ENGIE RENEWABLES INVESTOR SEMINAR

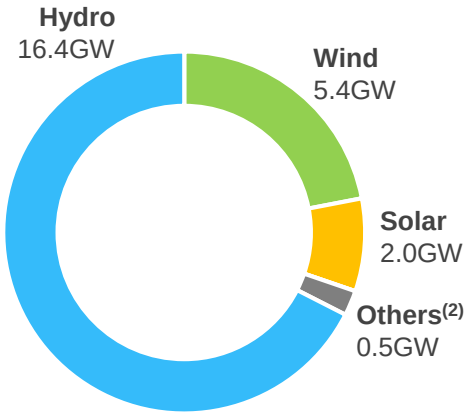
London, July 9th, 2019

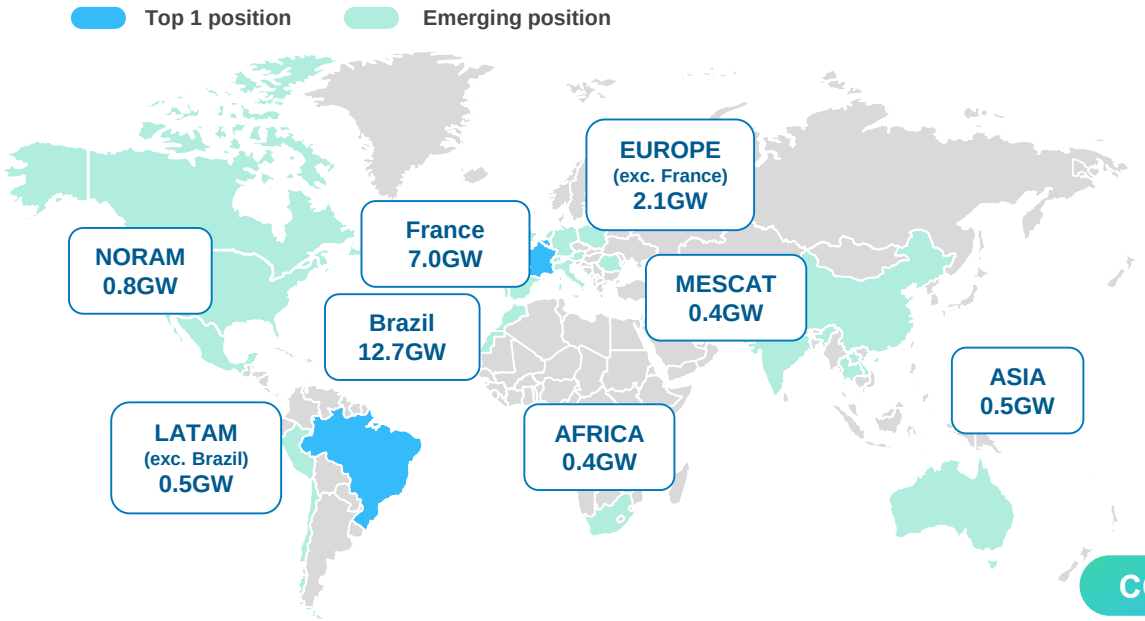
AGENDA OF THE DAY

3 INTRODUCTION	ENGIE Renewables Market dynamics Ambition	Gwenaëlle AVICE-HUET
21 HYDRO	ENGIE capabilities & strategy Hydro in France Hydro in Brazil	Thierry KALFON Eduardo SATTAMINI
28 WIND & SOLAR	ENGIE capabilities & strategy France Brazil North America	Thierry KALFON Jean-Claude PERDIGUES Andre CANGUCU
44 OFFSHORE WIND	Update on ENGIE/EDPR Joint Venture	Grzeg GORSKI
49 FINANCIAL OUTLOOK	Progress on CMD targets	Thierry KALFON
CLOSING REMARKS	Q&A and Closing Remarks	Gwenaëlle AVICE-HUET

ENGIE RENEWABLES TODAY(1)

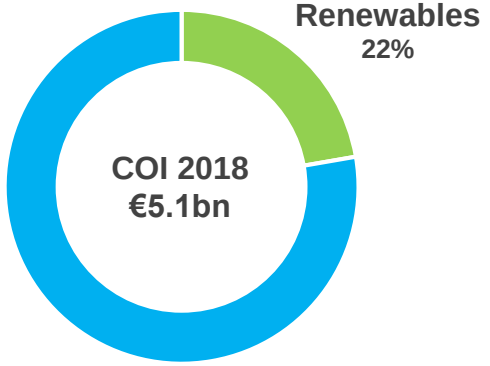
Capacities: 24.4GW(1)@100%





- ~500MW under Corporate PPA(3)
- Biomethane installation
- Pilot projects on Hydrogen

Financial Results

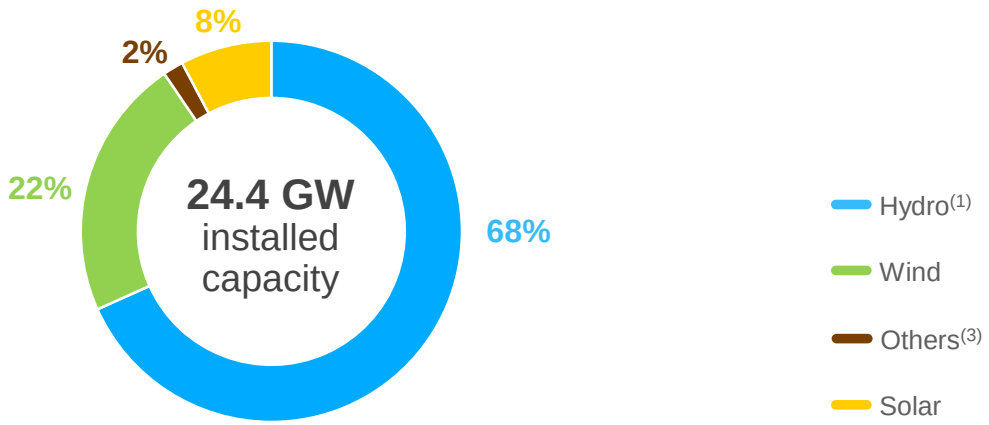


- COI: €1.1bn
- Capital Employed: €9.0bn
- ROCEp: 9.6%

(1) As of 31/12/2018
(2) Others: biomass and biogas, geothermal
(3) PPA: Power Purchase Agreement

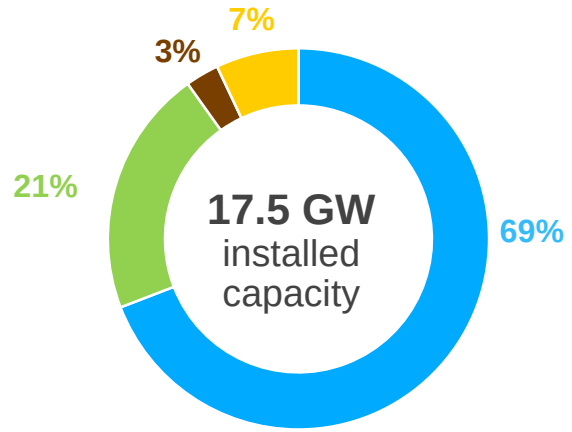
24.4 GW OF RENEWABLE CAPACITY O/W ~18 GW CONSOLIDATED

2018 installed capacity at 100%



in GW	Hydro(1)	Wind	Solar	Others(3)	TOTAL
EUROPE	4.0	3.6	1.0	0.3	**9.0**
NORTH AMERICA	-	0.7	0.1	0.1	**0.8**
LATIN AMERICA	12.2	0.6	0.3	0.1	**13.1**
REST OF THE WORLD	0.2	0.5	0.7	0.0	**1.4**
TOTAL	**16.4**	**5.4**	**2.1**	**0.5**	**24.4**

2018 installed capacity at % of consolidation(2)



in GW	Hydro(1)	Wind	Solar	Others(3)	TOTAL
EUROPE	4.0	2.5	0.5	0.3	**7.3**
NORTH AMERICA	-	0.3	0.1	0.1	**0.5**
LATIN AMERICA	7.9	0.6	0.3	0.1	**8.9**
REST OF THE WORLD	0.2	0.3	0.4	0.0	**0.9**
TOTAL	**12.1**	**3.7**	**1.3**	**0.5**	**17.5**

(1) Excluding pump storage
(2) % of consolidation for full and joint operations affiliates and % holding for equity consolidated companies
(3) Biomass and biogas, geothermal

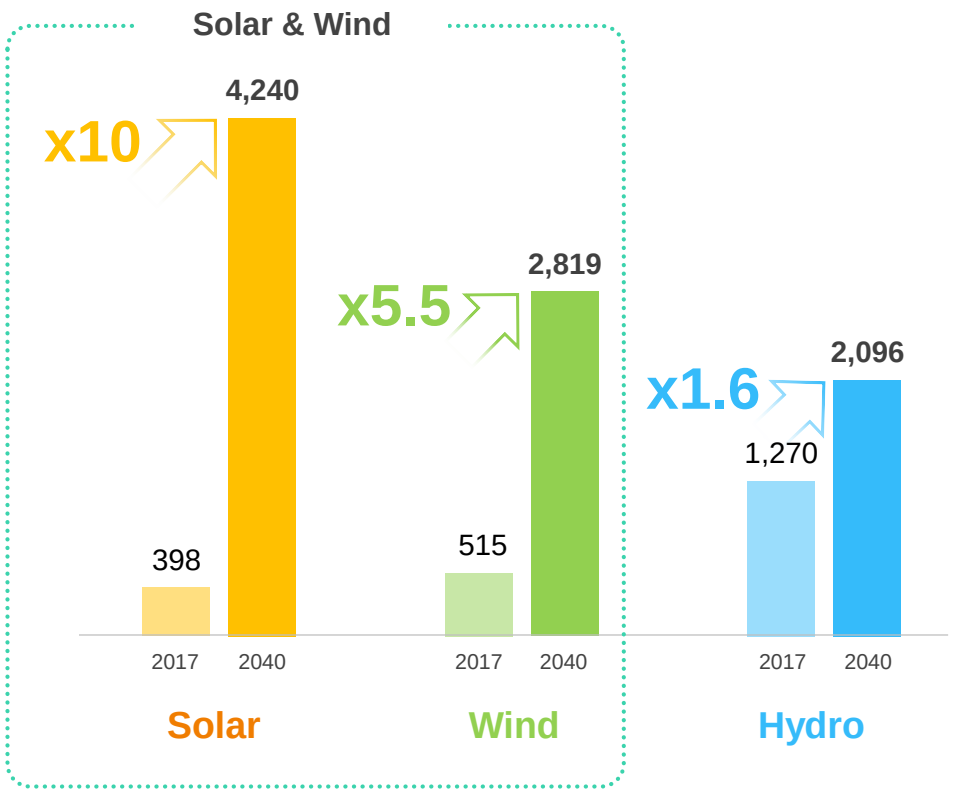


MARKET DYNAMICS

SKYROCKETING NEW RENEWABLE CAPACITIES, REPRESENTING MORE THAN 60% OF GLOBAL NEW CAPACITY ADDITIONS

- >2,400GW installed RES capacity in 2018, (34% of total installed capacities) of which 32% in China, 25% in Europe and 16% in North America
- Wind and solar PV are taking the lion's share (38% and 39%, respectively in 2018)
- 2018: 5th year of more than $300bn invested in renewables

Global renewable power generation installed capacity (GW) 2017 vs. 2040

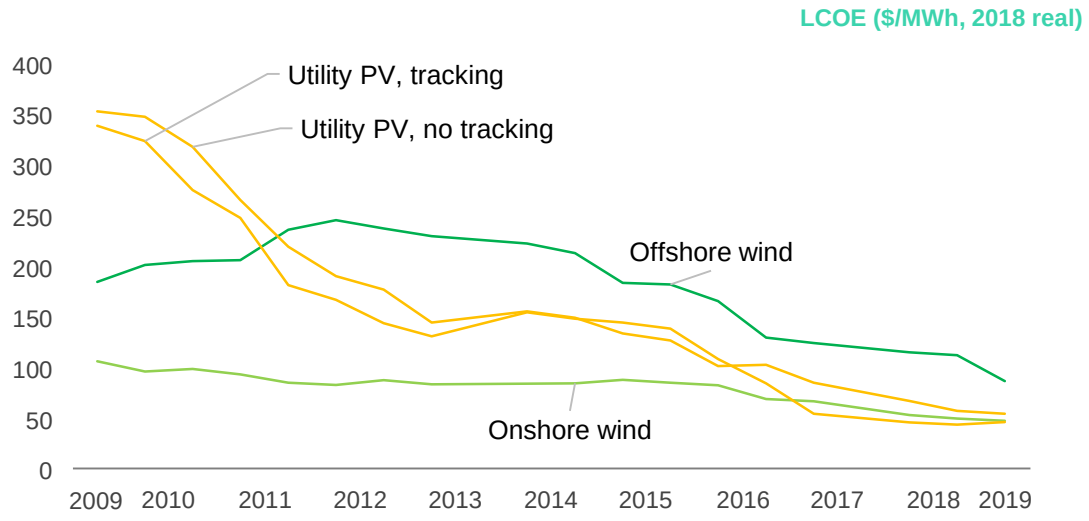


Source: IEA, World Energy Outlook 2018, Sustainable Development Scenario

RAPIDLY DECREASING COSTS

~-90% IN SOLAR PV AND ~-50% IN ONSHORE WIND IN 10 YEARS

LCOE[(1)] = Average cost per renewable power generation technologies



Sources: BNEF (LCOE 1H 2019)

- Solar PV - wind onshore - wind offshore costs have dropped respectively by 88%, 50% and 57% since 2009, (real terms)
- Further reduction by 49%, 43% and 56% by 2050
- Even excluding subsidies, renewable energy costs can be lower than the marginal cost of conventional energy technologies for energy only
- Cost to deal with intermittency not reflected

