Merger & Acquisition

Project Finance

Strategic Advisory

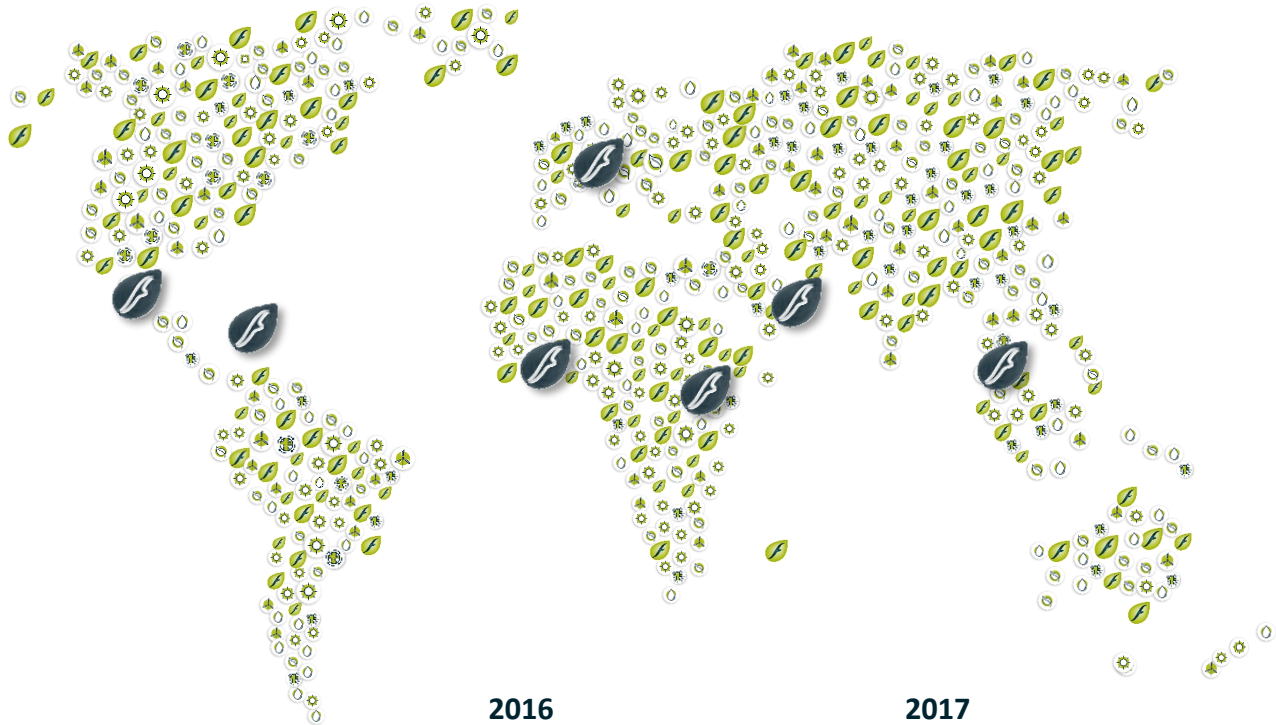
OFATE INTERSOLAR

Business model evolution – Solar PV power plants

16 of May 2019

OUR INTERNATIONAL OUTREACH

PRESENCE ACROSS FOUR CONTINENTS THROUGH OFFICES IN PARIS, ABIDJAN,NAIROBI DUBAI, SINGAPORE AND MEXICO



2013

FINERGREEN
32 rue de Paradis
75010 Paris
France

2016

FINERGREEN AFRICA
2 Plateaux, Rue des Jardins
Cocody, Abidjan
Ivory Coast

2017

FINERGREEN ASIA
541 Orchard Road
#09-01 Liat Towers
Singapore 238881

2018

FINERGREEN MENA
P.O. Box 931 033
Dubai - UAE

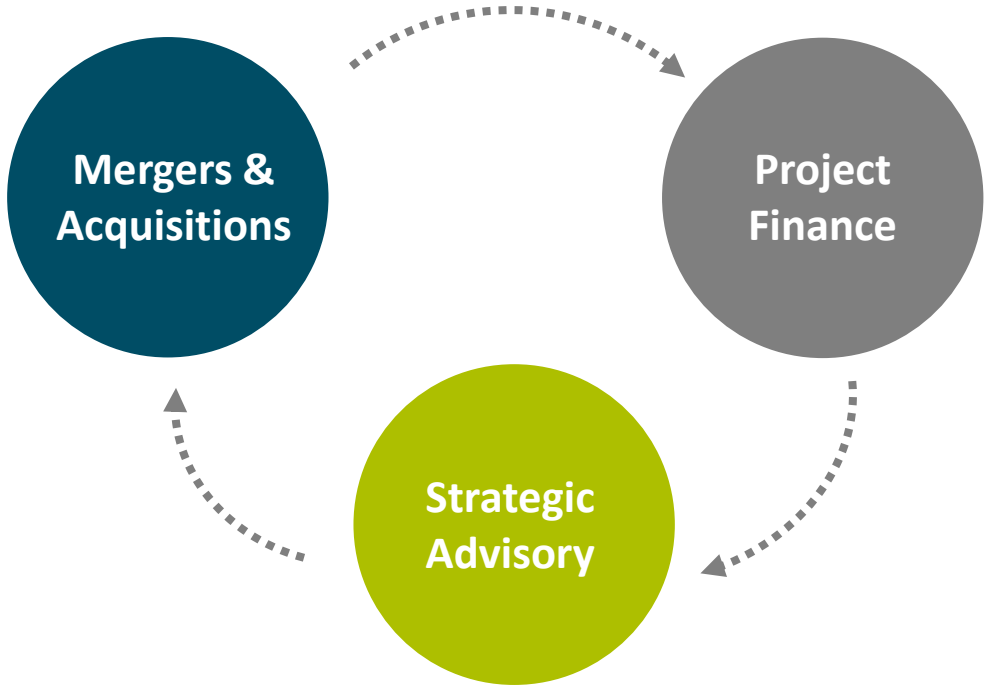
32, rue de Paradis – 75010 Paris
www.finergreen.com

OUR MISSION

*WE ARE A TEAM DEDICATED TO **FINANCING THE ENERGY TRANSITION.** THANKS TO A UNIQUE POSITIONING IN THE MARKET, WE OFFER A **TRIPLE EXPERTISE** TO SUPPORT OUR CLIENTS.*

MERGERS & ACQUISITIONS

FINERGREEN is a specialist in the bid management of acquisition processes , both for buy-side and sell-side transactions. Our project team (either on greenfield or brownfield assets) also operates on equity financing operations, which are key steps in the growth journey of companies operating in this sector.



PROJECT FINANCE

A renewable energy project is highly capital intensive. Its financing requires the establishment of long term finance agreements with banking institutions. FINERGREEN has deep expertise in such contracts, which enables us to determine the most suitable legal and financial structure for each of these transactions..

