



E-TALIA

The future of wind and solar

Green energy procurement in Italy

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APRIL 2019

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Renewable energy, especially wind and solar, is now accepted as reliable and highly cost competitive in markets all over the world. Many large and not so large corporate electricity buyers are switching to renewable energy as they see the benefits in economic and brand reputation and sustainability terms. Thus, the volume of corporate power purchase agreements (PPAs) for green electricity globally reached the record 13.4 GW in 2018, more than double the contracted capacity in 2017 when PPAs for 6.1 GW were signed, according to statistics of BloombergNEF (BNEF).

In Europe, Italy has all the necessary ingredients to become a star market for corporate PPAs.

The Italian electricity market – demand & pricing

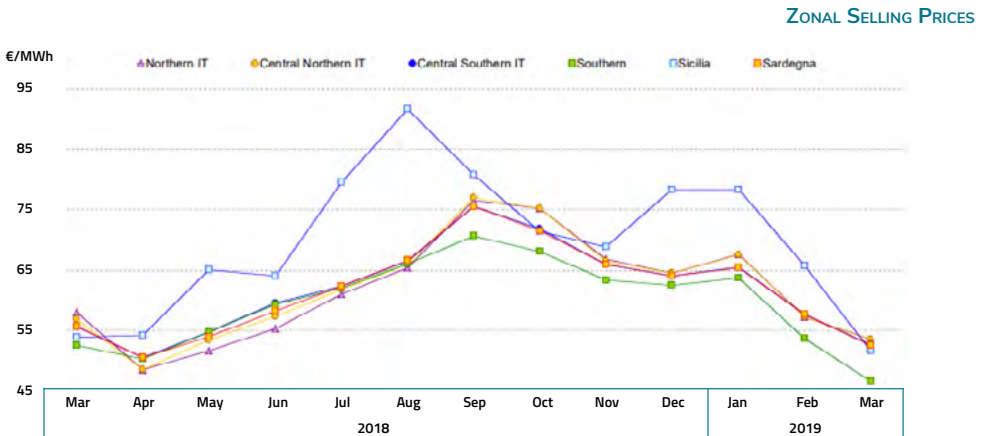
Italy has some of Europe's highest electricity prices as a significant percentage of demand is covered by thermal generation. Hence, prices on the Italian electricity market are heavily influenced by the price of fuel and the CO2 emission rights.

The average monthly single national price (Prezzo Unico Nazionale, or PUN) in Italy's wholesale electricity market IPEX stood at EUR 52.88 per MWh in March 2019, a bit lower than last years' average thanks to lower gas prices and less demand, compared to a year earlier, data by the Italian electricity market operator (Gestore dei Mercati Energetici SpA, or GME) shows

On the other hand, the average PUN price in each month of 2018, except for January, has been higher than the average price of the last five years for the corresponding month, energy forecasting company AleaSoft has calculated. The average monthly prices for 2018 are given in the graph below. In green you can see how prices moved in the first quarter of 2019.



Zonal prices within Italy also vary but the island of Sicily nearly always has the highest price.



The forward electricity market currently sells baseload at prices ranging from EUR 54.39/MWh for May to EUR 67.54/MWh for the last quarter of 2019.

Renewable energy LCOE in Italy

Compare these prices to the latest data by research firm BloombergNEF (BNEF) on the levelised cost of electricity (LCOE).

According to BNEF, the global LCOE for onshore wind has declined by 10% to USD 50 (EUR 44) /MWh and that for solar photovoltaic (PV) has decreased by 18% to USD 57 (EUR 50.4) /MWh for projects entering the construction phase in early 2019.

Due to the complex regulatory framework, the LCOEs for projects in Italy, as estimated by Milan-based consultancy Althesys for 2018, are higher, at EUR 61.5/MWh for wind power while for PV power plants the LCOE is estimated at EUR 68.5/MWh for commercial installations and EUR 58.8/MWh for utility-scale power plants, very close to current wholesale prices in Italy.

So, price-wise, renewable energy procurement makes sound economic sense in Italy, even if we take out the low-carbon component in terms of climate change awareness and adaptation. This observation is confirmed by the recently released IREX annual report about trends and strategies of the renewable energy industry in Italy.

Green energy procurement – the customer perspective

The IREX analysis shows that 23% of the top 100 Italian companies in terms of annual turnover currently use only renewable energy, while about 35% cover more than half of their consumption with energy from renewable sources. Large consumers from the energy-intensive and food industries and big IT players are increasingly choosing green energy procurement. Even retail consumers are increasingly focusing on renewable energy and self-consumption, thanks to the spread of community projects and aggregators.