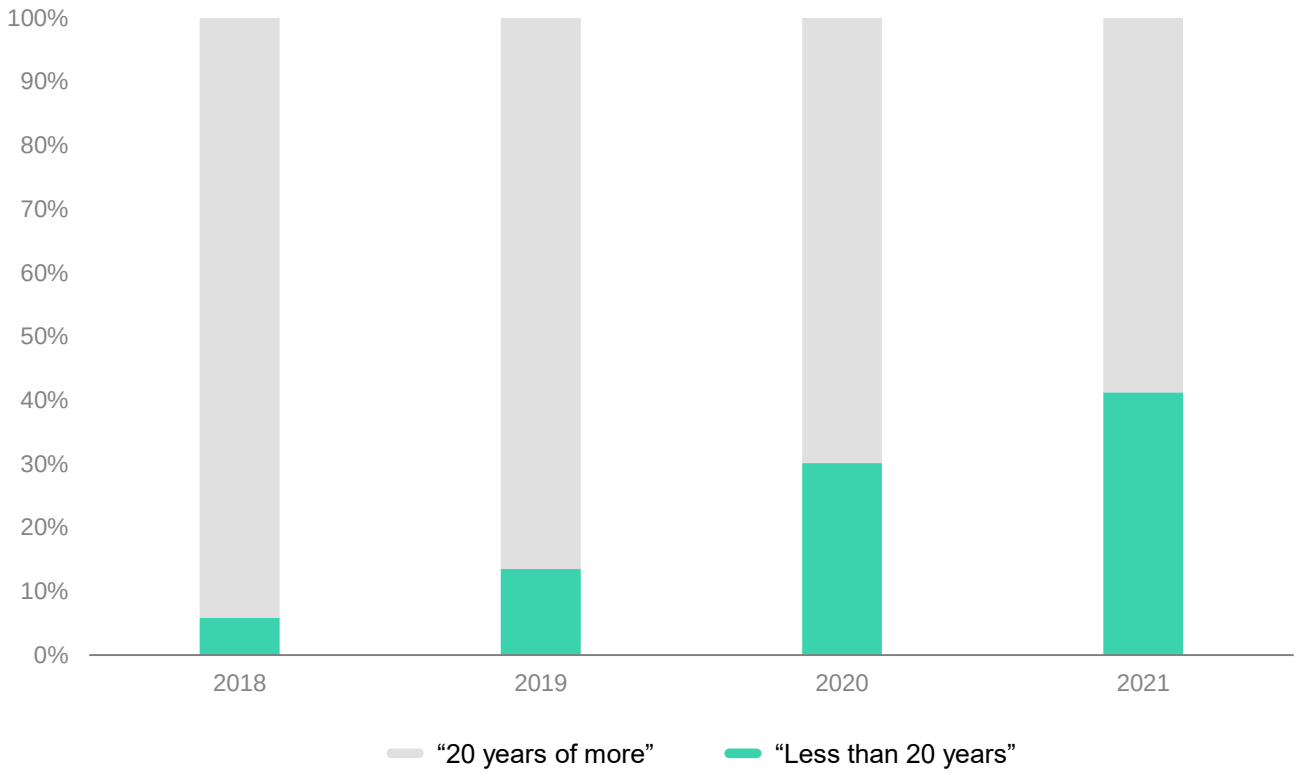
(1) LCOE represents the cost of generating electric energy over the asset technical lifetime and taking into account all costs to produce power (construction, maintenance, fuel…), including the cost of capital through normalized WACC. The LCOEs are used to compare various technologies to generate electricity (coal, gas, solar PV, wind, nuclear…). The LCOEs cannot be used to compare dispatchable generation technologies (e.g. gas-fired generation units) with intermittent and non-dispatchable technologies (solar PV, wind) as LCOEs do not take into account intermittency costs - unless intermittent power plant is supplemented by sufficient storage capacity.

ENERGY MANAGEMENT CAPABILITIES KEY TO MANAGE MARKET EXPOSURE

- **Trends driving Corporate PPA market**
  - **US**: Utility scale solar PV PPAs with a maximum 20 year tenor accounted for ~20% of signed PPAs in 2018 vs. ~10% in 2016
  - **Mexico**: Winning bids in the Nov. 2017 Mexican auction, had a 10% to 20% merchant exposure during the PPA period
  - **Europe: unsubsidized power plants are being built** based on PPA with a market price + floor formula

IMPORTANCE OF ENERGY MANAGEMENT & TRADING CAPABILITIES FOR FUTURE DEALS

Duration of US utility scale solar PV PPA(1) portfolio



(1) PPA: Power Purchase Agreement

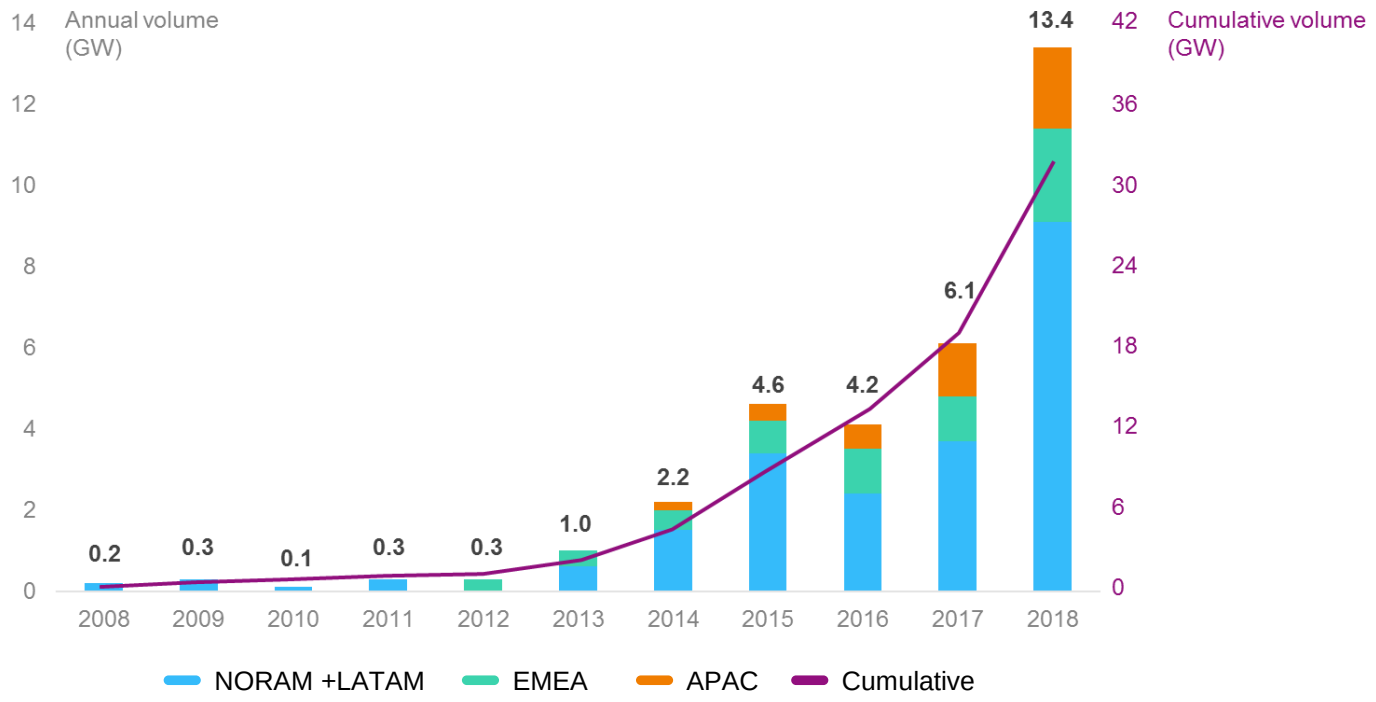
Source: IHS – "US utility-scale solar PV development trends" - April 2019; data as of 30 Nov. 2018

MORE COMPLEX CONTRACTUAL ARRANGEMENTS AS AN OPPORTUNITY TO DIFFERENTIATE

- **Fast development of corporate PPAs(1) (mainly in the US):** 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, 40 cities within C40(2))
- **Supply gradually moving towards 24/7 type offerings:** 100% green electricity – zero carbon – 24 hours a day, 7 days a week

Sources: BNEF
(1) PPA: Power Purchase Agreement
(2) C40: Cities Climate Leadership Group

Volume of corporate PPAs signed by year (GW)

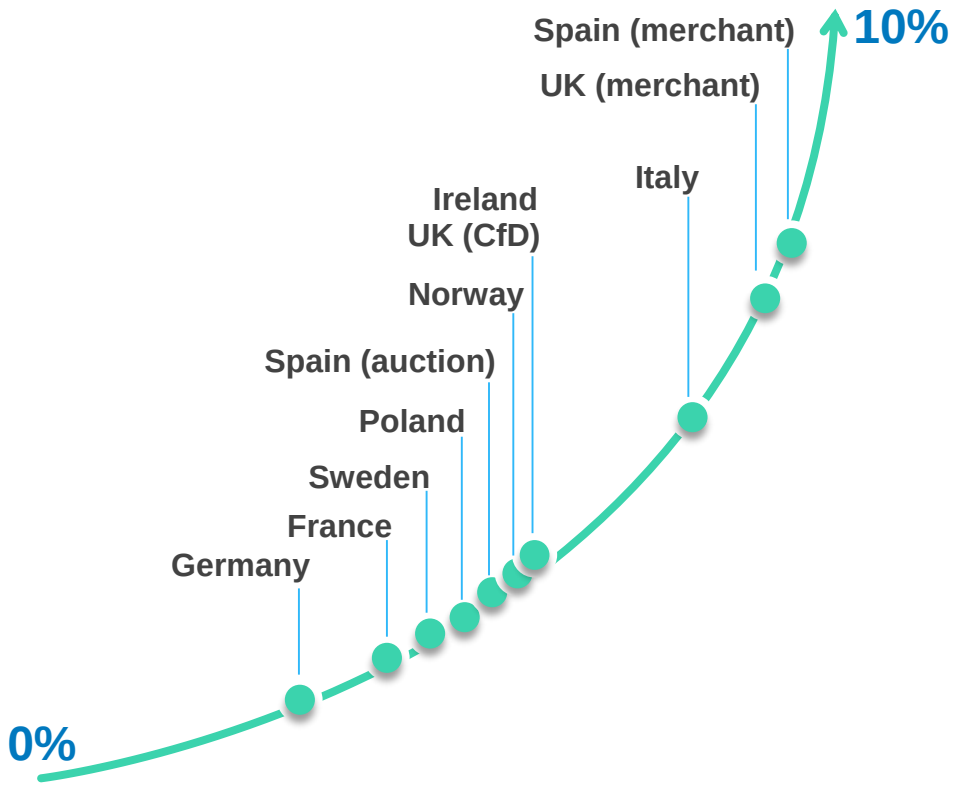


Sources: BNEF.
Note: Data in this report is throught 2018. Onsite PPAs not included. Australia sleeved PPAs are not included.
APAC number is an estimate. Pre-market reform Mexico PPAs are not included.
These figures are subject to change and may be updated as more information is made available

LOW PROFITABILITY OF COMMODITIZED RENEWABLES

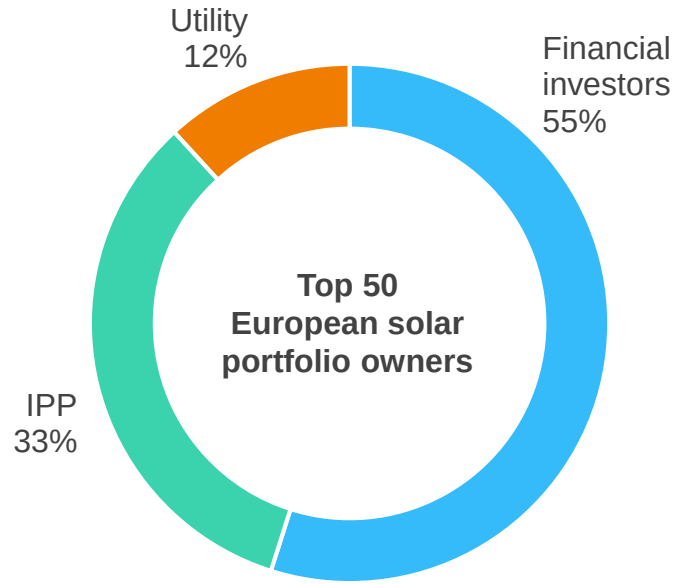
- **Commoditized renewables** lead to a **high competition** amongst investors leading to **lower returns**
- **Contracted**, renewables are an **asset class** that investors value at approx. **300 basis points above government bonds**

Investors' unlevered IRR for onshore wind (May 2019)



Source: BNEF – « Institutional Equity Returns for Onshore Wind in Europe » - May 2019

Financial investors own almost 50% of European solar assets



Source: Solar Asset Management – TOP 50 European Solar Portfolio – June 2019

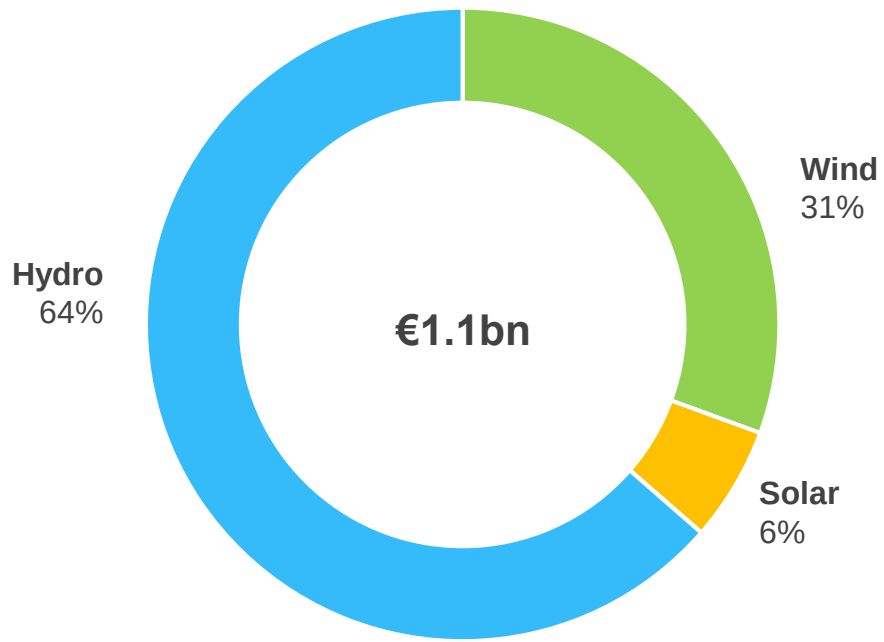

AMBITION

ENGIE DIFFERENTIATING SUCCESS FACTORS

Development	Project origination and development with local teams in selective geographies
Engineering & Construction	Strong engineering and business expertise, project EPC run internally
Partial Sell-Down	Pragmatic approach: when relevant &value creative, financial platforms put in place to industrialize DBSO model
Operation & Maintenance (O&M)	Operational excellence in O&M and strategic sourcing
Energy Management	Expertise of internal teams (GEM), able to shape complex products and manage risk
Customer Relations	ENGIE's portfolio of more than 30,000 corporate clients and 1,000 large cities