STRATEGIC ADVISORY

Whether public or private, clients who make the energy transition happen are constantly evolving.
We help these clients adapt to market changes, which often requires changing their business models.
Additionaly, we also execute high value-added missions such as independent valuations, financial audits, etc

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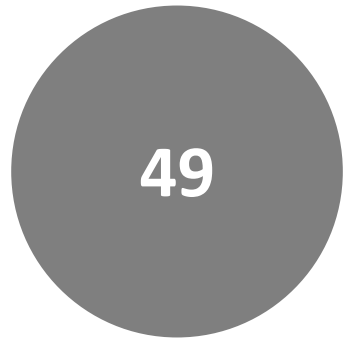
Our Credentials

*Accross our different offices, we helped our clients on a significant number of **transactions**. Here are a few **key figures** about our credentials in the solar, wind, hydro and biogas industries.*

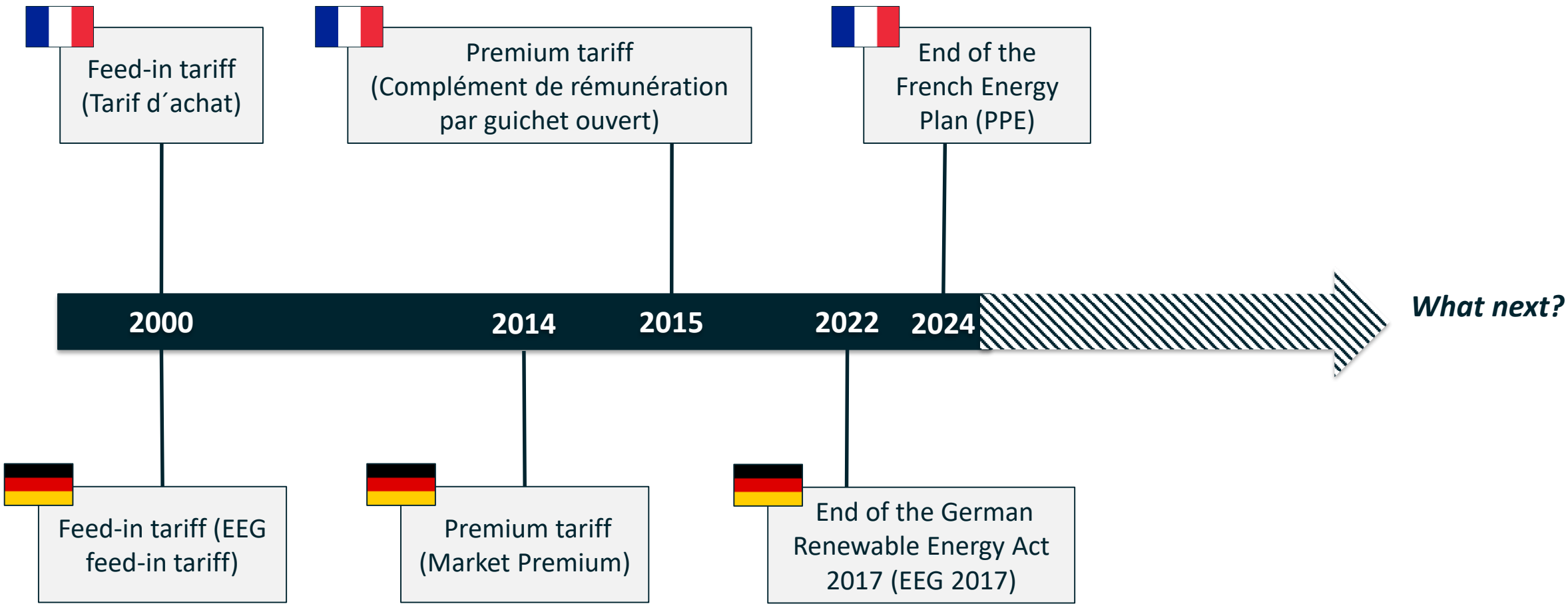
Transactions cumulated amount

Transactions cumulated capacity



Countries we were active in

REGULATORY FRAMEWORK



MECHANISMS OVERVERVIEW

CLASSIC MECHANISMS

- ***In Europe, three main traditional government schemes are implemented:***

1. Feed-in Tariffs
2. Feed-in Premium
3. Green Certificate

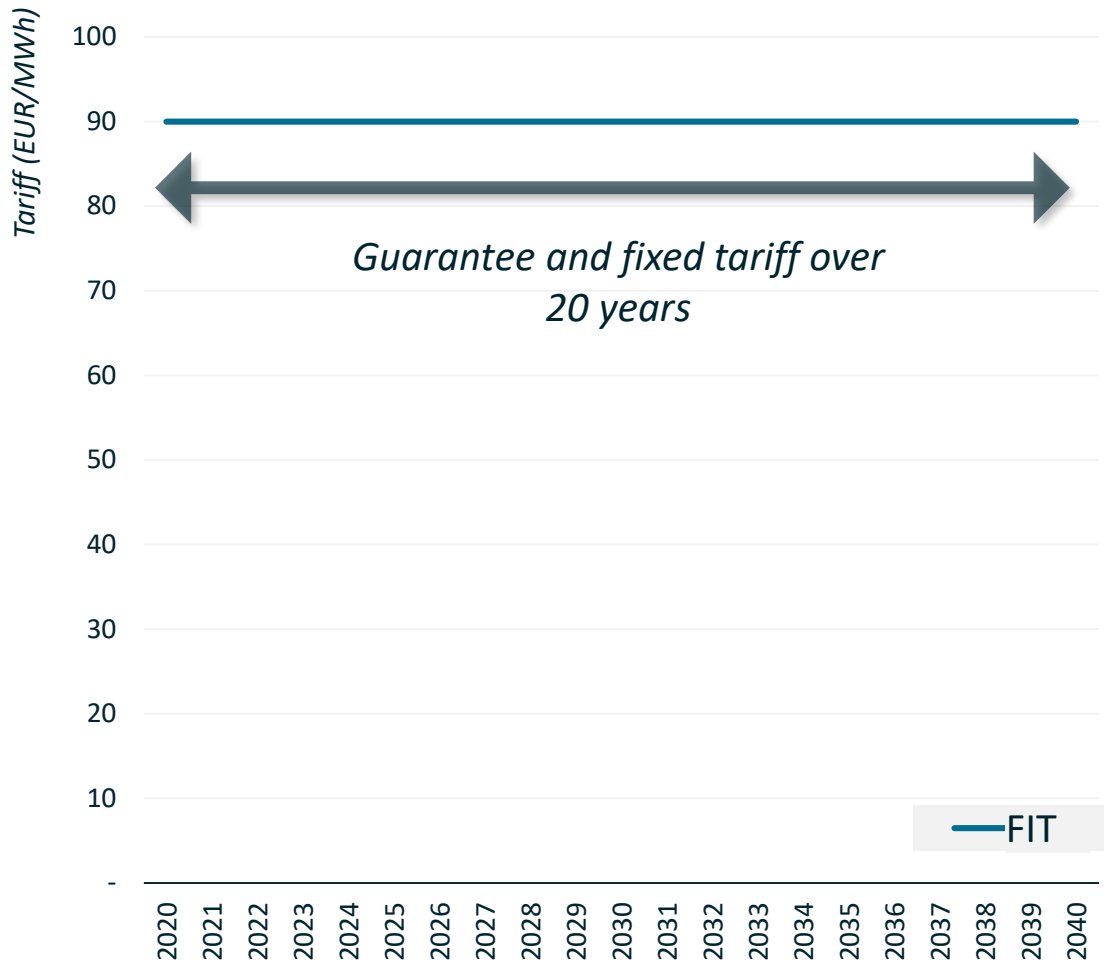
NEW MECHANISMS

- ***Other mechanisms, different from traditional government schemes, are available for investors to provide reliable cash flows:***

