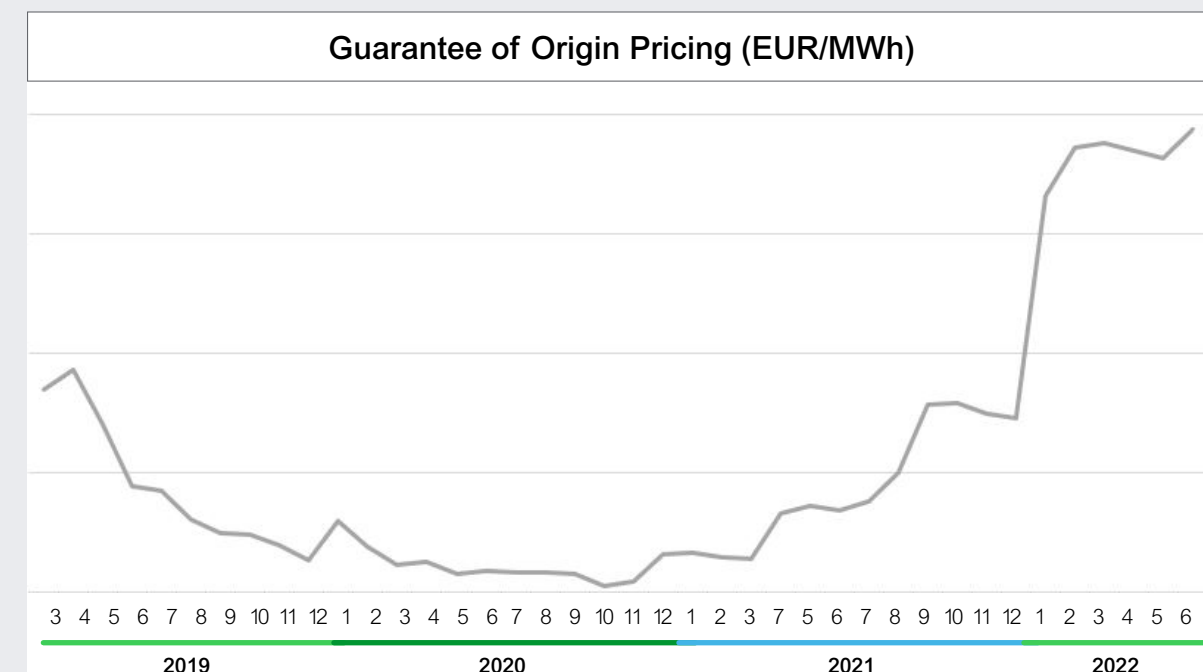
The unprecedented wholesale power price volatility has reduced the availability of baseload offers across all European markets, reversing the trend we observed in the [H2 2021 dataset](#).

Price escalator and broader adjustment clauses are being introduced into PPA offers allowing prices to reflect inflation and other major market changes.



GOs/REGOs

Historically, the first quarter of the year is the busiest trading period, as companies are balancing their prior year portfolio and starting to hedge for the upcoming year. Prices hit record high in January for European GOs and UK REGOs (Renewable Energy Guarantees of Origin), and average traded prices for GOs for all technologies and vintage years considerably increased (vintage 2021 up by 40% vs. Dec 21 levels). The momentum continued until mid-March, when the focus slightly shifted from 2021 vintage as balancing activities closed ahead of the electricity disclosure deadlines in most European countries. Beyond March, the interest shifted to 2022 and 2023, but not much beyond that, as market participants prefer to keep an eye on current market affairs. The gap in pricing between 2022 and 2021 vintage is substantial for almost all sources and technology. After a relatively calm April, trading activity picked up in May.



Note: The data displayed in this graph was calculated based on direct quotes received from GO providers in the European market, not from the RFP database.