ENGIE PORTFOLIO COMBINES THE STRENGTHS OF TWO MAIN ACTIVITIES TO MAXIMIZE VALUE CREATION

COI 2018



Hydro

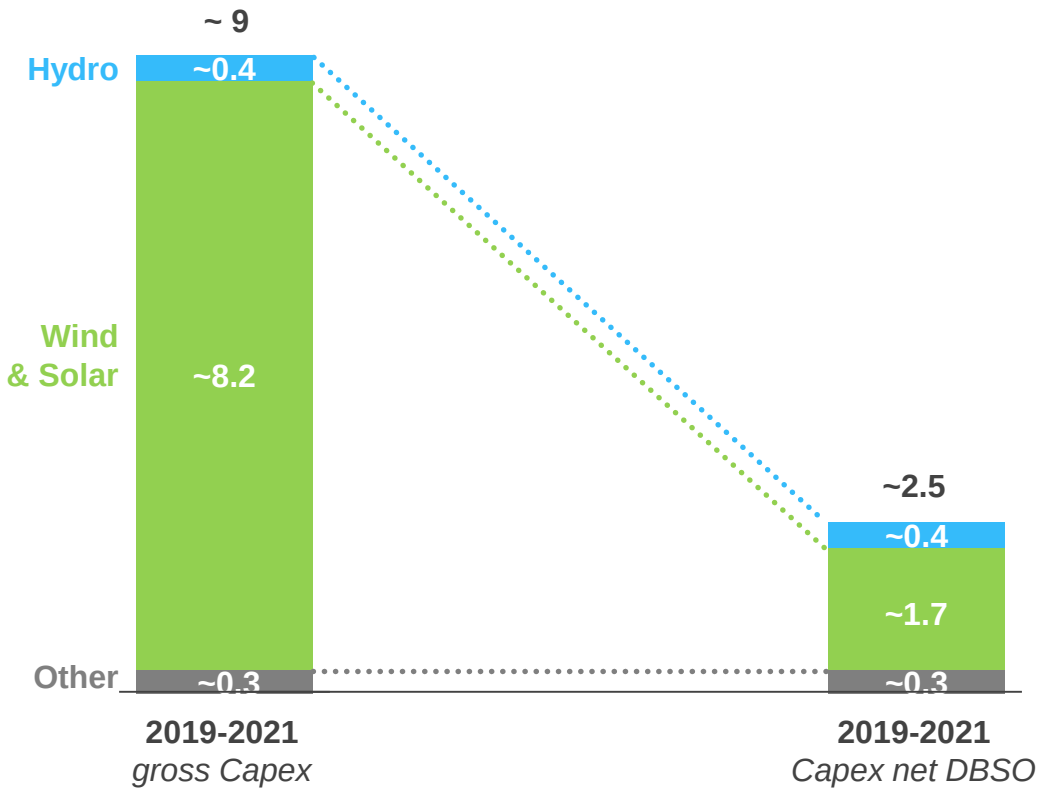
- Largest contributor to renewables earnings, historically providing a stable and recurrent stream of revenues
- Merchant exposure to provide additional growth in the mid-term

Wind & Solar

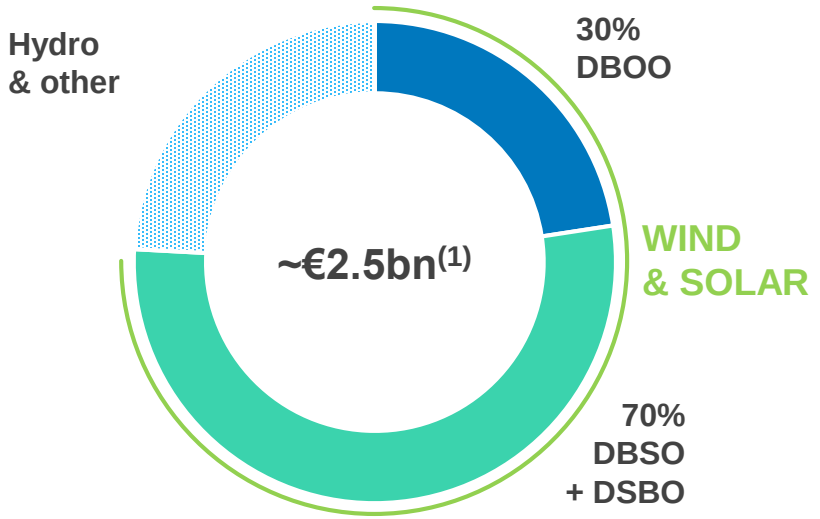
- To provide additional growth on the back of higher assets commissioning, notably driven by the development of corporate PPA

PRAGMATIC APPROACH TO MAXIMIZE VALUE CREATION

Capex optimization through sell-down (€bn)



2019-2021 Growth Capex net DBSO



(1) Mid-range of €2.3-2.8bn

ENGIE RENEWABLE AMBITIONS

Faster Growth

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

Tier 1 position in terms
of development

COI CAGR 2018-21: 8-11%

COI 2021: €1.5-1.6bn

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)

Growth Capex 2019-21 net of DBSO:
€2.3-2.8bn
ROCEp: increase in 2021 vs 2018

Better Impact

Access to energy

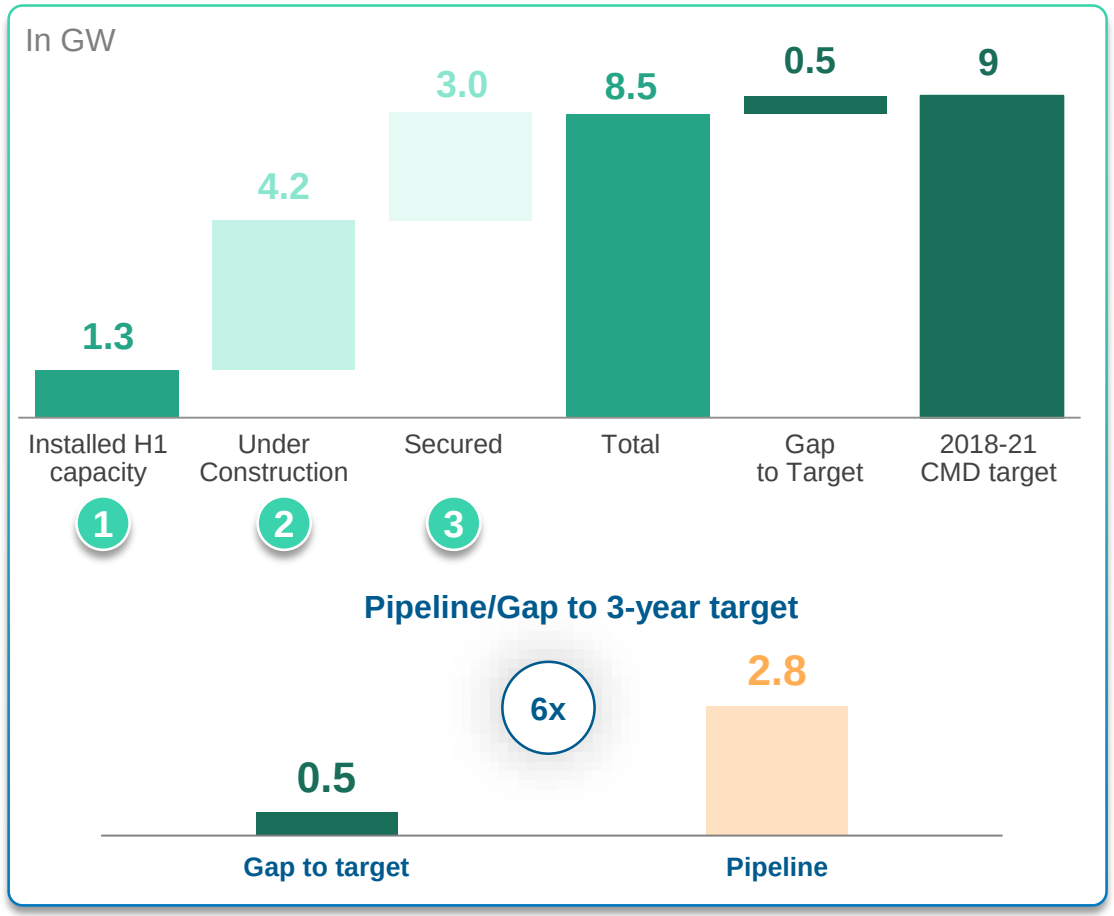
Storage

Cost-efficient renewables

Faster Growth

8.5GW ALREADY INSTALLED, UNDER CONSTRUCTION OR SECURED

1.3GW BUILT AT THE END OF H1: ON TARGET FOR 3GW PER YEAR PLANNED IN CMD



MAIN PROJECTS (MW @ 100%)

1

Brazil: Umburanas (253)
USA: Live Oaks (200)

Inde: Kadapa (250)
South Africa: Kathu (200)
Brazil: Paracatu (158)

2

Belgium: Seamade (487)

Spain: several projects (650)
USA: Solomon Forks (277), East Fork (196), Jumbo Hill (161)
Brazil: Campo Largo Phase II (361)
Egypt: Ras Ghareb (262)
India: SECI 3-4 Ph. 2 (252)
Norway: Tonstad (208)
France: several projects (161)
Australia: Willogoleche (119)

Mexico: Akin (100), Tropezon (126), Villa Ahumada (150)
France: several projects (144)

3

USA: Dakota Range III (151), King Plains (248), Las Lomas (200), Prairie Hill (300), Triple H (250)
France: several projects (361)

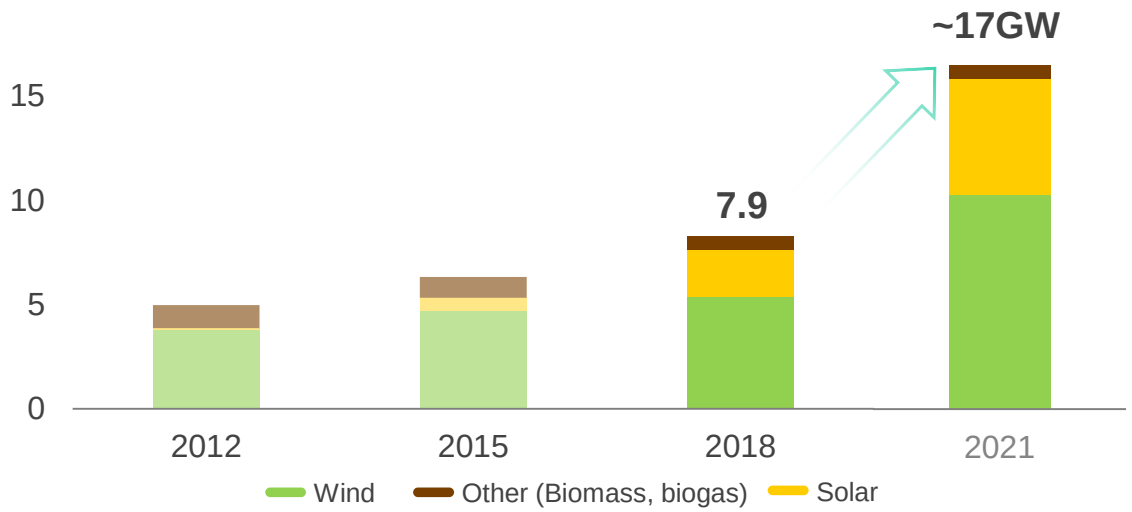
France: several projects (401)
USA: Longdraw (225)
India: Gujarat (200)
Mexico: Nueva Xcala (200)

Faster Growth

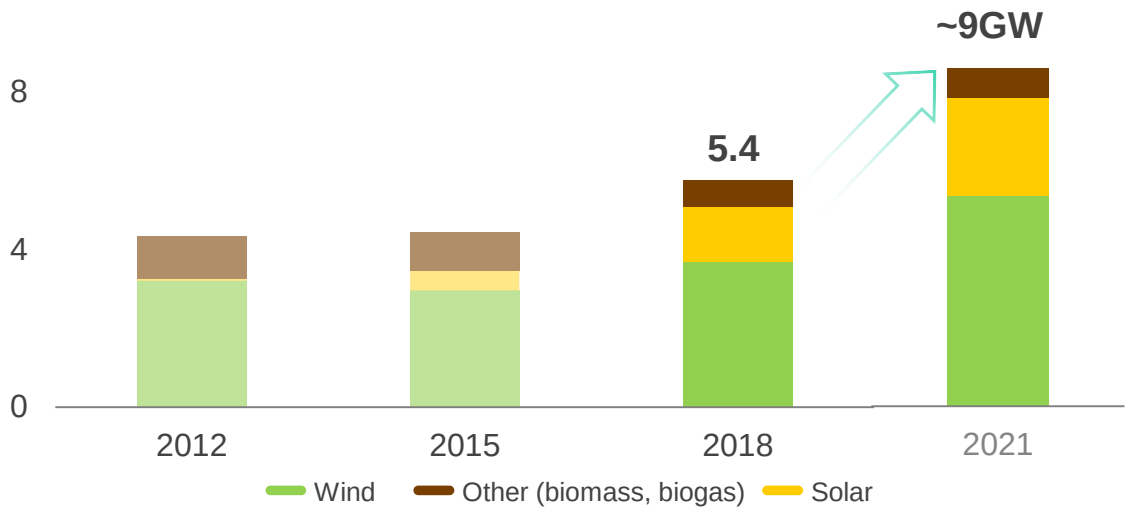
ACCELERATION BASED ON OUR DEVELOPMENT PLATFORM

ENGIE RENEWABLES CAPACITIES EXCL. HYDRO

At 100%



At consolidation share(1)