1. PPA
2. Merchant

SUPPORT SCHEME : FEED IN TARIFF

TARIFF SHAPE



MOST COMMON SUPPORT SCHEME

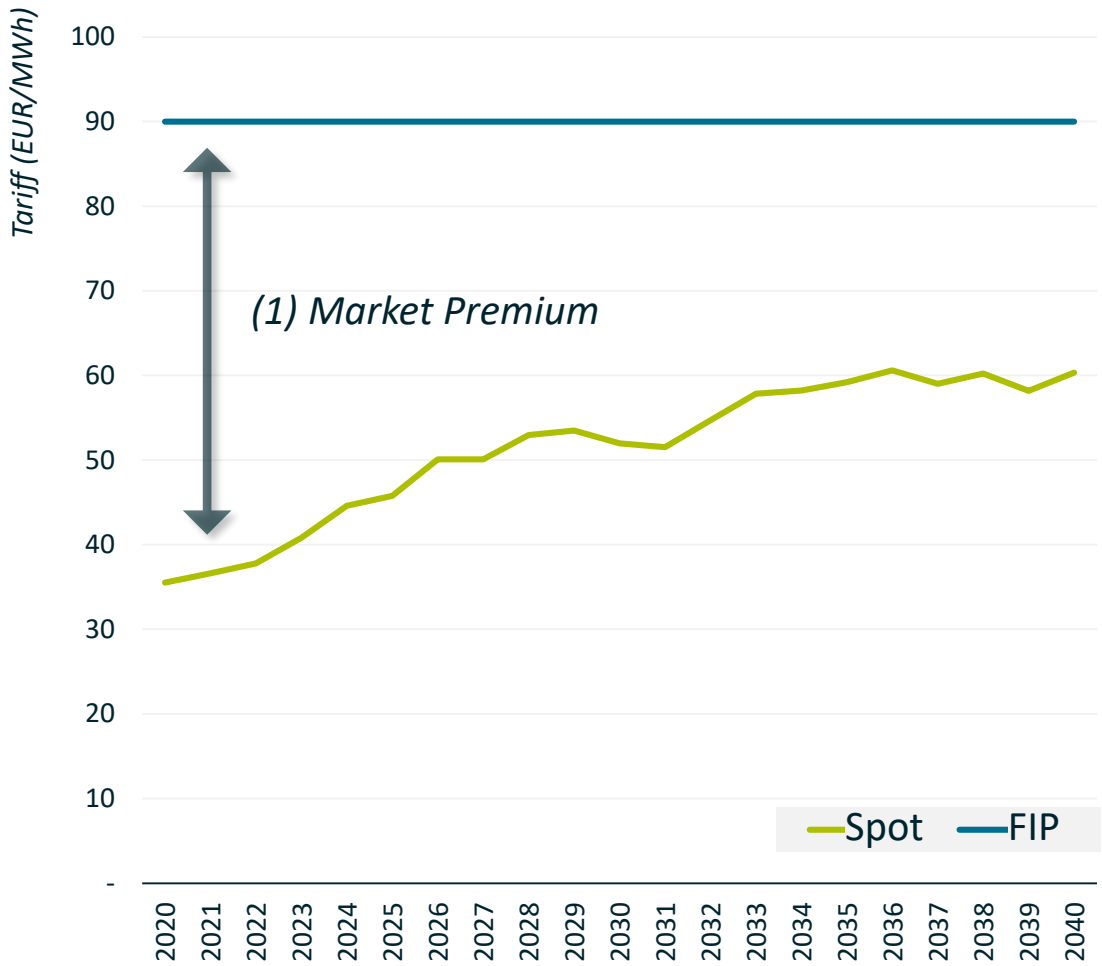
- **Feed-in tariffs** (FIT) are fixed electricity prices paid for the production of electricity injected into the electricity grid.
- The payment of the Feed-in tariff is guaranteed by the government for a period of time set in advance, that is often related to the economic lifetime of a project, usually **between 15-25 years.**

ADVANTAGES

1. **Simple** renewable energy system policy instrument.
2. **Long-term contracts guaranteed** by the government, allowing to reduce investment risks and financing costs.
3. Contributed to the development of the renewable energy market development.

SUPPORT SCHEME : FEED IN PREMIUM

TARIFF SHAPE



DEVELOPMENT OF NEW SUPPORT SCHEME

- **Feed-in premiums** (FIP) have been introduced in Europe a few years ago as an option to the FIT schemes.
- Under a feed-in premium scheme, electricity produced is sold on the **electricity spot market** and the producers receive a **market premium** (1) set in advance on the top of the market price, for a period of time set in advance.

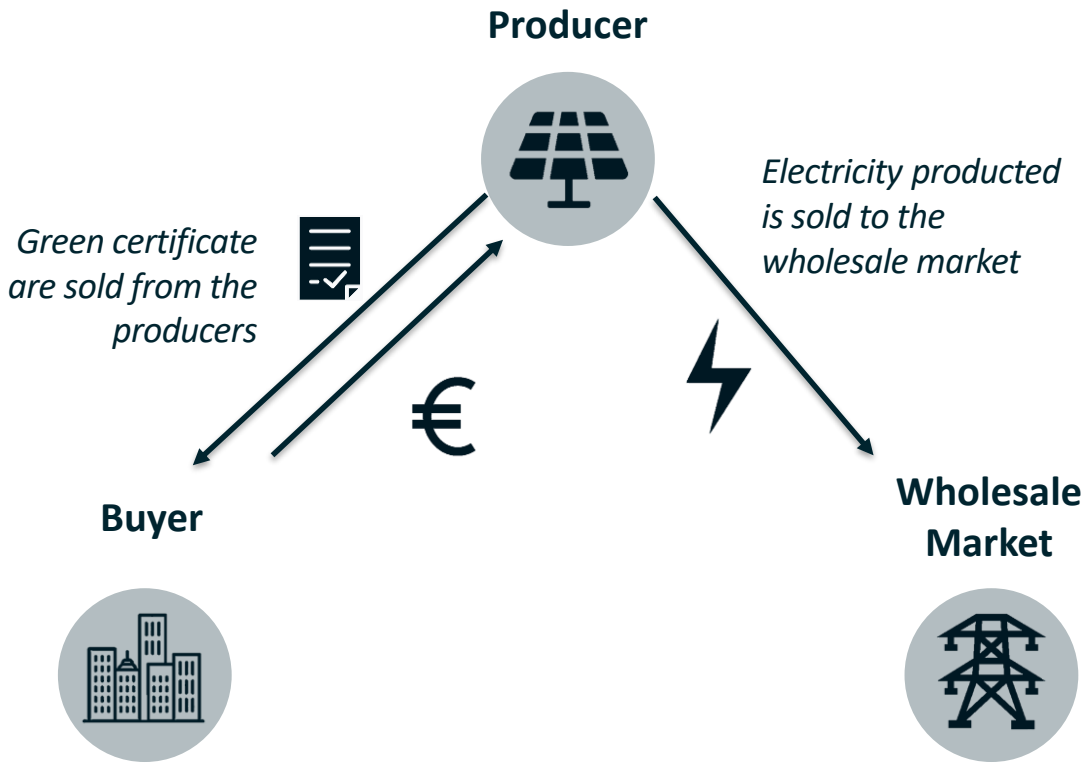
ADVANTAGES

1. **Contributed to incentive developers.**
2. **Market price risk is reduced**, at least a tariff similar to FIT is guarantee to producers.
3. Contributed to the **development of the renewable energy market**.