Figure 3: Guarantee of Origin price trend per MWh

Current Market Trends

Gas

The atypical prices observed in the last three months across all European gas markets are the direct consequence of the Russian invasion of Ukraine, and the subsequent fear of disruption of the gas supplies coming from Russia. The political escalation between Moscow and the EU has extended to the energy sector, with embargoes on coal and seaborne oil imports from Russia, from January 2023. The rising tensions between the Kremlin and Brussels, along with the capital importance of natural gas in the European power mix and the European continent's high dependence on Russian gas imports, ignited exceptional levels of volatility across all European gas hubs. At present, EU countries have managed to offset a large portion of the missing supplies by increasing imports of Liquefied Natural Gas (LNG). While LNG represents the backbone of the short-term strategy to counter shortages of gas supplies, the EU's longer-term plan will focus on the transition of its members' gas demand, with an increasingly important role played by renewable energy sources (RES).

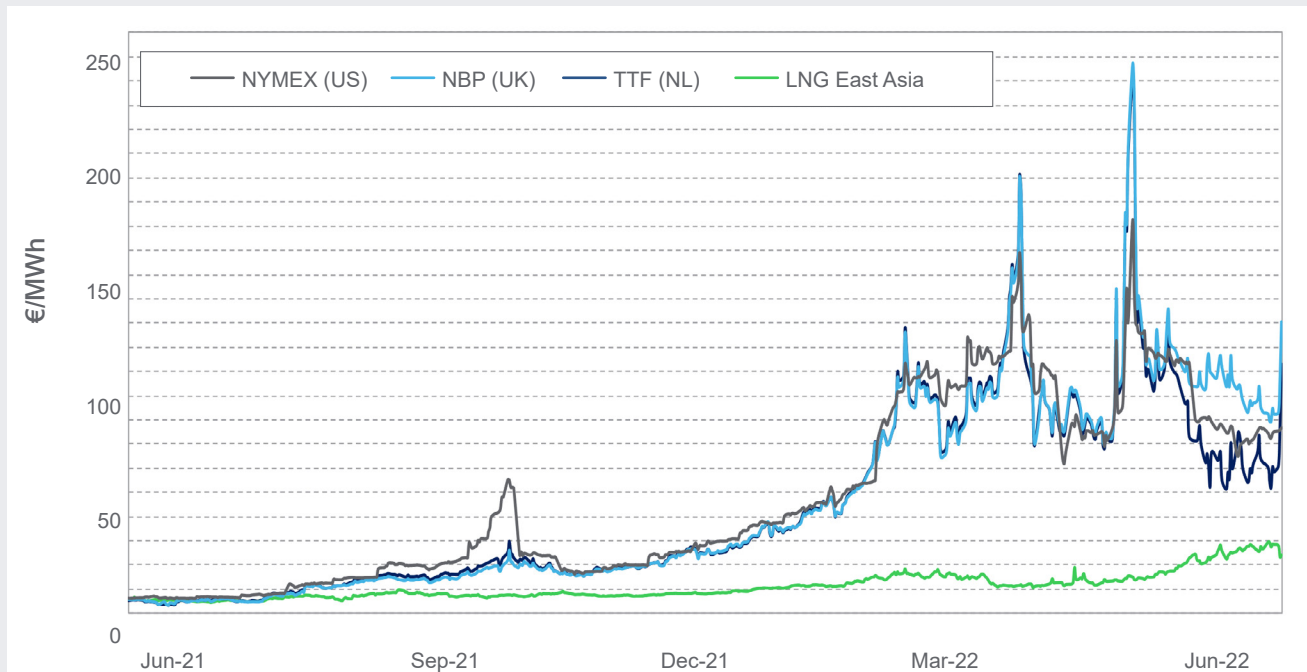


Figure 4: Global gas benchmarks prices

The REPowerEU Plan

Following the rapid deterioration of the relationship with the Kremlin, the EU unveiled a plan to dramatically reduce its dependence on Russian gas. The 'REPowerEU' Plan builds on the ambitions laid out in the 'Fit for 55 package' and offers a strategy to overcome reduced gas supplies in the short term while leading the structural transition of the gas demand by 2030. The wider continental energy demand is set to change, with the EU aiming to cover 45% of its energy consumption with RES. To reach this ambitious goal, the EU is betting on the massive adoption of solar photovoltaic technology at both utility and residential scales. However, to ensure the smooth growth of supply, EU member states will need to make the permitting process leaner, whilst ensuring enough incentives for the installation of rooftop panels. The stronger presence of renewable energies also constitutes a key assumption for the implementation of large-scale green hydrogen technologies, which have so far suffered the competition of the cheaper prices usually observed in natural gas markets.