+3GW/year over 2019-2021
compared to an average +0.5GW over 2012-2018

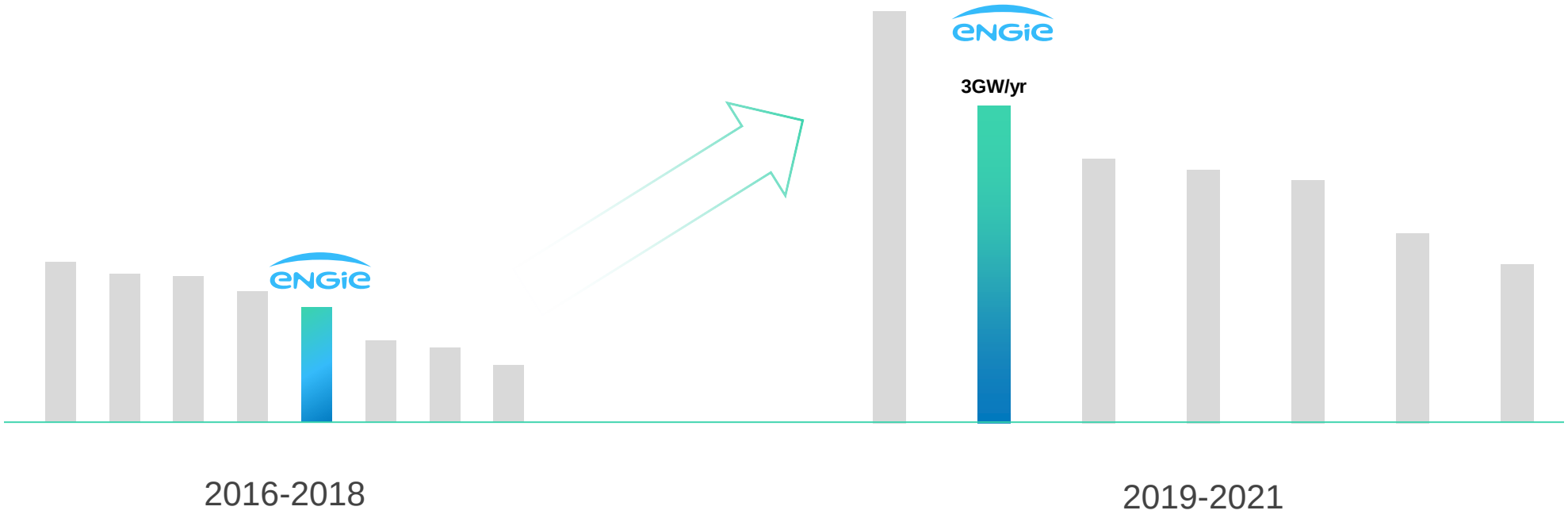
+1GW/year over 2019-2021
compared to an average +0.4GW over 2012-2018

(1) % of consolidation for full and proportionally consolidated affiliates and % holding for equity consolidated companies

Faster Growth

ENGIE NOW RANKS #2 IN RENEWABLE CAPACITY ADDITIONS

Average installed RES capacity, GW/year @100%
ENGIE vs. competitors (European and US RES developers)



Higher Value

INCREASING SOPHISTICATION IN TECHNOLOGIES AND OFFERS

Technologies

TODAY'S NICHE MARKETS MAY TURN GLOBAL

Short Term 2021	Biomethane, Geothermal, Fixed wind offshore
Medium Term 2023	Grid scale storage, Floating wind offshore, Microgrids
Long Term >2026	Green hydrogen(1)

Offers

FROM "AS PRODUCED" TO "AS CONSUMED"

Standardized Renewable Plants	Separated Upstream & Downstream Models	Short-Term Service Contracts
Tailor-Made Green Energy Solutions	Integrated Upstream-Downstream Models	Risk Sharing, Complexity & Long-Term Commitment

Increased value

(1) Early projects are materializing, that may lead to an acceleration of the development of green hydrogen (e.g. of projects with FID expected in 2019 or 2020: Delfzijl project (NL), RefHyne (GE), Salzgitter (GE))

STRONG MOMENTUM YEAR-TO-DATE

IMPORTANT MILESTONES IN SELECTED SOPHISTICATED TECHNOLOGIES

Vol-V Biomasse acquisition: ENGIE becomes France's leading biomethane producer (80 projects, aim of producing 5 TWh/year of biomethane by 2030)

Joint-venture with EDP to create a leading global offshore wind player: asset base to grow more rapidly and more efficiency in operations

MOMENTUM OF CORPORATE PPAs IN THE US

1.2 GW signed over the past 12 months with corporate buyers, universities, utilities and municipalities

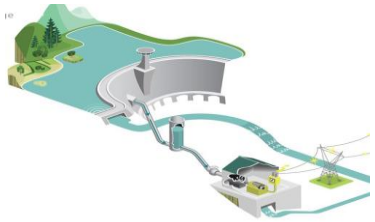

HYDRO

3 MAIN OPERATING MODELS UNDER CONCESSION REGIME

OPERATING MODELS (excluding Pump Storage)

FRANCE & BRAZIL

Reservoir power plant



Water is stowed and released through turbines & alternators to produce electric power

MAIN USAGE

Peak asset
- Good flexibility (water flow can be regulated), dynamic (short response time) and easy to monitor.
- Heavy investment costs and O&M

KEY CHALLENGES
- Maximizing generation at peak price
- Optimize the assets' availability and response time (ancillaries…)

Run-of-river plant



Plant turbines run continuously the water coming from the rivers. No limited water storage

Base load asset
- Low cost of generation process
- High load factor (~4,000 running hours per year)
- No flexibility for resource

- Optimize the assets' availability
- Optimize O&M costs

BRAZIL

Central dispatcher

ONS
Operador Nacional do Sistema Elétrico

In Brazil, the dispatch is centralized, in order to optimize operation

Several hydrological regions
- Low cost of generation
- Energy reallocation mechanism
- Best use of water

- GSF(1)
- Keep high availability rates
- Optimize O&M costs

(1) Generation Scaling Factor (GSF)

FRANCE

ENGIE FRENCH HYDRO: 2ND HYDRO GENERATOR

CNR

49.97% ENGIE ownership

19 Hydro Power plants
& dams over Rhône River

3,072MW – Production in 2018: **14.3TWh**

Around 1,000 kT
of CO_2 emissions avoided/year

Run of river

Merchant

SHEM

100% ENGIE ownership

56 Hydro Power plants
& **12 dams in the Pyrénées**
mountains & over Dordogne & Lot rivers

783MW – Production in 2018: **1.8TWh**

Nearly 600kT of CO_2
emissions avoided a year

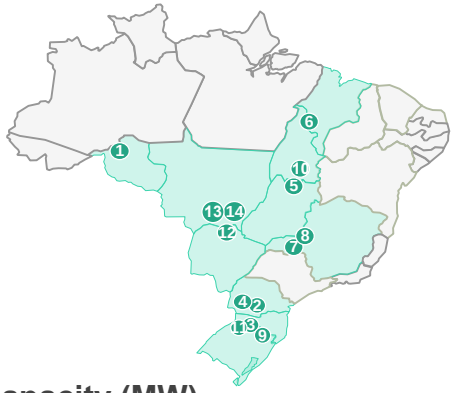
Hydro storage + run of river

Merchant (70%) + Regulated (30%)

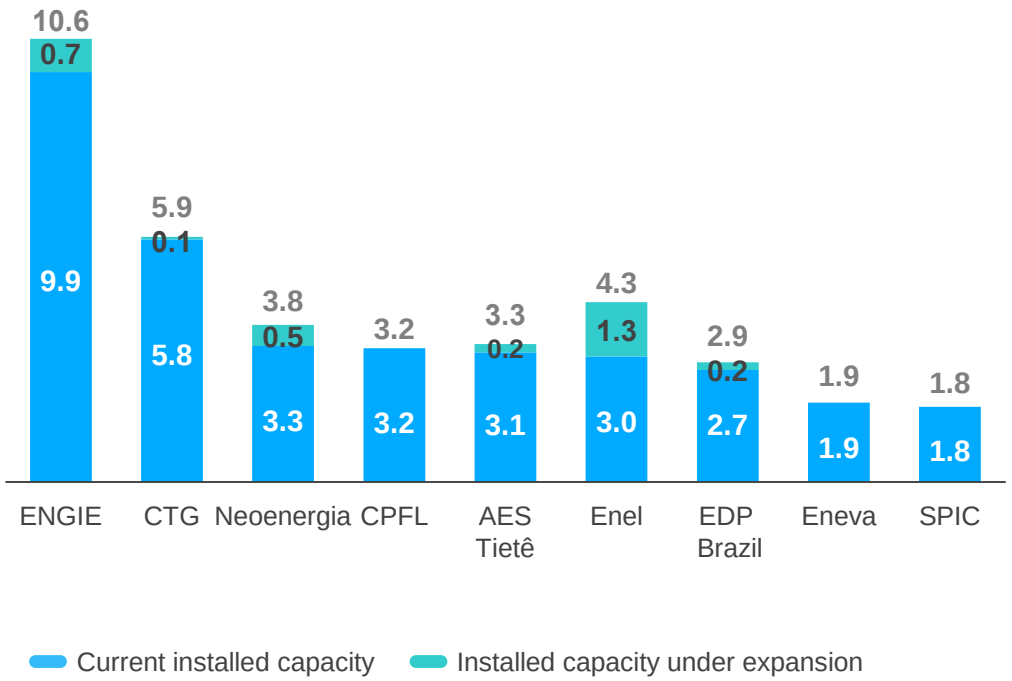
BRAZIL

ENGIE BRASIL

STRONG POSITION IN BRAZIL, BEING THE LARGEST INDEPENDENT POWER PRODUCER IN THE COUNTRY



Private Sector - Installed capacity (GW) Net ownership[1]



(1) Total capacity including thermal at the end of March 2019
(2) Consider long-term PPAs signed with partners

ENGIE's Operated Hydro Installed Capacity (MW)

	Hydro Power Plants	Installed Capacity (MW)	Commercial Capacity (aMW)	Offtaker (corporate or captive clients)	COD
1	Jirau	3,750	2,208	Both	Nov 2016
2	Salto Santiago	1,420	733	Corporate	Sep 1982
3	Itá[2]	1,450	740	Both	Mar 2001
4	Salto Osório	1,078	503	Corporate	Jun 1981
5	Cana Brava	450	261	Captive	Sep 2002
6	Estreito	1,087	641	Captive	Mar 2013
7	Jaguara	424	341	Both	Nov 1971
8	Miranda	408	198	Both	Oct 1998
9	Machadinho[1]	1,140	547	Both	Jul 2002
10	São Salvador	243	148	Captive	Nov 2009
11	Passo Fundo	226	113	Corporate	Jun 1973
12	Ponte de Pedra	176	134	Captive	Jul 2005
13	Rondonópolis (SHP)	27	14	Captive	Dec 2007
14	José G. da Rocha (SHP)	24	112	Captive	Jan 2007
	Total	**11,903**	**6,593**		

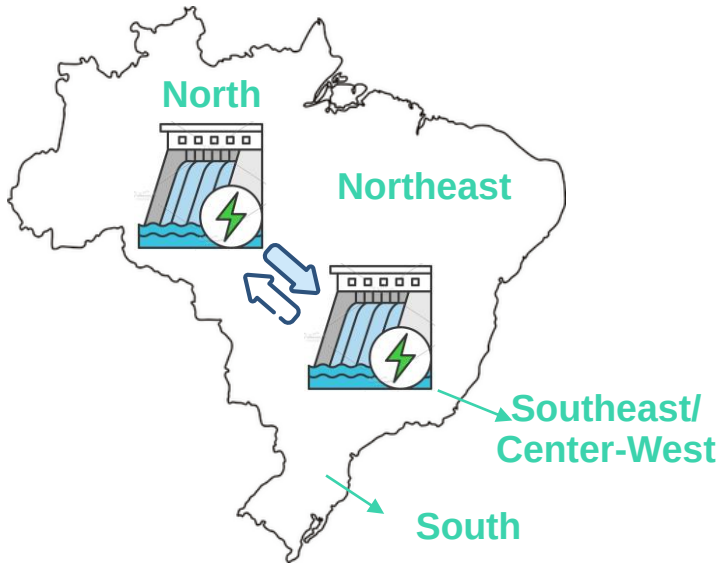
Maximum output

Long-term expected generation

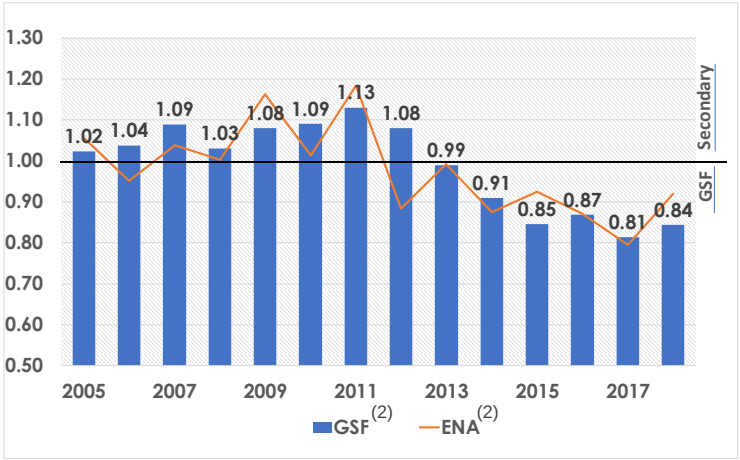
BRAZIL

OPERATING MODEL, GSF AND ENGIE BRASIL ENERGIA PERFORMANCE

Hydrology risk mitigation mechanism (MRE)(1)