GREEN CERTIFICATES

GREEN CERTIFICATE FEATURES

- Green Certificate is an **asset traded** which attests that electricity had been **genereted from renewable energy ressources.**



DEVELOPEMENT

- They are traded because some supplier are required to have a minimum of renewable resources by the government.
- In Europe, some countries implemented green certificate policies as Belgium, Sweden of UK whereas others decided to remove it, as Italy which replaced it by the FIT.

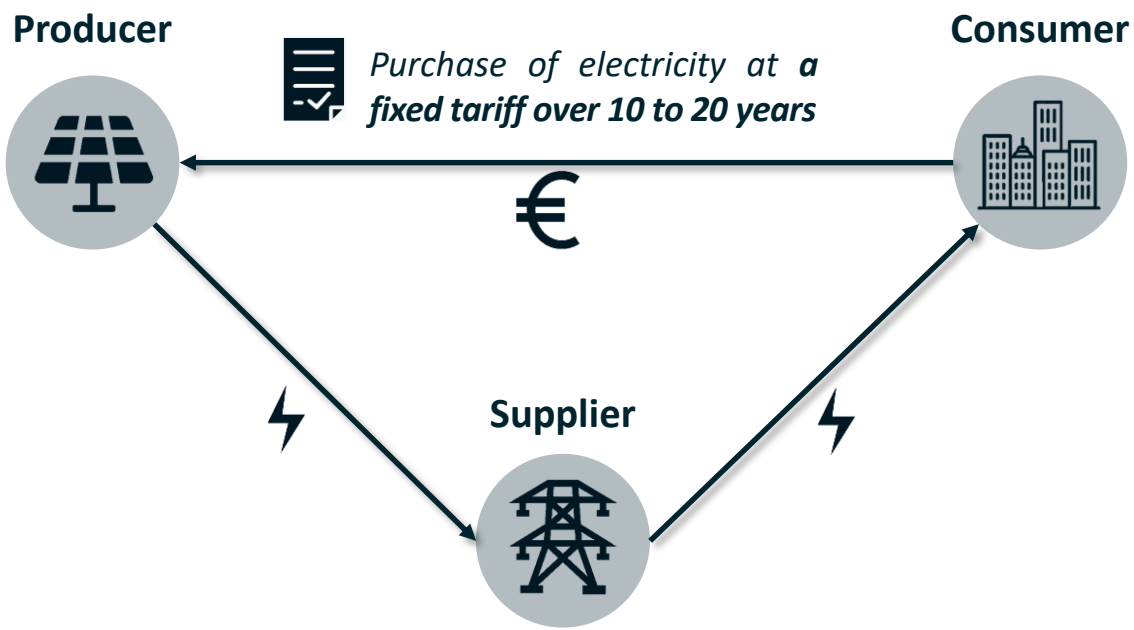
ADVANTAGES

1. Good option for **small company** to decarbonize their power consumed.
2. Support the renewable energy market by offering additional revenue to producer.
3. Contributed to the **increase of the renewable energy capacity.**

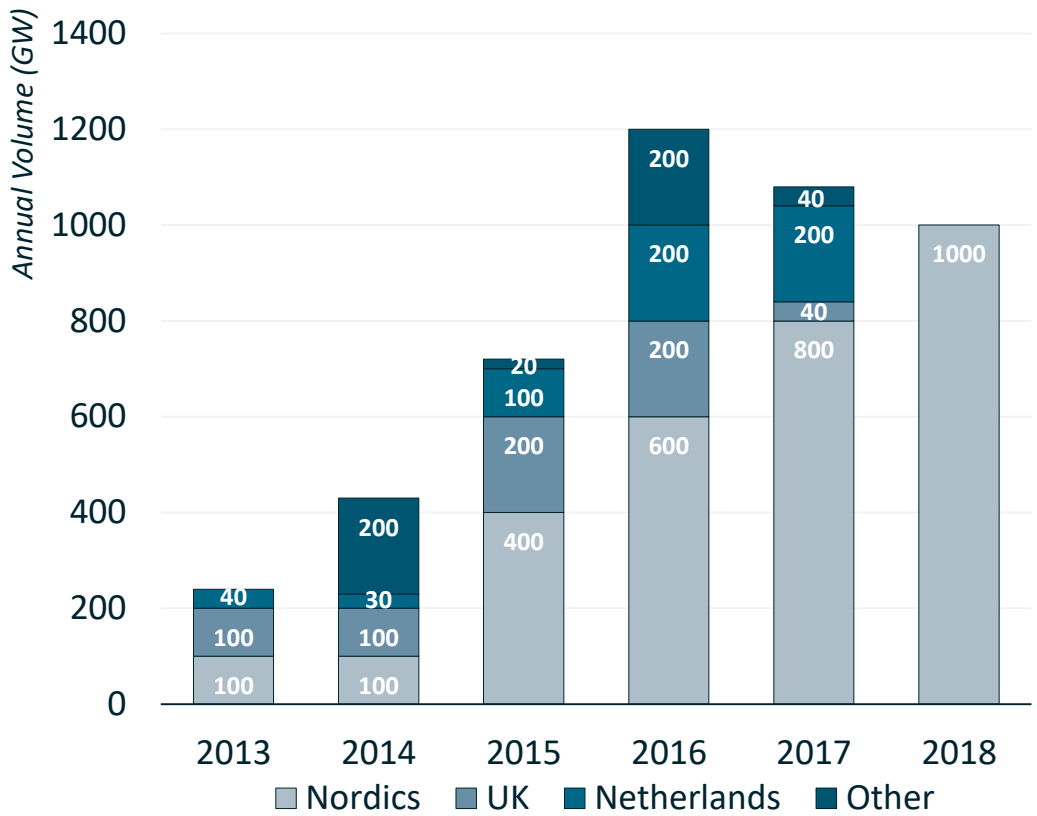
POWER PURCHASE AGREEMENT (1/2)

PPA DEFINITION

- Corporate PPAs emerged as a new trend over the last years: **electricity-intensive industrials aim to enter in a purchase agreement with a fixed tariff over 10 to 20 years with renewables operators**.