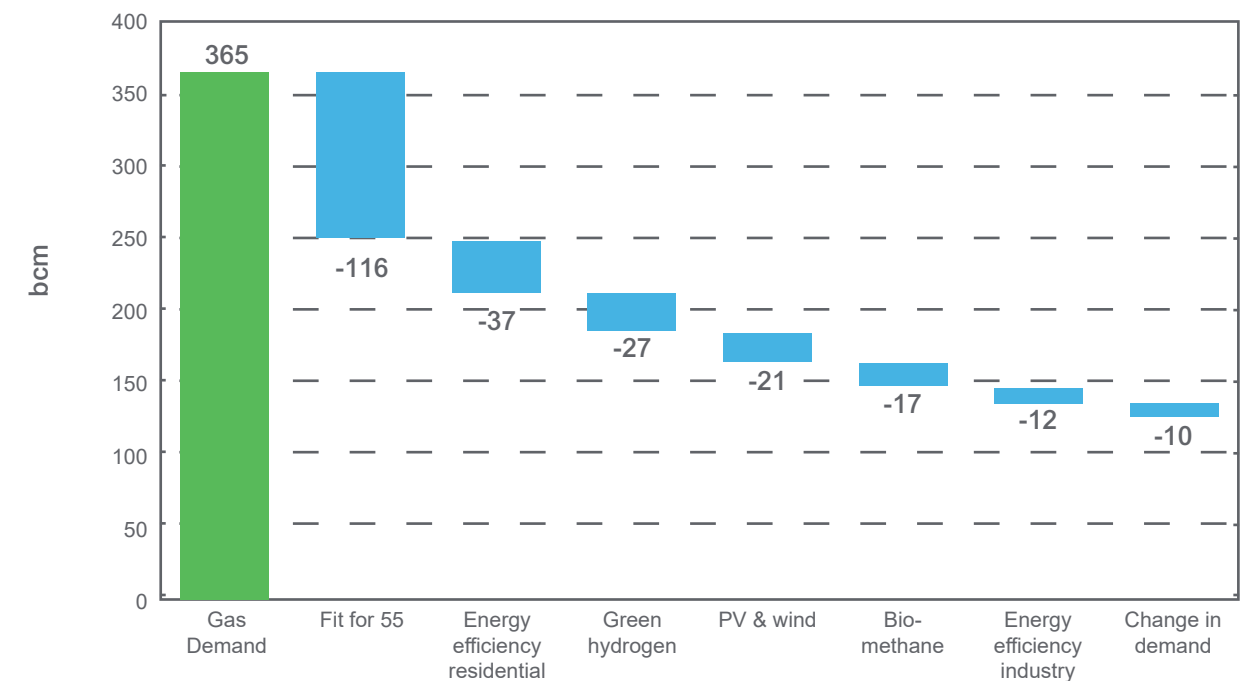


Figure 5: RePower EU – expected evolution of the EU gas demand by 2030

Local Market Spotlight Sweden

Sweden as a Key Part of the Nordic Market

The Nordics is one of the most popular regions for companies to explore European PPAs, with Sweden as a particularly interesting market for many reasons. Many experienced developers of low-carbon solutions are active in the market, presenting corporate offtakers with increasingly innovative opportunities to procure renewables.

