



ATA Insights Webinar – Corporate PPAs in a frontier market

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ENGIE TODAY



LOW CO₂ POWER GENERATION

World leader in IPP

103 GW⁽¹⁾ installed

~90% low CO₂

23% renewables⁽²⁾



GLOBAL NETWORKS

European leader in gas infrastructures

12 bcm storage capacity

Objective green gas in France:
100% by 2050

Expertise in power
transmission & distribution (T&D)



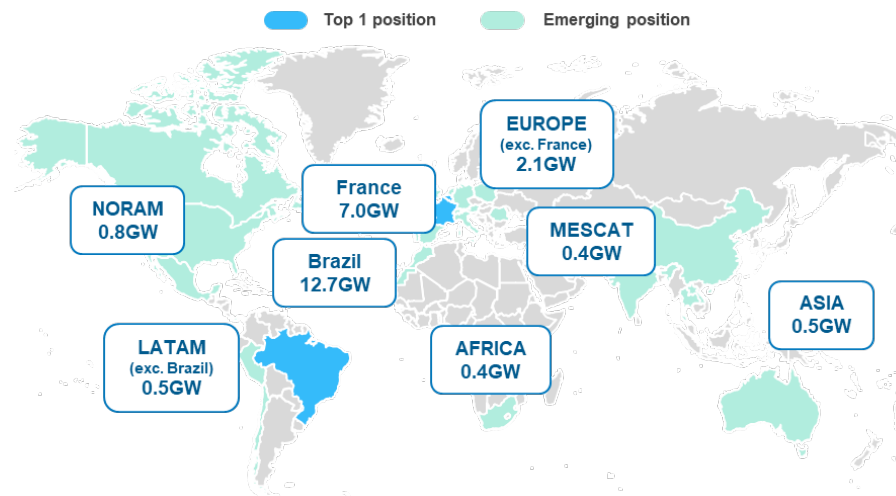
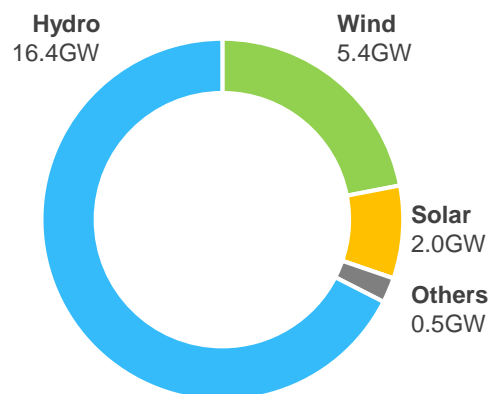
CUSTOMER SOLUTIONS

24 million customers worldwide

Global leader in energy solutions
for cities

+ 250 District & Heating networks
worldwide

Renewable Capacities: 24.4GW
@100%



ENGIE RENEWABLES AMBITIONS

Faster Growth

Target of ~9 GW (100%) to be added over 2019-21

- 3 GW/year, ranking #2 in renewable capacity additions, from 500 MW/year prior to 2019

Tier 1 position in terms of development

Higher Value

Corporate PPA Leader

- 2019-21: Almost 50% of new RES projects linked to client solutions
- 2/3 of new capacities dedicated to clients after 2026

Leader in selected sophisticated technologies (biogas, offshore)

Better Impact

Access to energy

Storage

Cost-efficient renewables

ENGIE DIFFERENTIATING SUCCESS FACTORS



GREEN PPA OFFERINGS



Pie charts filling represent the adequation level between key client priorities and green PPA offerings

(1) RECs: Renewable Energy Certificates

- A corporate power purchase agreement (PPA) is a mid-to-long-term contract under which a business (industrials, cities, schools, hospitals...) agrees to purchase electricity directly from an energy generator. The generator can sell electricity directly to the off-taker using a “physical” PPA (direct wire or sleeved) or indirectly via a grid operator, using a “virtual” PPA (synthetic).