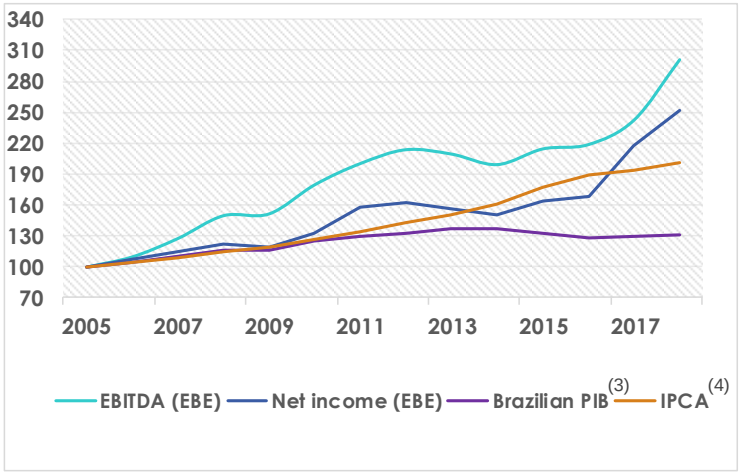
Difficult hydro conditions since 2014 (GSF)(2)



Total electric power output / Σ of assured energy

- > 1 Secondary energy
- = 1 System in balance
- < 1 GSF

Strong performance despite hydro headwind



(1) MRE: Energy Relocation Mechanism
(2) Generation Scaling Factor (GSF); ENA: Energia Natural affluente
(3) PIB=GDP
(4) IPCA: Brazilian inflation rate

BRAZIL

JAGUARA AND MIRANDA HYDRO POWER PLANTS CASE

LEVERAGED ACQUISITION OF €950M,…

…INCREASING EBE'S INSTALLED CAPACITY BY 10.5% (832MW)…

…AND BOOSTING 2018 NET RESULTS BY 12.3%

COMMERCIALIZATION

- Energy directed to free Market (30%) enhanced EBE's[(1)] portfolio, enabling the creation of new products
- First units of EBE in the system of quotas *(no GSF risk on 70% of capacity)*
- PPA of 30 years indexed to inflation *(IPCA)*

INVESTMENT

- Cash generation as of day 1
- Synergies with new regional operation
- Expertise in O&M will guarantee optimization of Capex and Opex

FINANCING

- Fully financed in BRL
- Concession fees funded by bonds issuance both at the SPV as well as at EBE level

LOCATION

- Projects located in South-East, the main area for consumption nationally

2018 COMBINED RESULTS

- Ebitda: €128M
- Net income: €66M

(1) ENGIE Brazil Energia

BRAZIL

MEDIUM AND LONG TERM CHALLENGES & OUTLOOK

HYDROLOGY FORECAST
STRUCTURAL GSF MECHANISM

Compensation for out
of merit order dispatch (GFOM)

LONG TERM POWER PRICES
NEW REGULATORY FRAMEWORK

Introduction of hourly prices

Gradual reduction in subsidies

Breakdown of the capacity
and energy markets

Valuation of plant additional services
in the new regulatory framework


WIND & SOLAR

WIDE RANGE OF WIND & SOLAR BUSINESS MODELS

DEPENDING ON IF & WHEN EQUITY IS PARTIALLY SOLD TO INVESTORS

On balance sheet

Deconsolidated

1	2	3	4
	DEVELOPMENT	CONSTRUCTION	OPERATION & MAINTENANCE
DBOO	SDBO	DSBO	DBSO
Develop Build Own Operate No sale	**Share Develop Build Operate** "pSale[1]" before development	**Develop Share Build Operate** "pSale[1]" after development but before construction	**Develop Build Share Operate** "pSale[1]" after construction
ENGIE controlled entity develops, builds, owns, operates and maintains the asset	A deconsolidated SPV (50% or minority stake) develops, builds and performs the O&M. The SPV finances the project through project financing	A controlled entity develops the project and sells it to a deconsolidated SPV, in which ENGIE retains a stake (~50% usually) ENGIE provides O&M to SPV	A controlled entity develops the project, builds and sells to a deconsolidated SPV, in which ENGIE retains 50% or a minority stake ENGIE provides O&M to SPV

EXTENT OF USE BY PEER GROUP



- ⊕ Refinancing gains optionality
- ⊕ Predictable future cash-flows
- ⊖ More Capex needed
- ⊖ Lower risk mitigation

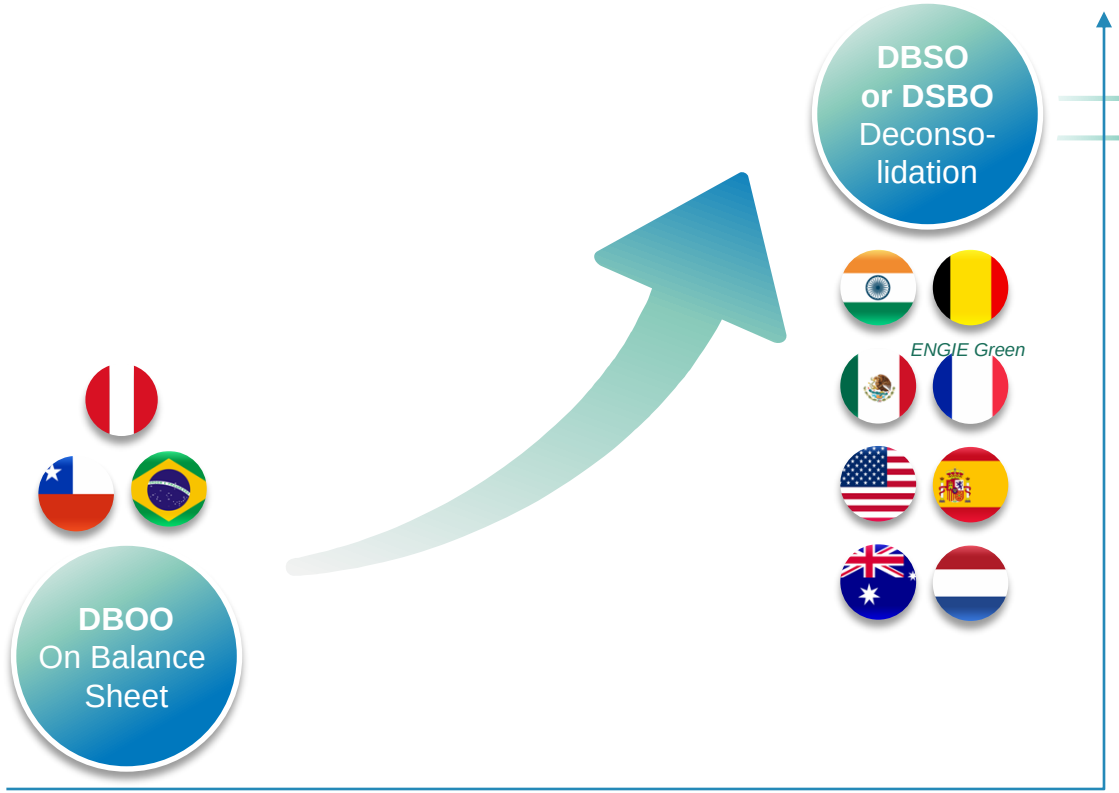
- ⊕ Enhanced competitiveness & mitigation of NPV merchant share
- ⊕ Lower Capex & front loaded value creation with sell-down margin
- ⊕ Scale effects & Industrialization (EPC, O&M, energy management)
- ⊖ Volatility on EBITDA/ COI due to sell-down model

(1) Partial sale
EPC: Engineering, Procurement, Construction; O&M: Operations & Maintenance

ENGIE HAS PUT IN PLACE A PRAGMATIC APPROACH

ADJUSTING TO MARKET CONTEXT

Business models



Market context

INCREASING

Intensity
in competition

Exposure
to merchant risks
(or shorter PPA duration)

Availability
of project finance

Availability of equity
investors with low return
expectations

INTEREST RATE ENVIRONMENT

If the context was
to drastically change,
ENGIE would adjust
development pace

WHY KEEP AN EQUITY STAKE?

- Significant influence on key decisions (e.g. O&M provider)
- Option on repowering
- Access to the output for commercialization
- Option on upsides

DBSO MODEL: CAPITAL RECYCLING, UPFRONT VALUE CREATION (1/2)

NORMATIVE 10 MW WIND ONSHORE & SOLAR PROJECT IN EUROPE (COMPETITIVE TENDER)

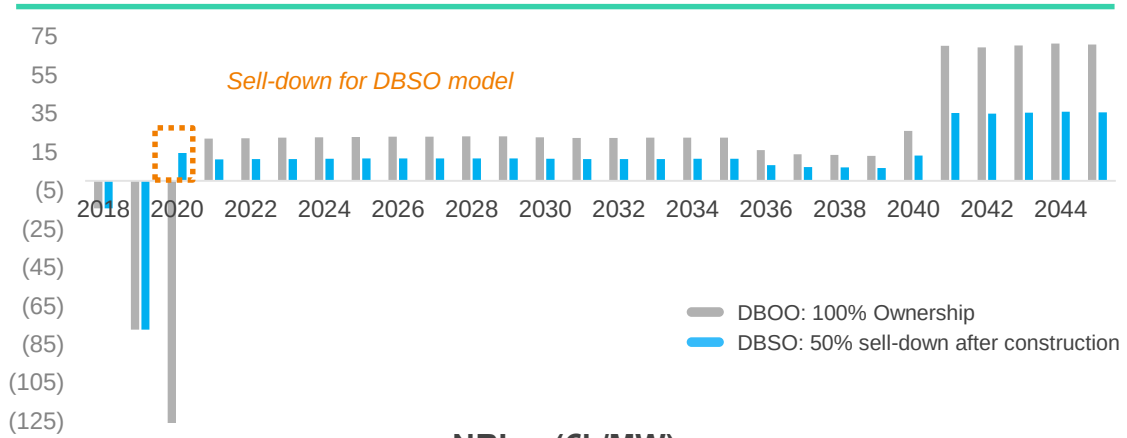
		DBOO	DBSO with 50% sell down
NET CAPEX	SOLAR	€0.6-0.8M/MW	€0.05-0.15M/MW
	WIND	€1.1-1.2M/MW	€0.1-0.2M/MW
IRR		WACC-WACC+1% (CoE-CoE+2%)	CoE+4%
NPV		€50-250k/MW gross capacity	

DBSO assumptions:
70-80% gearing with project finance debt
50% sell down to an investor with a target return equal to our Cost of Equity (depending on competition, sell-down up to 80%)

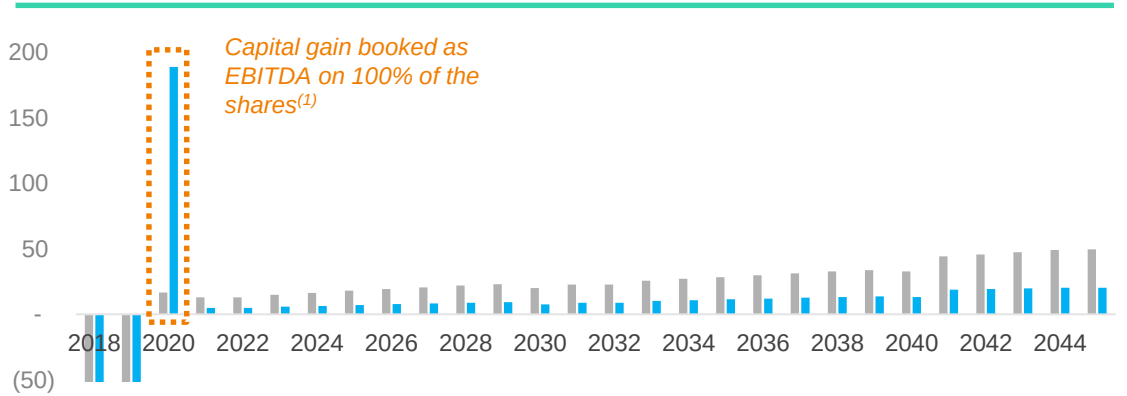
Tarif competitiveness:
To reach CoE+4% in the DBOO model would have required a bid tariff **€2/MWh** higher

O&M margin
<€1k/MW

Cash Flow to Equity (€k/MW gross)



NRIgs (€k/MW)



(1) Impact does not include goodwill allocation for DBSO model

DBSO MODEL: CAPITAL RECYCLING, UPFRONT VALUE CREATION (2/2)

TYPICAL CONTRIBUTION & FINANCIAL IMPACTS AT ENGIE LEVEL

	At commissioning	Average contribution during contracted operations
Net Result Group	**DBSO Margin** €0.05-0.4M/MW gross capacity €0.05-0.15M/MW gross capacity	**Recurring Net Result of JV** €5-15k/MW net capacity €1-10k/MW net capacity
Capex Group	**Net Capex DBSO** €0.1-0.2M/MW gross capacity €0.05-0.15M/MW gross capacity	