A Closer Look at Market Conditions

Swedish electricity demand is expected to rise to 207 TWh by 2030, and may amount to 370 TWh by 2050, which is almost three times as much as current electricity consumption (140 TWh). The increase in electricity demand is largely driven by new developments in industry:

- Green hydrogen production alone is estimated to increase electricity demand by 130 TWh per year by 2050.*
- There will be new and increased demand for electricity in server rooms, battery factories, fossil-free steel production, industry, transport and future industrial sectors.*

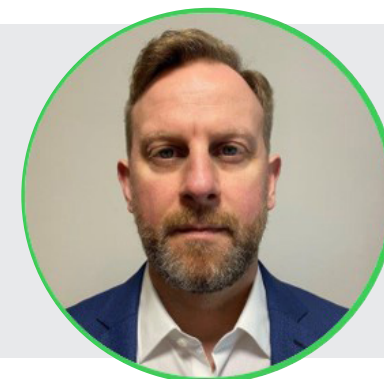
Good access to cost-competitive low-carbon electricity is also important for industrial start-ups, queuing up to establish themselves in locations providing such access, but also to many other European commercial and industrial companies with decarbonisation targets. Most of Schneider Electric's pan-European RFPs now include Sweden, a member of the AIB and therefore fully aligned with boundary definitions for market-based CDP reporting and RE100 guidance.

Integration with the Electricity Market

Sweden is part of the Nordic wholesale electricity market which includes both Nordic and Baltic countries. Sweden has four different settlement areas. Market conditions in each of them are different and should be taken into account when evaluating the economics of PPA offers.

Wind as the Dominant Technology

Onshore wind dominates the Swedish PPA market, with a good current pipeline of projects. Solar projects are also available in the south of the country, though only for small volume.



Jonathan Newman-Robson is a Renewable Energy and Carbon Advisory Manager, helping to lead corporate energy buyers towards a realisation of their renewable energy ambitions and with a particular focus on the PPA space, alongside other renewable energy and sustainable energy solutions.

**Source: Svensk Vindenergi*

Local Market Spotlight France

Higher corporate demand for renewable energy sources

Corporates are driving an increased demand for renewable energy in France, for both environmental and price reasons. The end of the current nuclear regulation (ARENH = Regulated Access to Historical Nuclear Electricity), and expected rising wholesale electricity prices due to an aging nuclear fleet, should also lead to an increase in corporate demand for PPAs. Perceived as the most widely used mechanism to benefit from stable electricity prices in France, the ARENH provides lower and lower electricity volumes year-over-year and is set to expire in 2025 for large consumers. In order to anticipate the end of this mechanism, the French Energy Regulator (CRE) itself encourages companies to look for corporate power purchase agreements (CPPAs) as alternatives to the ARENH.

Increase in number of new-build projects

Despite high governmental subsidies for renewable projects, we can see the number of projects for CPPAs is increasing and maturing in terms of proposed pricing structures. The majority of these are solar projects, with smaller size than in other countries due to the land price. As a result of France's extensive permitting process, most project CODs are quite late (2025 and beyond). In response to the Ukrainian crisis and to more ambitious renewable targets, the French Ministry of Energy Transition will propose in the coming weeks administrative simplification measures to obtain authorisations more quickly and accelerate the development of renewable energy.

Projects coming out of subsidies: a growing business for renewable producers

As 20-year subsidies for wind power start to expire, renewable producers are looking for new sources of revenues (merchant, repowering or direct agreements with corporates). There is a high demand for these types of projects given the relative lack of renewable projects available for corporates in France and the scarcity of French GOs that can be linked to physical delivery. As only non-subsidised renewable assets can directly issue GOs (all subsidised GOs are being retrieved by the French State), these new type of offers are an opportunity for renewable producers, as well as for buyers looking to procure renewable electricity in France from a specific asset.



Karine Petat is a Renewable Energy and Carbon Advisory Senior Consultant, helping corporate energy buyers achieve their renewable targets. She conducts financial analysis of offsite and onsite PPA offers and leads relationships with European utilities and renewable energy projects developers.