NEW COPORATE PPA IN EUROPE

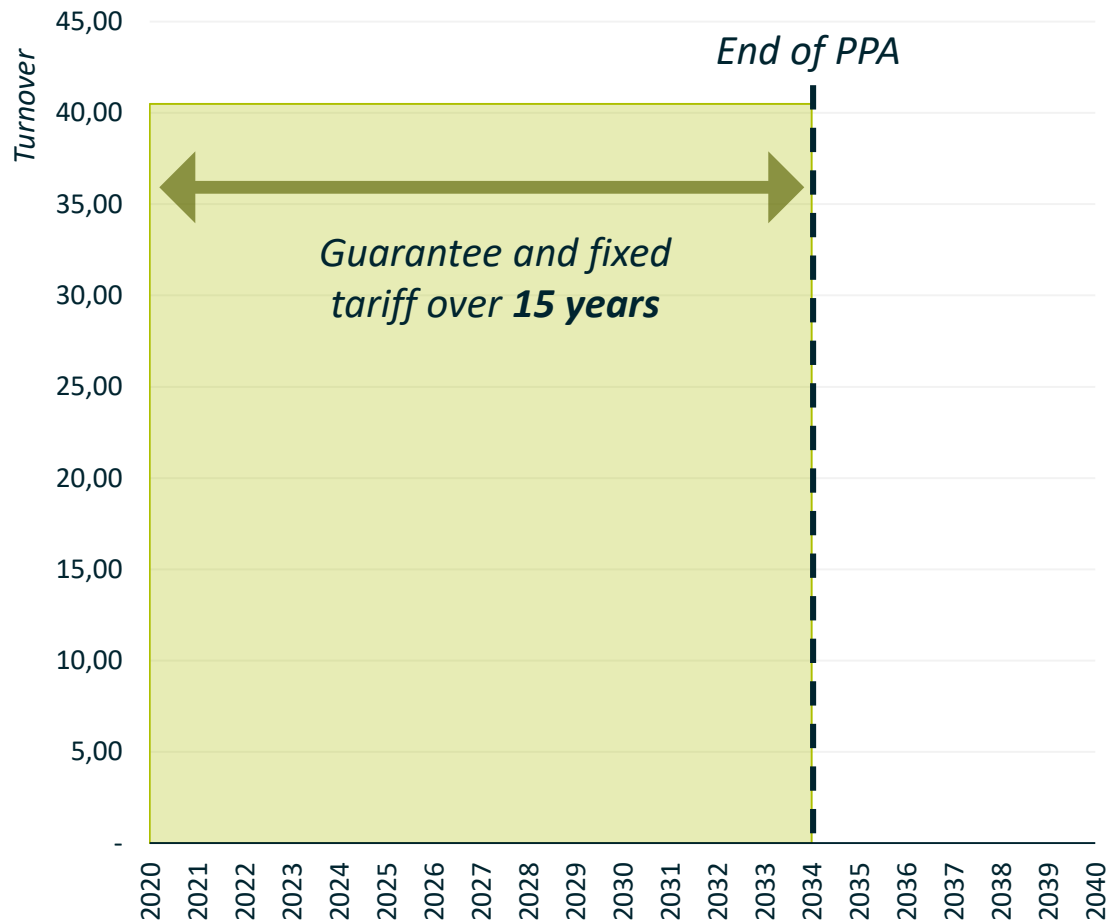


- These PPAs framed about 5,600 GW of renewables capacity in 2017 and 8,700 GW in October 2018.

Sources : Bloomberg New Energy Finance

POWER PURCHASE AGREEMENT : VINE FARM SOLAR PARK (2/2)

TURNOVER SHAPE



OPERATION

- **BayWa r.e.** built in 2016 **46 MW** solar plant in the UK.
- **In May 2016**, the developer signed a PPA with **Nationwide Building Society,** allowing the sale of power generated by the park at a fixed price for a period of **15 years**.

TRANSACTION FEATURES

Debt
2 loans for a total of **54,2 m** USD

Maturity
4,5 and **17 years**

D/E ratio
70/30

Source : Inframation News

MERCHANT (1/2)

MERCHANT FEATURES

- **MAIN DIFFERENCES**

Merchant power plants had two main differences from the other plants :

- Electricity generated is sold to **competitive wholesale market** ;
- **Lower gearing ratio**.

- **RISK EXPOSITION**

Therefore, those differences involve other kind of risks linked to:

- **Volume or demand** of the electricity sold;
- **Price of the electricity** sold, the electricity price is indexed to the spot market.

CURRENT DEVELOPMENT IN EUROPE

- Places with high solar irradiation in Europe are becoming the early adopter.
- Examples of development of merchant solar projects:

PORTUGAL

WElink and CTIEC **developed together a 221 MW** plant

ITALY

Octopus Energy's will develop **110 MW** of merchant plants across the country

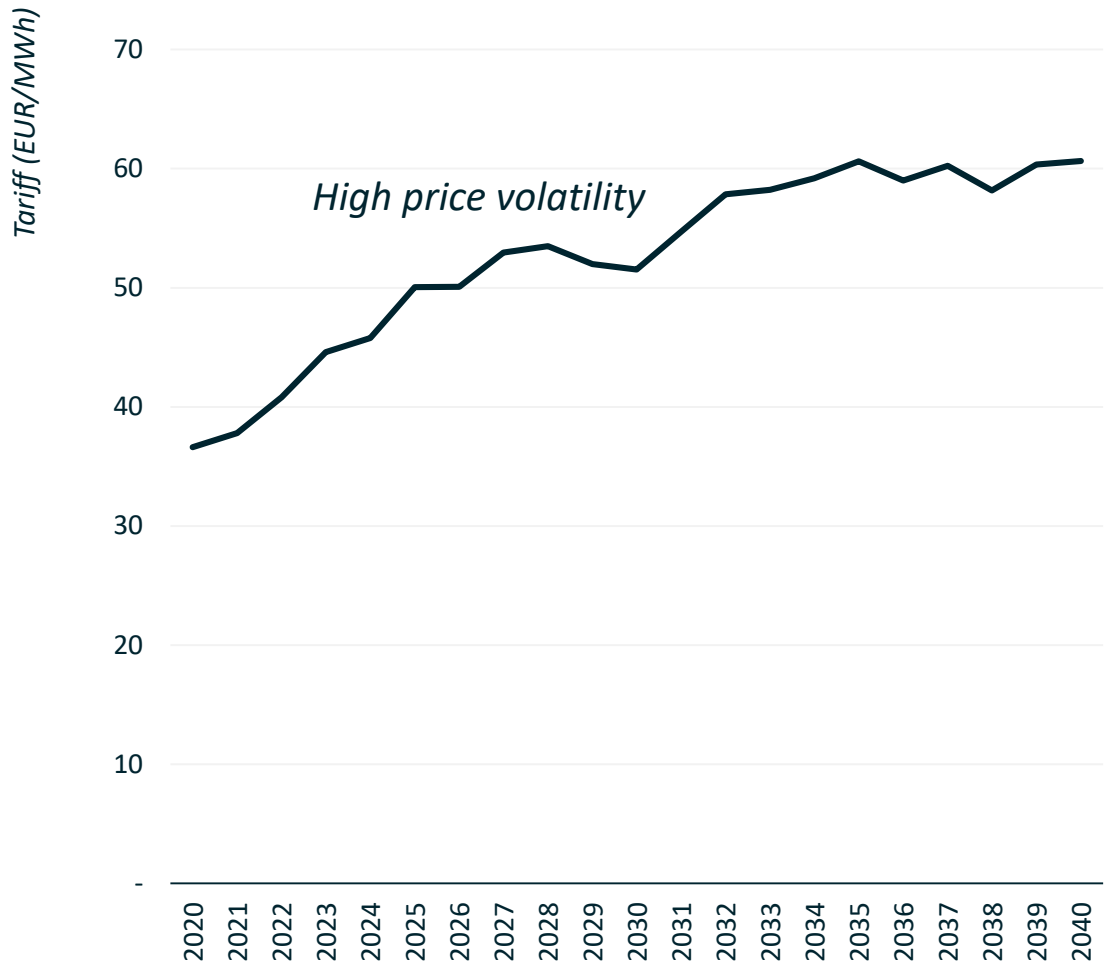
SPAIN

1 GW of merchant solar plants in the pipeline

Source : Solar Plaza

MERCHANT : SALVADOR ATACAMA PROJECT (2/2)

SPOT MARKET TARIFF SHAPE*



** Central Poyry cuve* *Source : Inframation News*

OPERATION: MARKET & PPA

- In November 2015, **70 MW** had been built in the northern Chile. The project is own by three different actors: Etrion, Total and a local developer, Solventus.
- **The Project operated initially on merchant basis,** electricity was sold on the spot market.
- In **2016**, 3 years after the financial closing, to secure a portion of the revenues, **a PPA had been signed for 35% of the production and 15 years at USD 0,10/kWh**.