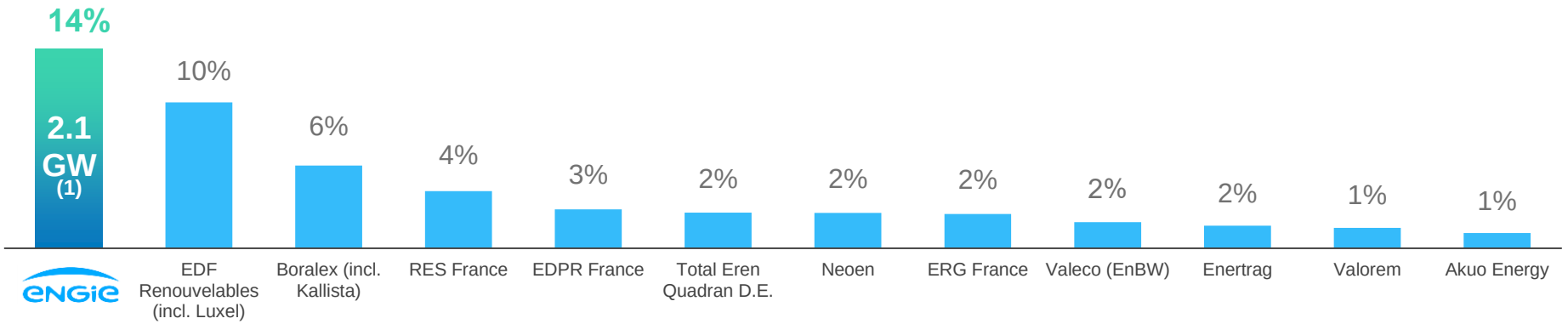
Onshore wind Solar PV

FRANCE

ENGIE LEADER IN THE FRENCH MARKET

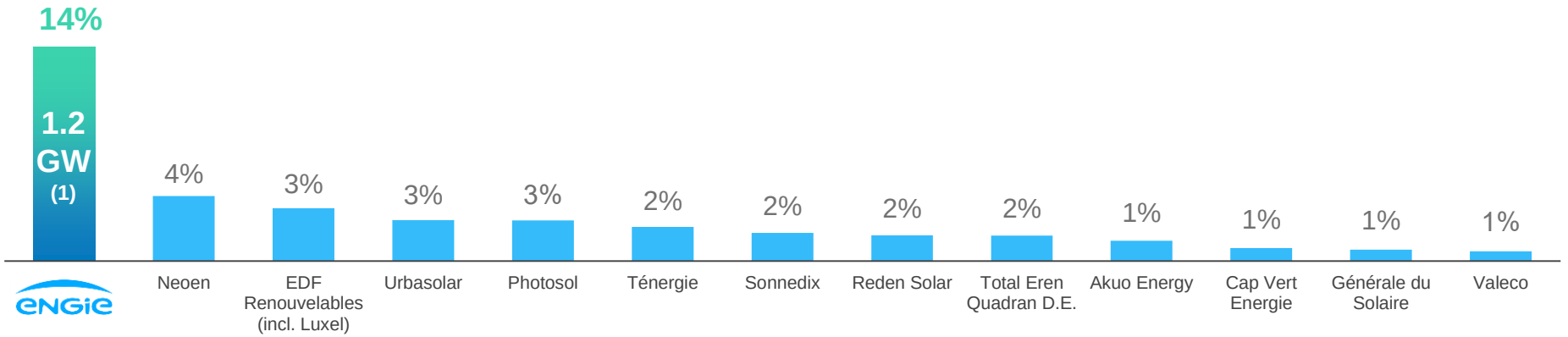
FRENCH WIND MARKET

15GW



FRENCH SOLAR MARKET

8.5GW



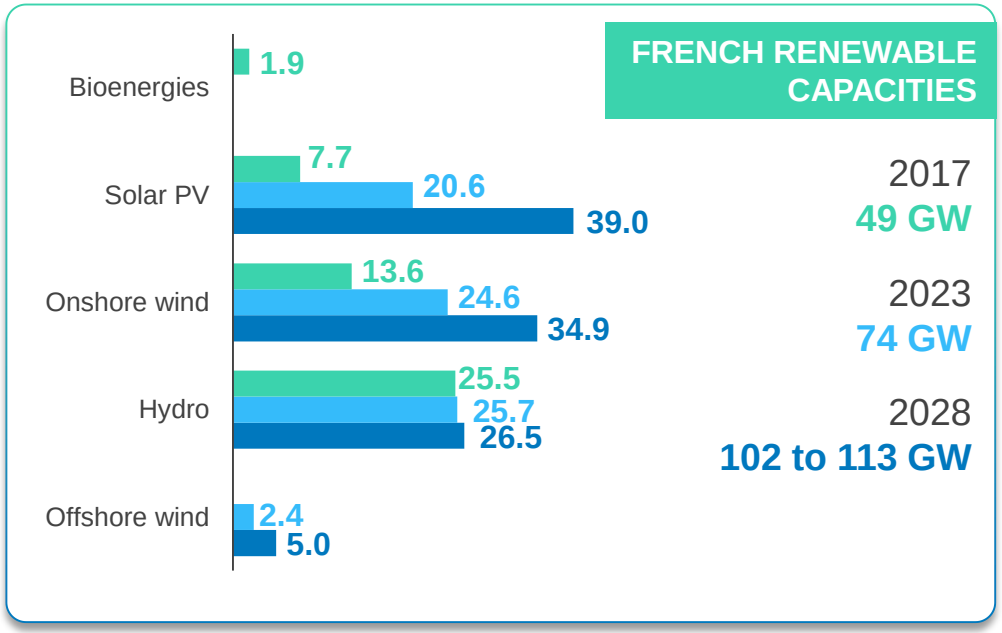
(1) End 2018

FRANCE: A STABLE AND PREDICTABLE REGULATION WITH ATTRACTIVE GROWTH PERSPECTIVES

Market perspective

Energy Transition Law

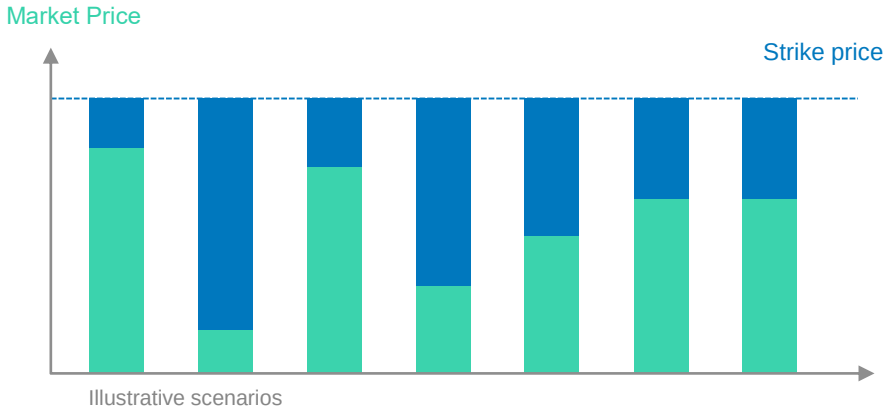
- Increase the share of renewables to 23% of the gross final energy consumption by 2020 and to 32% by 2030
- Reach 40% of renewables in the electricity production in 2030



Source: L'Usine Nouvelle, January 2019

Auction mechanism

Feed-in premium (CfD) for 20 years guaranteed by the State



ONSHORE WIND

- Mostly awarded by tender: 2 x 500MW/yr.
- Except for small projects (less than 6 turbines) = direct contracting (automatic tarif) of €72/MWh

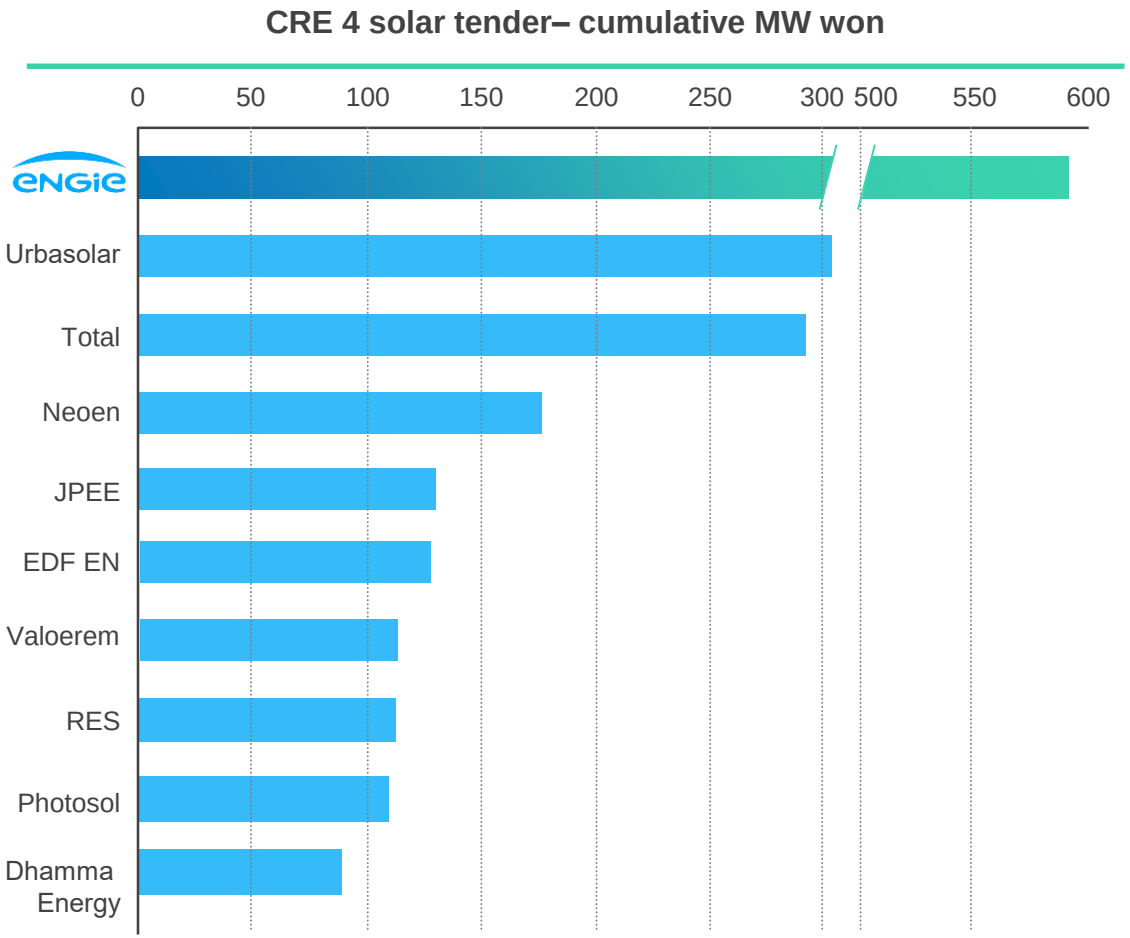
SOLAR

Awarded by tender:

2 x 850MW/yr only for utility scale solar

FRANCE

ENGIE IS WELL POSITIONED TO CAPTURE THE FRENCH MARKET OPPORTUNITIES



Source: Finergreen

ENGIE is a big winner of the latest solar auctions in France

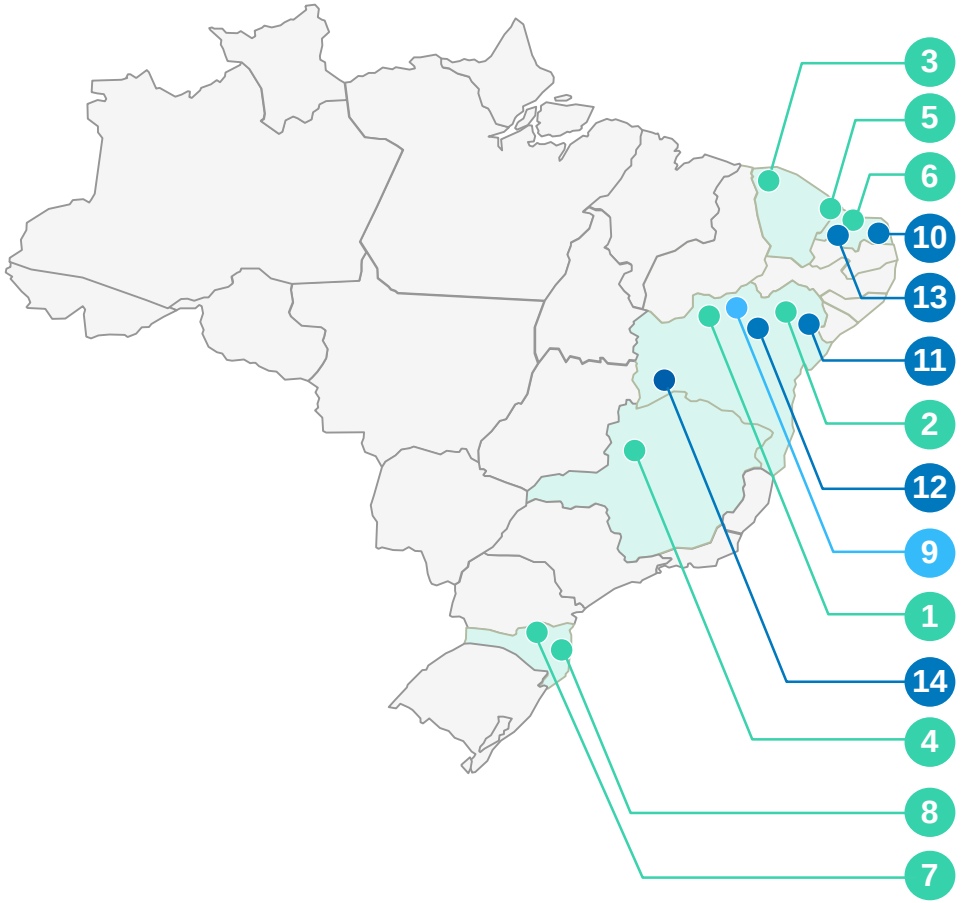
Strong competitiveness based on strong capabilities:

- Origination (partnerships, notably with Suez)
- Financing
  - Leverage ENGIE's strong balance sheet and project financing to drive down cost of capital
  - Use of our long term partnership with Predica and attract yield seeking investors to farm down equity
- EPC (ENGIE Solar)
- O&M

BRAZIL

ENGIE WIND AND SOLAR IN BRAZIL IS GROWING RAPIDLY

NCR(1) BOOSTING GROWTH: ~1.2 GW INSTALLED IN THE PAST 5 YEARS AND 1.9 GW UNDER DEVELOPMENT



	Power plants in operation	PPAs Duration (years)	Installed Capacity (MW)	Commercial Capacity (aMW)	Offtaker (corporate or captive clients(2))	COD
1	Umburanas Complex (Wind)	20	360	213	Both	04/24/2019
2	Campo Largo I Complex (Wind)	20 (regulated) and 17.5 (free)	327	170	Both	12/21/2018
3	Trairi Complex (Wind)	20	213	102	Both	04/06/2017
4	Paracatu (Solar)	20	132	34	Captive	02/09/2019
5	Floresta (Solar)	20	86	25	Captive	12/23/2017
6	Assú V (Solar)	20	30	9	Captive	12/23/2017
7	Nova Aurora (Solar)	n/a	3	n/a	n/a	03/31/2014
8	Tubarão (Wind)	n/a	2	n/a	n/a	11/04/2014
	Total		**1,152**	**553**		

	Power Plants under construction	PPAs Duration (years)	Installed Capacity (MW)	Commercial Capacity (aMW)	Offtaker (corporate or captive clients)
9	Campo Largo II Complex (Wind)	~ 5	361	200	Corporate
	Total		**361**	**200**	

	Power Plants under development	Installed Capacity (MW)	Commercial Capacity (aMW)
10	Sto. Agostinho (Wind)	800	440
11	Umburanas II (Wind)	300	165
12	Campo Largo III (Wind)	250	137
13	Assú I, II, III and IV (Solar)	120	36
14	Alvorada (Solar)	90	27
	Total	**1,560**	**805**

COMPETITIVE ADVANTAGES:

- Strong presence in the free energy market speeds up contracting
- Geographic synergies deliver optimization of Capex and Opex
- AAA rating grants access to competitive funding

(1) NCR: Non-Conventional Renewables
(2) Contract with distribution companies

NORTH AMERICA

CORPORATE PPA IN THE US: WHY DO CORPORATIONS BUY RENEWABLE POWER?