It is important to note that participation in these markets can also expose corporates to risk. Interested in exploring France's PPA market? [Contact our local market experts.](#) Past performance is not indicative of future results. Hypothetical performance results have many inherent limitations. No representation is being made that any program will or is likely to achieve profits or losses similar to those shown. Swaps, futures, and options trading involve significant risk of loss and may not be suitable for everyone. Therefore, carefully consider whether such trading is suitable for you in light of your financial condition.

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LEARN FROM OUR EXPERT:

The importance of stakeholder engagement early in the PPA process

Why is it important for all the key stakeholders to be involved from the start of the PPA process?

Corporate requirements for renewables can differ widely, so PPAs need to be tailored to very specific needs and preferences. The participation of the company's key stakeholders (including sustainability, procurement, finance, treasury, accounting, legal, communications, etc.) from an early stage of the PPA process is fundamental to build a bespoke RFP.

In our work with clients, we always ensure that different stakeholders are made aware of and understand how the PPA process works, as well as the different options for term length, pricing structure, market opportunities, energy load volume, and other requirements. The involvement of the client's different departments is key to capture their considerations and structure the RFP with the relevant specifications.

Moreover, having a broad set of stakeholders involved avoids the risk of project setbacks due to someone leaving or changing roles.

Describe why good internal alignment within the organisation is key for a successful PPA process?

To work in an efficient way and avoid roadblocks, key stakeholders in the PPA process (or who will be impacted by the PPA) need to be aligned within the whole organisation from the start. It's also important to identify the executive sponsors. They are key decision makers and although they are not involved in daily operation, they need to be informed about the progress of the project and help to align the PPA with the requirements of the organisation.

In the current market conditions, there are an increasing number of corporates looking for PPAs. Therefore, once a good project has been identified it is important to move fast to secure it. A good alignment within the client's organisation improves the agility of the decision-making process and allows approvers to be ready to move quickly to avoid losing a project to another offtaker.



Mila Rey Porto is a Renewable Energy and Carbon Advisory Senior Consultant. She works with corporate clients from around the world to identify and evaluate potential PPA opportunities in EMEA.

Hear from Mila about the importance of early stakeholders' engagement for a successful PPA process.

Digital Procurement Tool for PPAs

Zeigo is the digital procurement platform for renewable energy, specializing in the mid-market and physical PPAs, now part of Schneider Electric. The platform integrates technology and human expertise to advance and accelerate clean energy contracting for qualified companies.

The Zeigo platform has primary focus on physical PPAs within an organization's domestic market, helping corporates gain access to over 400 renewable projects within the EU.

Key Trends for Physical PPAs:

PPA prices rise in Europe

H1 2022 has seen an increase PPA offer prices by 7-12% across European markets. The effect of global inflation on commodity prices, shipping and, engineering, procurement, and construction services have led to a greater levelized cost of electricity for renewable energy developers.