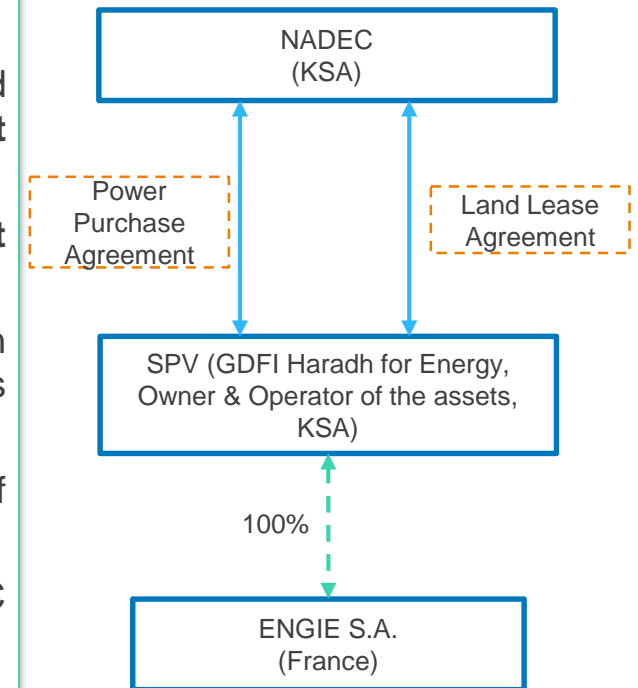
ENGIE CORPORATE PPA REFERENCES

- **Fast development of corporate PPA** : in the US only, 13.4GW in 2018 from 6.1GW in 2017.
- **Driven by commitments by Corporates and local governments** for green energy supply (i.e. 161 companies' members of "RE 100" committed for 100% renewable supply)
- **Supply gradually moving towards 24/7 type offerings**: 100% green electricity – zero carbon – 24 hours a day, 7 days a week.
- Need to match supply & demand by combining various renewable, storage and energy management resources
- **ENGIE is a leading player in corporate PPA markets worldwide, with about 2 GW of capacities developed or under development in eight countries.** ENGIE enables its customers in a variety of different markets to meet their sustainability goals.



CASE STUDY: 1ST CORPORATE PPA IN THE GCC

- Greenfield **30 MWp solar PV facility** in NADEC City, KSA.
- NADEC, is one of the largest agricultural and food processing companies in the Middle East and North Africa. **NADEC's primary energy consumption in NADEC City is essentially met through burning of HFO and LFO in captive diesel generators.**
- This project constitutes a **first utility scale corporate PPA project in KSA with a direct contractual relationship between a developer (ENGIE) and an end-customer (NADEC).**
- ENGIE was successful in developing an extremely competitive proposal thanks to a combination of its strong experience of executing large and complex CCGT projects in the region joint with its worldwide expertise in designing, constructing and operating solar PV power plants.
- The project consists in the development, and overall ownership, operation and maintenance of the solar PV plant on a Build Own and Operate (**BOO**) basis for a duration of **25 years**.
- The project will be constructed on NADEC land and connected solely to the existing NADEC electricity grid, **with dispatch under the responsibility of NADEC.**



CONCLUDING REMARKS

- NADEC solar PV plant will allow **displacing about 124,000 barrels of HFO per year** from being consumed by NADEC for power generation purpose.
- Not only supporting NADEC's sustainability objectives, but equally importantly providing **real savings to our clients**.
- This project is contributing to Saudi Arabia's Vision 2030 which aims to reduce the country's dependence on oil and diversify its economy. This procurement initiative under a corporate PPA scheme will deliver a trailblazing project in the GCC region, **establishing a path for green energy procurement in KSA**.
- **Challenges for rapid take-off of such structures:**
 - Lack of regulation, no established framework for wheeling of electricity through the national grid.
 - Access to land needs to be liberalized. Starting with direct wire PPAs with large industrial off takers
 - Subsidies on competing sources of energy need to be progressively lifted.