Overall, Italian investments in renewable energy, both in Italy and by Italian companies abroad, are estimated at EUR 11.3 billion for a total capacity of 10.8 GW in 2018, down 16% year-on-year but still well above the figure for 2016. Wind power accounted for 62% of the capacity and 48% of the value, with more than half of the installations taking place abroad. Photovoltaic energy sliced a 31% share of the capacity and 37% of the investment value. Hydro power investments fell 5% on the year while biomass, mostly thanks to biomethane incentives, rose 7% on the year.

“A new vision of renewables is emerging, passing from a “push” logic by policy and incentives, to a “pull” state, where consumer demand, large and small, will drive the development of renewables”, explains the economist Alessandro Marangoni, chief of the research team and CEO of Althesys.

Corporate power purchase agreements (PPAs), utility green tariffs and energy attribute certificates (EACs), mostly in the form of guarantees of origin (GO), are the three most popular renewables procurement options in Italy. For example, Unicredit and Intesa San Paolo SpA, two of Italy's largest banks, use a combination of mainly buying GO-certified power and self-consumption schemes to achieve a renewable energy share of about 70% in their annual electricity consumption.

Italian oil and gas major Eni SpA has placed its bet on self-consumption as a leading green energy procurement strategy. Its subsidiary Eni New Energy SpA started construction of a 31-MWp solar power plant at the Porto Torres industrial site in Sassari, Sardinia in February this year. The project is part of the Progetto Italia initiatives launched by Eni in 2016 for installing 220 MW of solar panels on 400 hectares across 12 different regions in Italy by 2021.

Porto Torres will be the second plant built in Eni-owned industrial areas in Sardinia following the construction of the Assemini plant (26 MW), which was completed in 2018. About 70% of the energy produced every year, approximately 51 GWh, will be used by the companies operating at the industrial site at Porto Torres just as the Assemini solar panels power the salt treatment process for the Ing. Luigi Conti Vecchi company, covering approximately 70% of its total energy consumption.

The first system launched under Progetto Italia was a 1-MW photovoltaic system installed to power Eni's Green Data Center in Ferrara Erbognone.



Although the Italian PPA market is still in its infancy, it promises to develop fast in the years to come, as part of a rapidly growing international interest in this form of green energy procurement.

government wants to promote PPAs between renewable energy investors and parties that want to buy power from them as a way to boost green energy investment without state aid. A study has been launched to look into the legal, regulatory and technical aspects of the widespread use of PPAs. The plan is for the Electricity Market Authority (Gestore dei Mercati Energetici S.p.A, or GME) to launch a platform to facilitate long-term PPA signing for power generators that do not receive incentives. Details are expected to be announced later this year.

For now, a little over 800 MW of corporate PPAs for power from renewable energy sources have been announced in Italy since the start of 2018.

The pace of announcements quickened in the fourth quarter of 2018 and the first quarter of 2019 when the largest so far framework PPA agreement has been signed between Danish developer European Energy and the Italian unit of Swiss utility Axpo.

“The length and the price of the agreement ensure bankability, which will allow us to realise substantial parts of our Italian project pipeline,” said Knud Erik Andersen, CEO of European Energy.

Major corporate PPA announcements are summarised in the table below.

Time of contract announcement	Seller	Offtaker	Capacity (MW)	Source	Location of asset	Tenure (years)	Start of electricity supply	PPA structure
January 2019	Audax Renovables SA	BAS FV Italia SL	20	solar	Basilicata region, southern Italy	10	Q4 2019	fixed price
November 2018	European Energy	Axpo	300	solar	N/A	12		framework
December 2018	Octopus	EGO Group	63	solar	Montalto di Castro, central Italy	5	2018	fixed price
December 2018	Octopus	Shell Energy Europe	70.5	solar	N/A	5	2019	fixed price
December 2018	Canadian Solar	TrailStone GmbH	17.6	solar	Sicily, Italy	10	Q2 2019	fixed price floor
December 2018	Glennmont Partners	Centrica	315	wind	Southern Italy and Sicily	1	2019	N/A
April 2018	Octopus	EGO Group	40	solar	Sardinia, southern Italy	5	2018	fixed price
February 2018	Engie	Wienerberger	N/A	solar	N/A	N/A	Q1 2018	fixed price

While the fixed-price nature of PPAs does provide the buyer with some protection against long term increases in electricity prices, in reality, market prices fluctuate hourly and daily, depending on production, which creates near-term complexity and risk.

As the Italian market is headed into a lower-subsidy future, developers will probably need to take on an increased share of risk and apply new PPA structures such as proxy generation and aggregated PPAs to attract smaller C&I companies, with less buying power than large technology firms or multinational companies.

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