



November 7th, 2018

# Market Parity and Grid Parity Opportunities in Italy

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In the Italian bill of electricity there are 4 components proportional to the energy consumed:

## energy price (servizi di vendita)

Dispatching (6.7) (Terna notice dated September 17th 2018)

Energy (76.3) average national price September

## Network services

Distribution (5/6) (ARERA 882/2017)

Transmission (6.6/7.1) (ARERA 883/207)

Metering proportional to consumption only for electromobility and public lighting

## General system charges

Support to the renewables (47.6/51.7) (ARERA 359/2018)

Other (temporary 0)

## Taxes

Excise (12.5) (Law 504/1995)

Vat 10/22 % of components above

# What if client self-produce?

The Client that purchases a plant for its self-consumption bears the investment cost but saves for energy self-produced:

energy cost (about 76 Euros/MWh) +

Dispatching cost (about **6.7 Euros/MWh**) +

Charges and fees proportional to the consumption of energy (60 Euros/MWh for medium and low tension business clients)

Excise taxes (12.5 Euros/MWh)

For a total saving at current values of about **155.5 Euros per MWh if he self-produces**

**in case the investment is performed by a third party that sells the energy produced on the roof through PPAs, excise is not saved, whilst excise is saved if the investor leases the plant to the client**

Please note that the above assumptions are variable:

- (i) Energy is a market value
- (ii) Dispatching is noticed on a quarterly basis in a notice by the Transmission system operator
- (iii) General system charges are quarterly determined by ARERA the regulatory agency;
- (iv) Transmission and distribution costs are fixed yearly by ARERA

Excise and VAT are not variable

# What if clients requests PPA?

## PPA with direct line

Investor builds PV Plant and sells energy exempted from the fees on the energy taken from the grid (except for excise) at a discounted price

For example

5% about of discount on energy value Euros 76.6 MWh +

15 % about on the taxes and fees saved (including dispatching but excluding excise) on energy self-consumed (currently taxes and fees saved are about Euros 66.7 MWh)

**Total revenue of the investor about 129 Euros MWh**

**Total saving of the Client about 14 Euros MWh**

# What if Client requests a lease?

## Lease

Investor builds and leases to the Client a PV Plant on the roof of the Client

The energy produced by the Client grants to the Client the saving of the energy self-produced as well of the charges and excise taxes

Cost saved 155.5 discount of 15 %

22.5 Euros per Mwh discount of the client

133 Euros per MWh revenues of the investor

Client shall pay to the investor a fixed fee

Risks for the investor (or of the client depending from the contractual allocation) are the followings:

- (i) Components of the bill of electricity are variable;
- (ii) Law that provides exemption from charges for self-consumption may change;
- (iii) It is difficult to forecast on a long term basis the rate of self-consumption of the client;
- (iv) Risk of bankrupt of the client;
- (v) risk that creditors of the client take possession of the plant being the plant part of the roof,if the investor does not have ownership of the roof;

- (i) Accurate selection of the client;
- (ii) Allocation of risks of reduction of the savings in charge of the client;
- (iii) Unlimited right of the investor to remove the plant at any time;
- (iv) Right of the investor to sell energy to the grid in case of insolvency of the client;
- (v) Obtainment by the investor of a right of surface or long term lease on the roof, where feasible;



# REQUIREMENTS FOR A SELF-CONSUMPTION PLANT (ARERA 578/2013)

- One producer and one consumer must be involved;
- Production unit and consumption unit must be:
  - connected via a private line: **no public grid**;
  - in the same location.
- Production unit must be located in an area in the availability (i.e. owner, tenant) of the customer.