TRANSACTION

Debt
USD 140 m

Maturity
19,5 years

D/E ratio
70/30

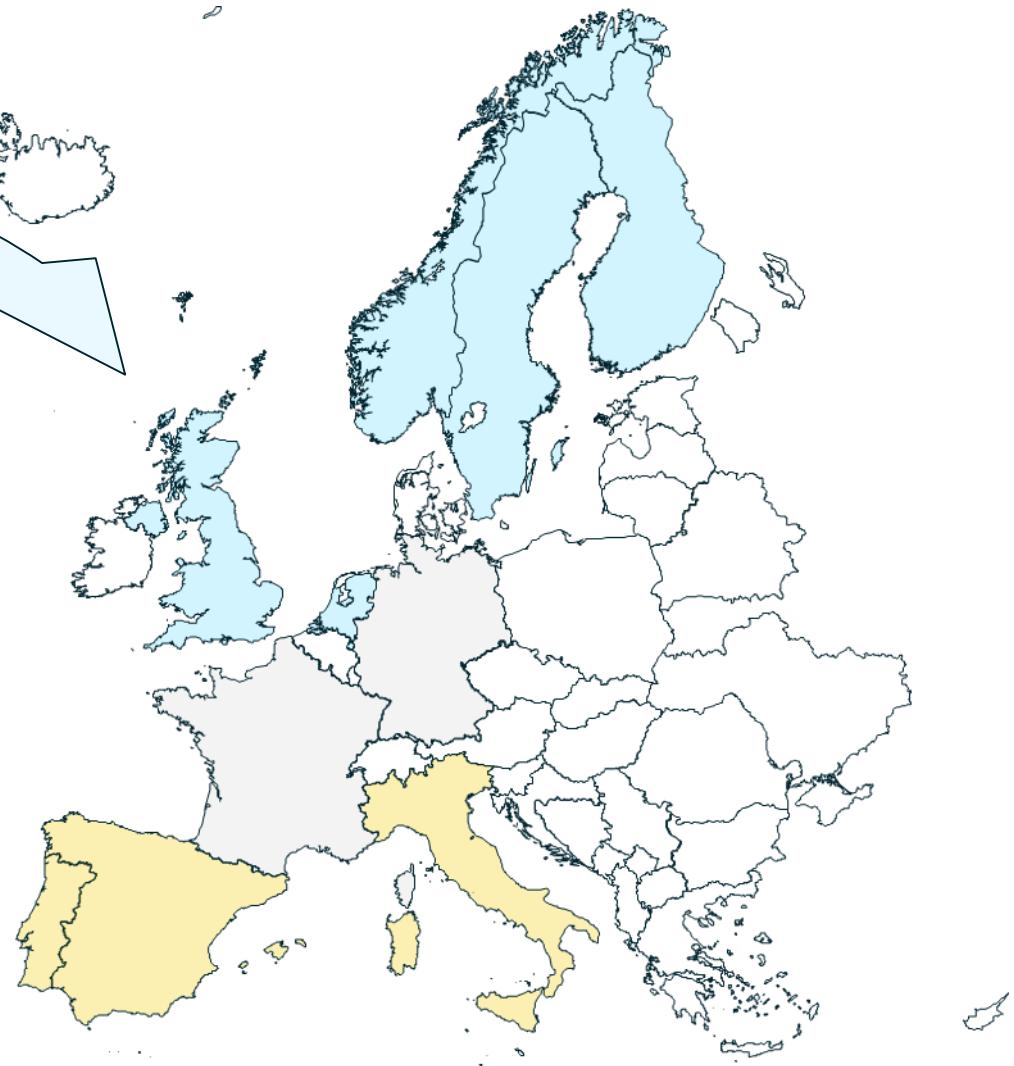
EUROPEAN MARKET

WIND

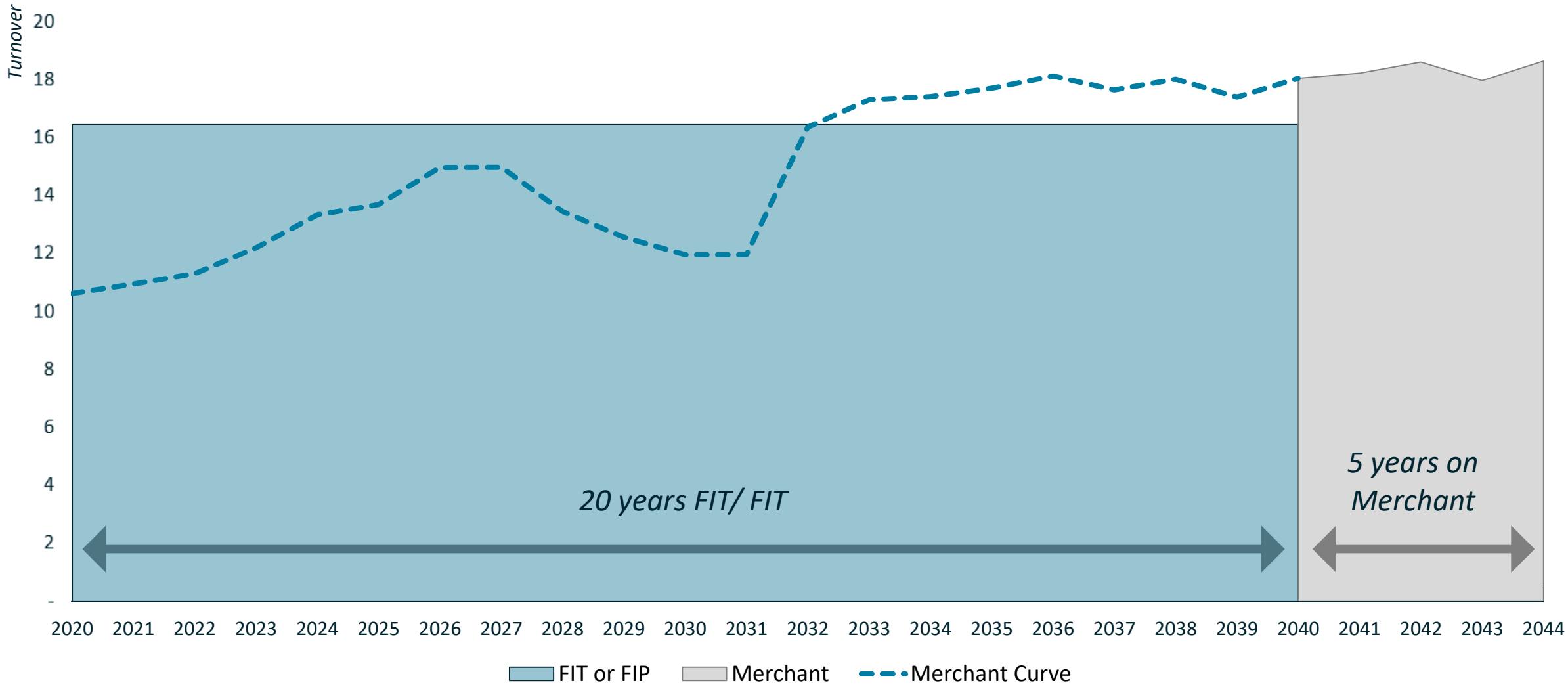
An important **number of large-size wind projects** in **the Nordics, Ireland, the UK** and **the Netherlands** are already operating through **PPA agreements / merchant basis.**

SOLAR

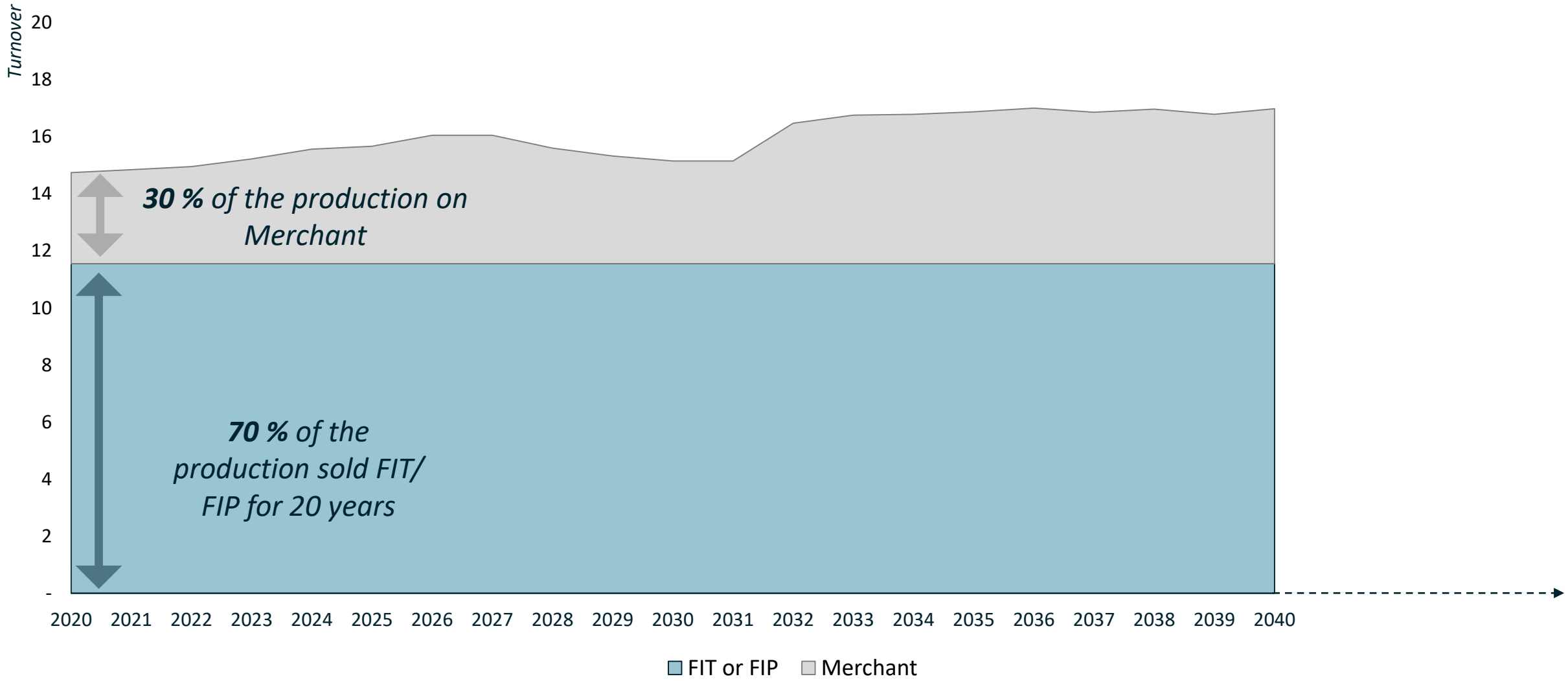
Countries of the south of Europe as Portugal, **Spain** and **Italy,** gather a **huge pipeline of projects** that will be commissioned in the coming years and operating through **PPA agreements / merchant basis.**