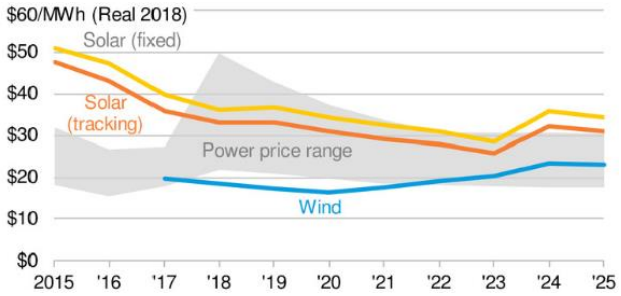
PRICE COMPETITIVENESS

- Land availability, with limited constraints (social and environmental)
- Excellent wind and solar resources
- Federal and State level incentives ("PTC" &"ITC")(1)
- Renewable Energy Credits ("REC")

SUSTAINABILITY

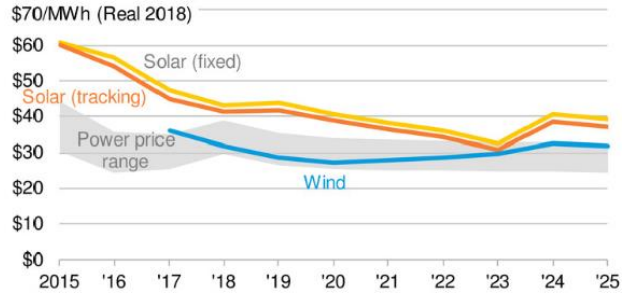
- Utilities operating in states with Renewable Portfolio Standards (RPS), sign PPAs in order to comply with these targets
- Corporations with sustainability goals to be carbon neutral by a certain date

Estimated Texas LCOEs vs ERCOT(2) power prices

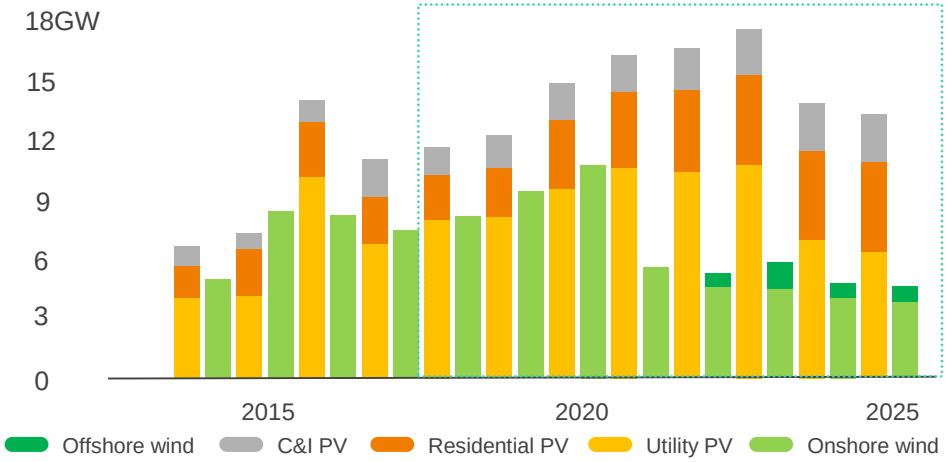


Source: Bloomberg NEF

Estimated mid-Atlantic LCOEs vs PJM(3) power prices



Annual U.S wind and solar capacity additions



72GW
U.S. utility-scale PV build from 2018-25

56GW
U.S. wind build from 2018-25

45GW
U.S. small-scale PV build during 2018-25

Source: Bloomberg NEF

(1) PTC & ITC: Production Tax Credit & Investment Tax Credit
(2) ERCOT: Electric Reliability Council of Texas
(3) PJM: Pennsylvania-New Jersey-Maryland Interconnection

ENGIE'S COMPETITIVE ADVANTAGE IN NORTH AMERICA

LARGE PORTFOLIO, DEVELOPMENT TEAM, BROAD SOLUTIONS AND COMMERCIAL RELATIONSHIPS

Diversified Portfolio

Large portfolio of projects (>10GW) and well diversified (technology, markets and delivery date)

Experienced Team

Very experienced team from origination to project delivery of more than 50 individuals

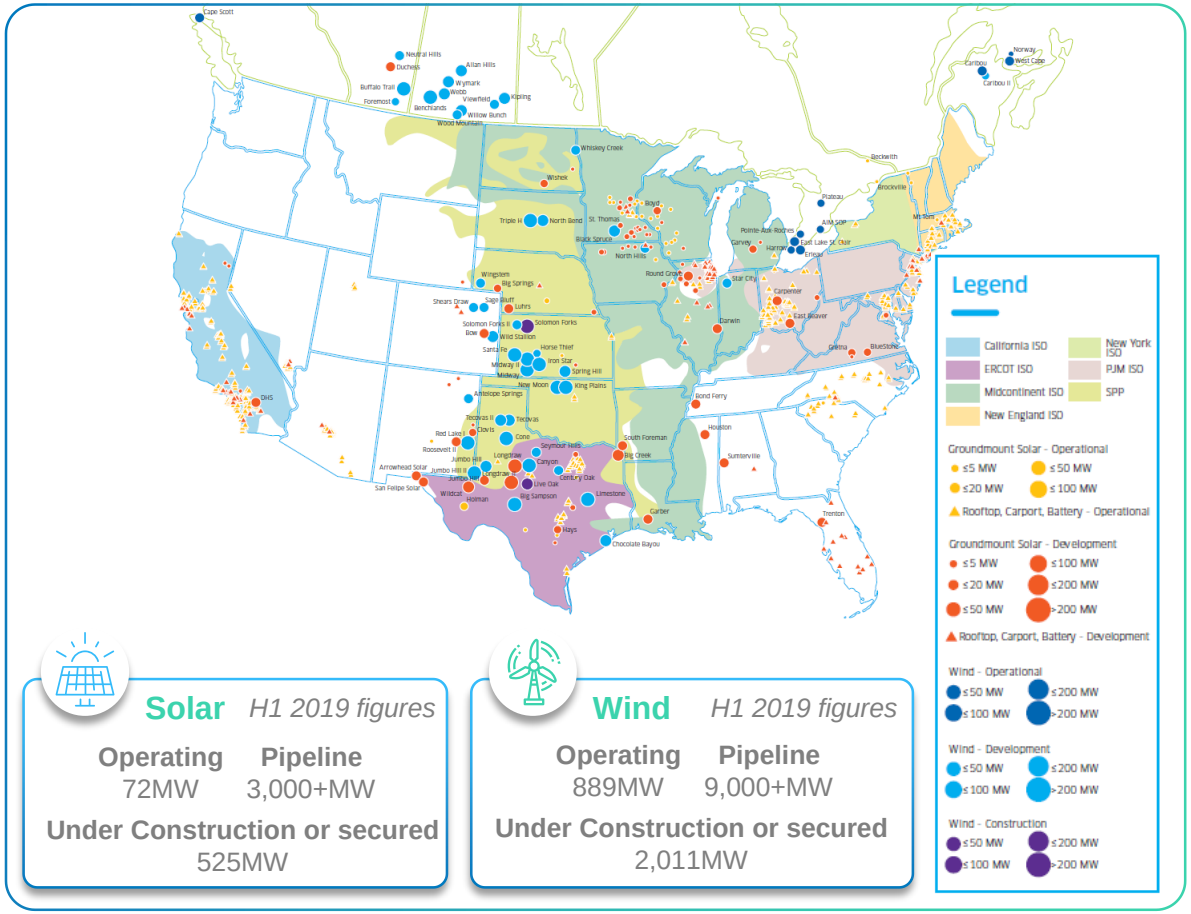
Customer Base and Portfolio of Solutions

Different customer relationships locally and globally increasing our reach and cross sell and upsell.

Unique portfolio of solutions allowing for stand alone or comprehensive solutions encompassing RES power

DBSO

Capital recycling allowing us to be cost competitive while continue providing O&M and services to our partner



Solar *H1 2019 figures*

Operating	Pipeline
72MW	3,000+MW

Under Construction or secured
525MW

Wind *H1 2019 figures*

Operating	Pipeline
889MW	9,000+MW

Under Construction or secured
2,011MW

NORTH AMERICA

CROSS SELL AND UP SELL - EXAMPLE OF TARGET

ENGIE Insight[1]
- Expense Data Management
- Energy Supply Management
- Energy Star Reporting

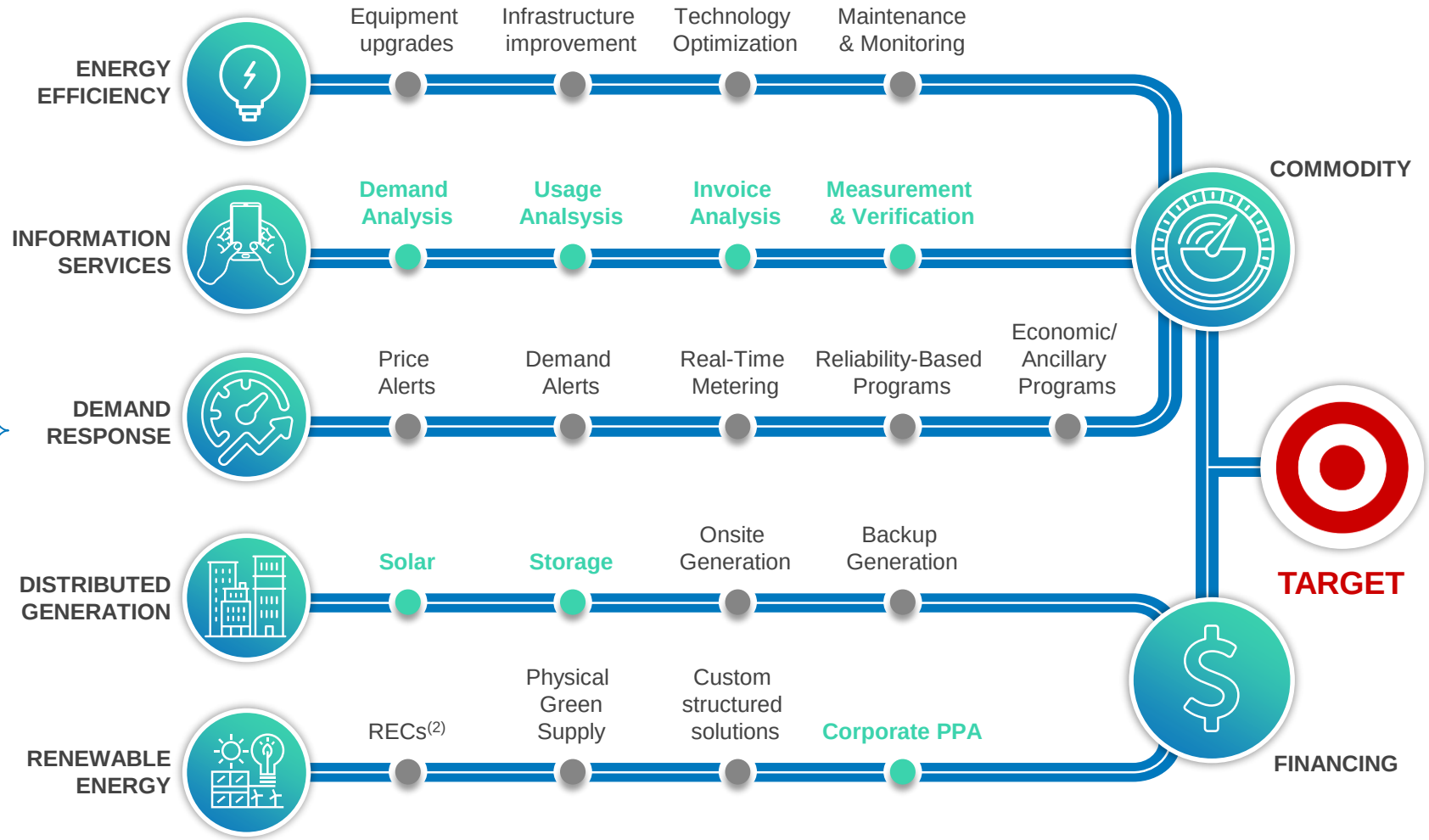
ENGIE Resources[1]
- Power Supply in Texas and New York
- 90MW and 194 locations at client site