# THE BENEFITS OF NET METERING

## (Resolution 570/2012 of the Energy Authority)

By net metering all energy produced is virtually self-consumed

But:

- nominal power **<200 kW**
- Not available for long term
- Difficult for PPAs

In Italy as incentive is granted the possibility to have for the **tax amortization** of industrial goods a value that is **130%** of the effective value of the investment

New PV Plants have a 9% rate of amortization

# DIFFERENT COMMERCIAL STRUCTURES FOR THE SELF CONSUMPTION

**SELF CONSUMPTION** may be implemented as:

- **Self-Production:** Owner, Manager of the plant and Consumer on site are the same person.
- **Operational Lease:** where the Owner of the production leases to the Consumer on site the production plant for self-consumption.
- **Open PPA (Power Purchase Agreement):** where the Owner (and Manager) of the production plant sells the energy self-consumed to the Consumer on site, and the excess to the wholesalers (or to the pool).
- **Closed PPA (Power Purchase Agreement):** where the Owner and Manager of the plant sell to the Consumer on site both the energy self-consumed and the energy in excess.

## Advantages

- The Client pays only a **fixed rent fee** .
- The Client does not bear financial cost for the investment.
- The Client is not responsible of the technical evaluations and of the maintenance of the plant.

## Disadvantages

- Client could not accept the risk of a fixed price
- Lower securization for the investor (Investor cannot sell energy to the grid in case of default)

# OPEN PPA (excess traded by producer)

## Advantages

- The Client does not bear financial cost for the investment.
- The Client is not responsible of the technical evaluations and of the maintenance of the plant.
- Quantification of the price of energy is absolutely free.
- **Higher securization in case of default, the investor may sell energy to the grid**

## Disadvantages

- Net Metering is not allowed:
- not granted exemption from excise (12.5 euros per MWh not exempted).

## Advantages

- The Client does not bear financial cost for the investment.
- The Client is not responsible of the technical evaluations and of the maintenance of the plant.
- Quantification of the price of energy is absolutely free.
- **Net Metering is allowed.**

## Disadvantages

- **The producer cannot trade directly the energy if the Client does not pay the price of energy.**
- PPA does not grant exemption from excise (12.5 Euros per MWh not exempted).

**Production of renewable energy from large-scale PV plants in Italy is one of the most competitive in Europe.**

Italy combines:

- An exceptionally **high market price of energy** in 2018 (around 76.6 €/MWh in September)
- One of the **highest irradiation values** in Europe.



Italian Law allows **medium/long term PPA agreements.**

The market already offers PPA in between 3 and 5 years.

In any case a entity owned by the Government (GSE S.p.A.) is always available for a dedicated withdrawal, at the **pool price**, of the energy produced.

**Long/medium term PPA** is not necessarily a fixed price, but could also be a small discount in respect of the pool price counterbalanced by a floor and cap price.

**% of debt is based on the safe revenues (i.e. the duration of PPA and the floor)**

To fix a price for a medium long term price higher than the minimum floors could help to have higher debt,

To make this feasible are necessary both the **development of derivative and insurance instruments** and **trilateral agreements: producer, trader and final client**

In Trilateral agreements key elements are:

- (i) How much the **consumption is simultaneous to the production?**  
Support of storage systems managed by the trader or by the final client may allow the client to have “take or pay” commitments;
  
- (ii) Final client cannot bear the risk to have **energy costs higher than costs of its competitors.** The trader could partially cover the risk of the client. Derivative instruments or insurance products should cover the residual risk.
  
- (iii) **Bankability of the client.**

## Market Price of energy

Switch to other supplier/purchaser in breach of the agreement

Technical risks (lower production)

Unbalancing costs

Transportation cost (equal to the balance between zonal price and national price)

Inflation

# THE NEW ADDITIONAL OPPORTUNITIES FROM INCENTIVES



Incentives will cancel for the investors the risk of bankruptcy of the client in PPA with self-consumption.

If client stops supply of energy, the investor has the alternative revenue of incentives at **fixed value (between 65 and 70 Euros per MWh) for 20 years.**

Please note that these incentives are not applicable to the PV plants on agricultural land.

For plants on agricultural land a platform for the exchange of demand and offer for long term PPA will be implemented



# Thanks for your attention

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