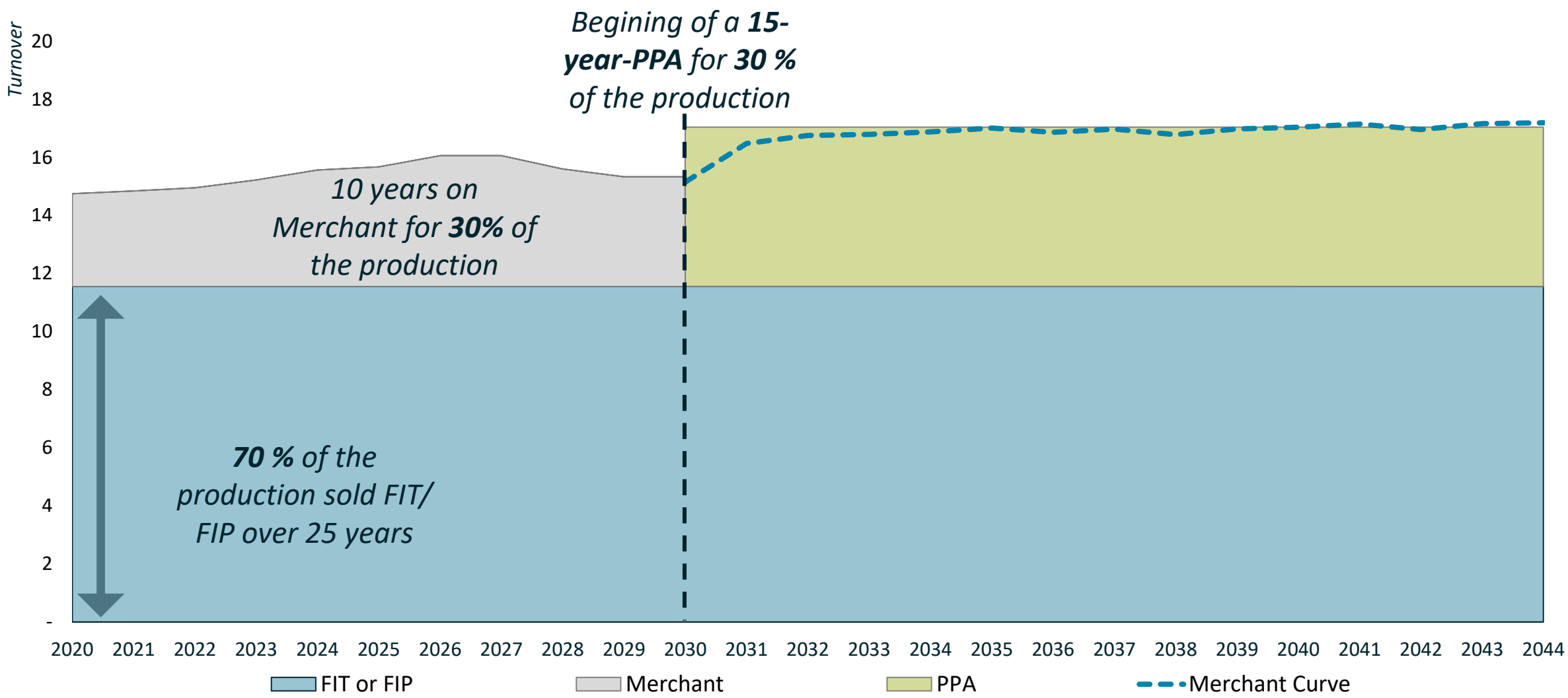
BUSINESS MODEL EVOLUTION: TIME EFFECT (1/4)



BUSINESS MODEL EVOLUTION: VOLUME EFFECT (2/4)

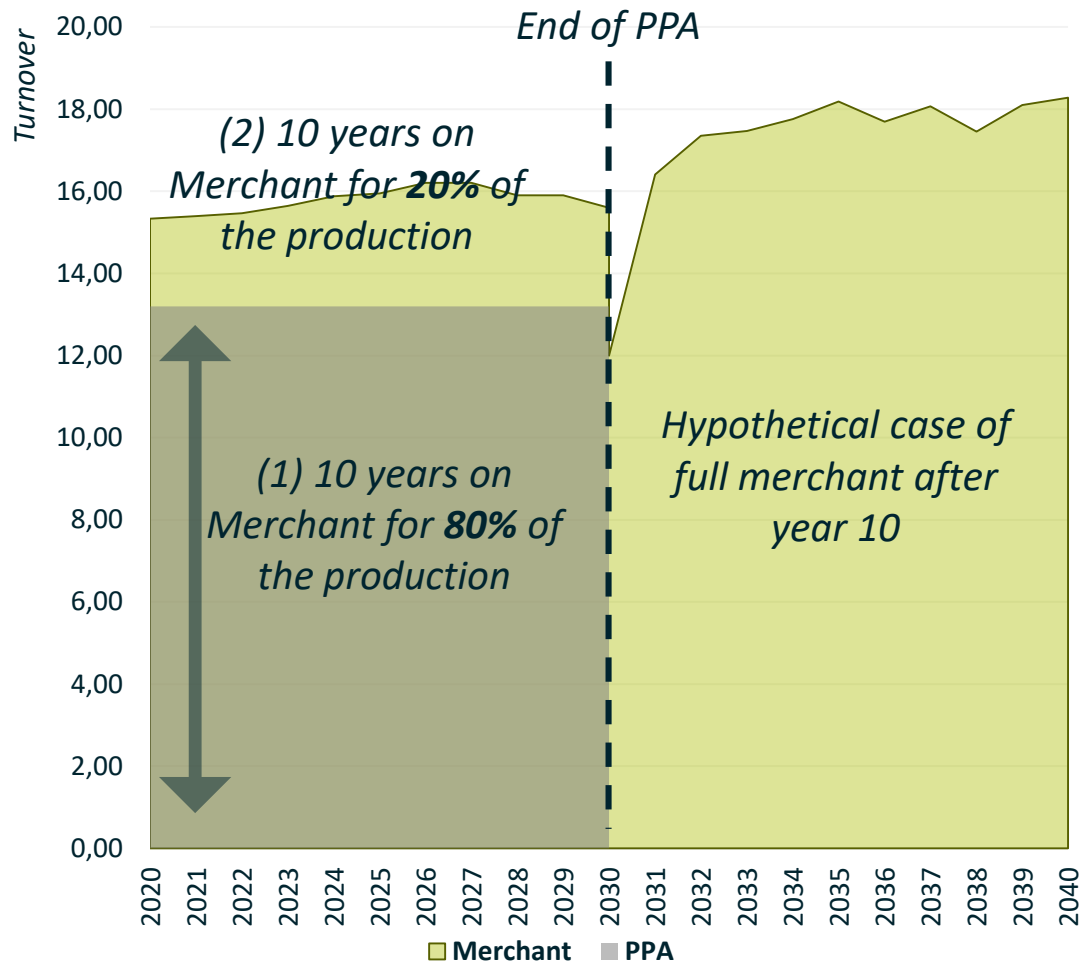


BUSINESS MODEL EVOLUTION: HYBRID (3/4)



BUSINESS MODEL EVOLUTION : TOLASOL SOLAR PROJECT (4/4)

TURNOVER SHAPE



Source : Inframation News

OPERATION

- Ellomay is currently **developing 300 MW** in the south of Spain, planning to be commissioned in 2020.
- The electricity generated is expected to be sold (1) for **80% of the production through a PPA which had been signed for 10 years** and (2) on **the spot market**.
- This PPA hedges the risks linked to fluctuating electricity market prices.

TRANSACTION

Debt
EUR 177 m

Maturity
~ 10 years

D/E ratio
60/40

CONCUSION : KEY LEARNINGS

1	**USE OF PPA** The PPA mechanism has to be employed in a optimized way and through a structured thinking, about the volume and the time of such agreement in order to gain in profitability.
2	**RETURN AND CAPITAL** Two facts can be observed for each ones of the new business models : increase in the profitability first, IRR is increasing because of the risk taken, and then come back of volume of Capital invested, banks exercise caution for riskier transactions.
3	**NEW ROLES AND RESPONSABILITIES** Because business models are becoming more complex, new actors become central for the development of renewable projects such as utilities, aggregators and financial advisors.