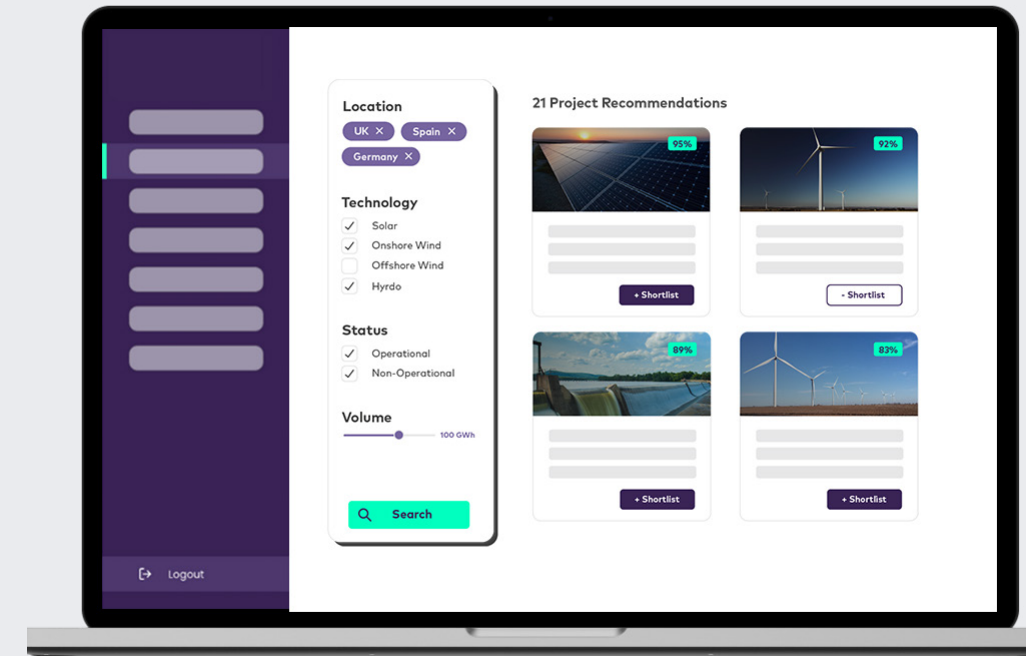
More interest in short-term PPAs

The rise in gas and power prices across the board has heightened corporate interest for shorter-term PPAs. Many are looking to secure a fixed stable cost with an operational asset to fill in the gap before a new-build PPA comes into operation.

New markets are opening up

Countries that have previously been dormant or had barriers to entry for PPAs are beginning to become active. Pressures from the European Commission to meet climate targets have led to markets such as Romania, Slovakia, Switzerland and Austria seeing more demand by corporates for long-term renewable energy contracts and decreasing red tape for PPAs.

Schneider Electric's blend of digital and advisory services delivers best-in-class renewable access to companies of any size, at any stage of their journey.



400 Renewable Projects



Digital Transactions



Operational and New Build PPAs

The platform has gathered over 1,000 renewable energy offers across Europe, submitted by more than 40 solution providers across 9 countries. Powered by data and smart technology, we help buyers connect with both operational and new build projects. Get renewable energy options right-sized to your needs using our digital tendering platform.

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NEO Network

Schneider Electric Sustainability Business

Uncover renewable energy solutions to accelerate company goals

Renewable energy and clean technology are expanding and creating new, economically viable opportunities for corporate buyers. But the market is complex. Energy and sustainability leaders are faced with the challenge of educating themselves and engaging stakeholders, understanding the global market, and finding the right solutions to meet their goals.

NEO Network Accelerator Membership gives corporate buyers free access to expertise and resources that simplify and accelerate cleantech decision-making.

Market Education. By leveraging our NEO Network of leading solutions providers, members are able to access in-depth country reports and explore wind and solar projects across Europe.

Customized Data. Distilled data, detailed resources, and analytics of our custom applications accelerate progress on global new energy opportunities.

Virtual Community. With over 500 corporate members, NEO Network fosters collaboration amongst like-minded organizations to help accelerate renewable energy opportunities.

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Global leader in renewable energy procurement

Schneider Electric Sustainability Business is a pioneering global supplier of renewable energy and clean technology products and services for the commercial, industrial, and institutional (C&I) sectors.

Schneider currently manages more than \$30B in energy spend on behalf of its clients annually, and tracks nearly 130 million metric tons of corporate carbon emissions.

Schneider Electric Sustainability Business currently has the following PPA activity in Europe:

- 17 markets covered in the PPA process
- 50 recent and current PPA processes
- 1,450 MW of advised PPAs since 2020
- 16,000,000+ MWh of renewable electricity currently under RFP

With over 40 experts on the ground covering all key markets, Schneider's cleantech team continues to help companies identify optimal solutions to produce renewable electricity in Europe.

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Solution Provider Opportunities:

If you wish to be included in our developer database, participate in corporate PPA procurement processes, learn more about the NEO Network and its benefits to solution providers, or about our services and how we can partner for increased impact:

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