ENGIE Distributed Solar[1]
- Solar PV + Storage
- ~80MW of rooftop projects in 12 states, with more than 130 sites
- Long term PPAs and Build & Transfer

ENGIE Renewables[1]
- Wind and Solar PV Corporate PPAs

Wind:
- 100MW 15-year as produced from a project in Kansas

Solar:
- 90MW 15-year corporate PPA as produced from a project in Texas



(1) All entities/activities in NORAM business unit
(2) RECs: Renewable Energy Certificates

Type of services/solutions provided by ENGIE to Target

Other services/solutions

NORTH AMERICA

GREEN PPA OFFERINGS

ENGIE'S RENEWABLES CONTINUUM



KEY CLIENT PRIORITIES		RECS(1)	CORPORATE PPA / VPPA	PHYSICAL GREEN SUPPLY	CUSTOM STRUCTURED SOLUTIONS
ADDITIONALITY	A customer's desire to demonstrate that their action directly increments renewable generation…	○	●	◕	◕
LOCALITY/PROXIMITY	A customer's desire to demonstrate actions that directly impact their local geography, to produce where they consume…	●	●	◕	◕
MARKETABILITY	A customer's desire to leverage their commitment to a specific resource in marketing and public relations…	◔	●	◕	◕
CUSTOMER CREDIT RATING	A customer's ability to provide sufficient credit assurance to a developer/financier, longer term commitments require higher assurance…	◕	◑	◕	◕
CONTRACT TERM FLEXIBILITY	A customer's ability or desire to enter into contracts under a certain threshold, often driven by local delegation of authority or market view…	◕	◔	◑	◑
LEAD TIME	A customer's desire to demonstrate a quick win	●	◔	◕	◑
PRICE RISK	A customer's appetite for uncertainly in volume or price (basis) exposure; PPA's are generally variable and not aligned with consumption…	●	◑	◕	●
CONTRACTING SIMPLICITY	A customer's desire to take a more transactional view based on contract structures they are already familiar with…	●	◑	◕	◑

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

(1) RECs: Renewable Energy Certificates

NORTH AMERICA

RENEWABLE ENERGY "AS A SERVICE"

INNOVATIVE STRUCTURE ADDRESSING THE FUTURE OF CORPORATE PPAS

SOLAR + WIND + GEM(1) = "ROUND THE CLOCK" "24X7"

~xxMW PPA

ENGIE Solar Project

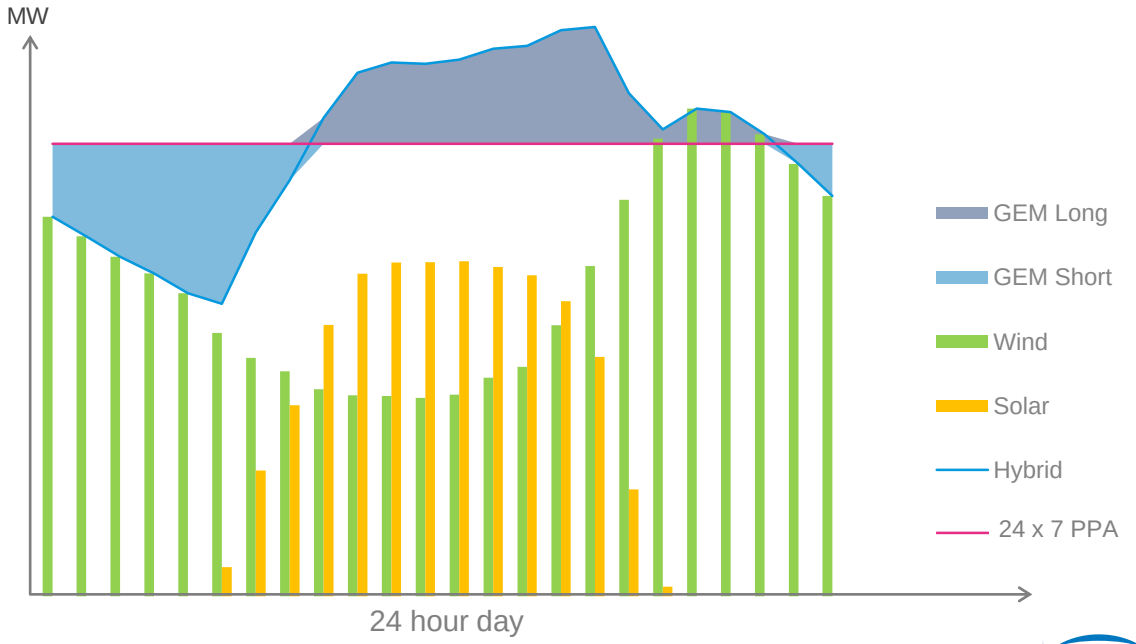
~yyMW PPA

ENGIE Wind Project

Balancing Power

~zzMW PPA

- **This structure transforms intermittent wind & solar to a firm 24x7 zzMW baseload profile**
- **"As a Service"** because instead of purchasing as-produced renewables commodity, un-matched with its data center load, the customer will be supplied by ENGIE with a block of power that matches their need, in the same market where the load is, effectively servicing it with renewable power
- ENGIE is among the only suppliers in the US market who can offer such a product via in-house capabilities, other competitors may need to bundle several providers to offer the same solution
- By executing this transaction, ENGIE will be extremely well positioned to be the leader in these complex and value added transactions, having sophisticated clients as counterparties and solving a specific customer need



(1) BU Global Energy Management

NORTH AMERICA

STRONG PPA FUNDAMENTALS FOR THIS PORTFOLIO (> 2 GW)

Wind **2,011MW**(1)**,** Solar PV **525MW**(1)

Market diversification –
ERCOT, SPP, MISO and **PJM**

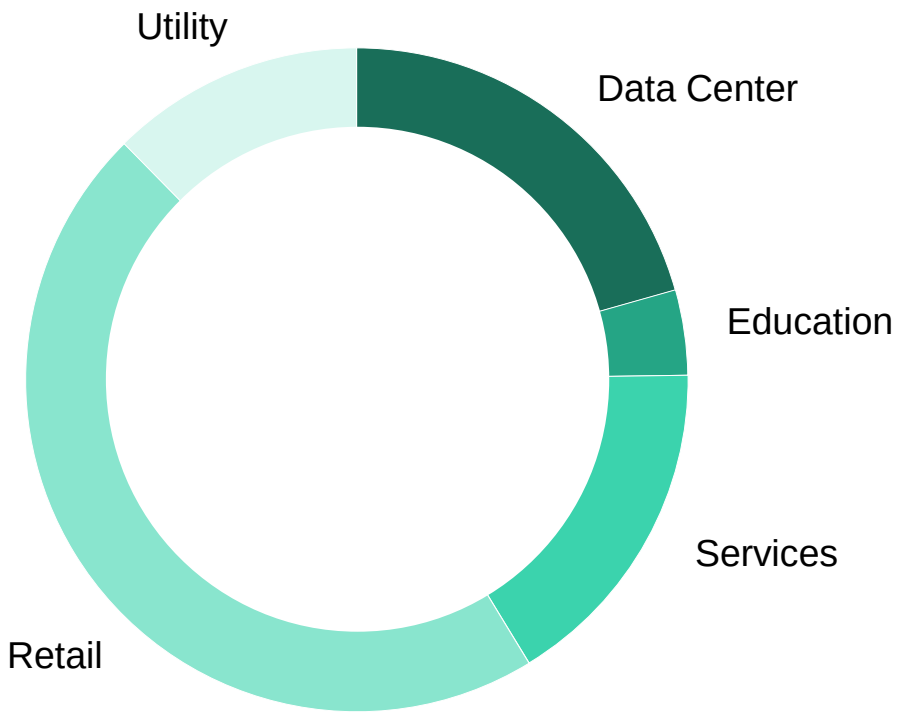
Weighted average life of **13.1 years**

82% with **Investment Grade** customers(2)

81% of the contracts settle **"as produced"**

Customers from sectors
that are **key targets** of ENGIE

Diversity of off-taker types Solar and Wind



(1) Under construction or secured capacities
(2) Public and private letter rating included

NORTH AMERICA

CORPORATE PPA IN THE US: TYPICAL P/L

Total investment cost of $100M; 75% sell down

Project Co. typical P&L
(equity consolidated within ENGIE)

In $M	Average year 1-5	Year 6
Revenues	5	6
EBITDA before Tax Equity Income (TEI)	2	2
EBITDA/COI after TEI	13	5
D&A	-3	-3
COI	10	2
Interest expense	-	-
Net result	**10**	2

ENGIE typical P&L
(excl. one-off development fee & DBSO margin)

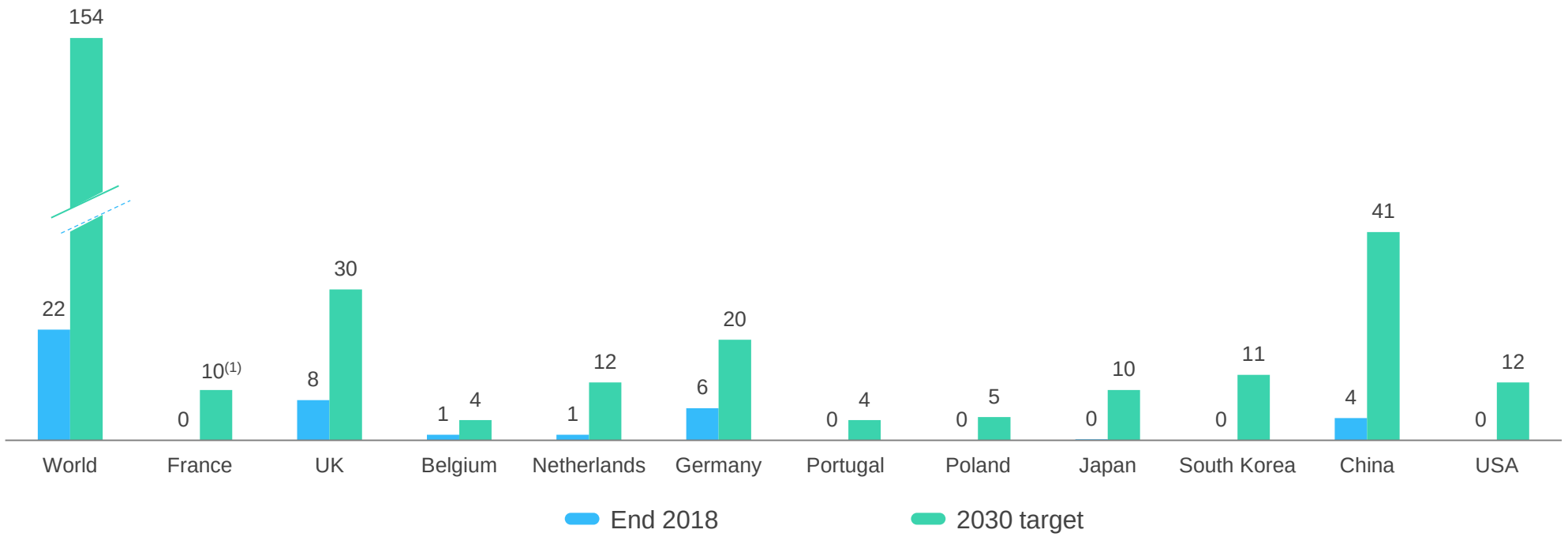
In $M	Average year 1-5	Year 6
O&M margin invoiced to Project Co.	0.1	0.1
Share of Project Co. net income	2.5	0.5
EBITDA/COI	**2.6**	**0.6**
Net result	**2.6**	**0.6**



OFFSHORE WIND

THE OFFSHORE WIND MARKET IS EXPECTED TO GROW TO MORE THAN 154 GW BY 2030

Growth to be roughly half in Europe already backed by political commitments (installed capacities,GW)



(1) French government to set 1GW annual offshore wind tendering target, 10GW will be awarded by 2028
Source: BNEF, 2018

ENGIE & EDP JV – A CLEAR INVESTMENT FRAMEWORK AND AMBITIOUS GROWTH TARGETS

50:50 EXCLUSIVE JV WITH JOINT-CONTROL, BALANCED GOVERNANCE AND SELECTIVE INVESTMENT CRITERIA…

Sound market fundamentals

Stable regulatory frameworks

Contracted NPV (i.e. cash flows visibility)

Compliance with target risk return profile

Maximize project self-financing with capital rotation

… SUPPORTING VERY AMBITIOUS GROWTH TARGETS (GROSS GW(1))



DEDICATED TEAM AND JOINT-OPERATIONS FULLY IMPLEMENTED BY THE END OF 2019(1)

(1) Estimate at inception of the JV, after the different approvals will have been received

ENGIE/EDPR KEY SUCCESS FACTORS IN A HIGHLY COMPETITIVE ENVIRONMENT



LARGE MARKET AND POTENTIAL MARKET EXPECTED FOR THE NEXT DECADE(S)

Although we are late comers, the market growth is tremendous and leaves enough opportunities for all who have competences and financial strength.



SCALE AND COMPETITIVENESS PROVEN ALREADY WITH OUR CURRENT POSITION

Already today both companies have competent resources and are competitive, as illustrated by current portfolios. Combining forces will reinforce competences and increase competitiveness by increasing scale of operations (procurement, Devex, Capex and Opex synergies).



OUR UNIQUE SET OF COMPETITIVE ADVANTAGES COMPARED TO OUR PEERS

- Global presence (including key new markets for offshore wind) and agility of our business development teams
- Strong position in onshore wind (combined EDPR and ENGIE portfolio is biggest in the world)
- Corporate PPAs ability enabling presence in so-called “zero subsidy” auctions
- OEMs(1) relationship and purchasing power
- Strong experience as Independent Power Producer, project finance acumen and relationship with lenders
- Continuous access to ex ENGIE E&P resources and their skills to be employed in our projects

(1) OEM: Original Equipment Manufacturer

OFFSHORE WIND PIPELINE OVERVIEW

Moray-East, *950MW*
Moray-West, *850MW*
CFD # 4, *1,000MW*

Ireland, *1,000MW*

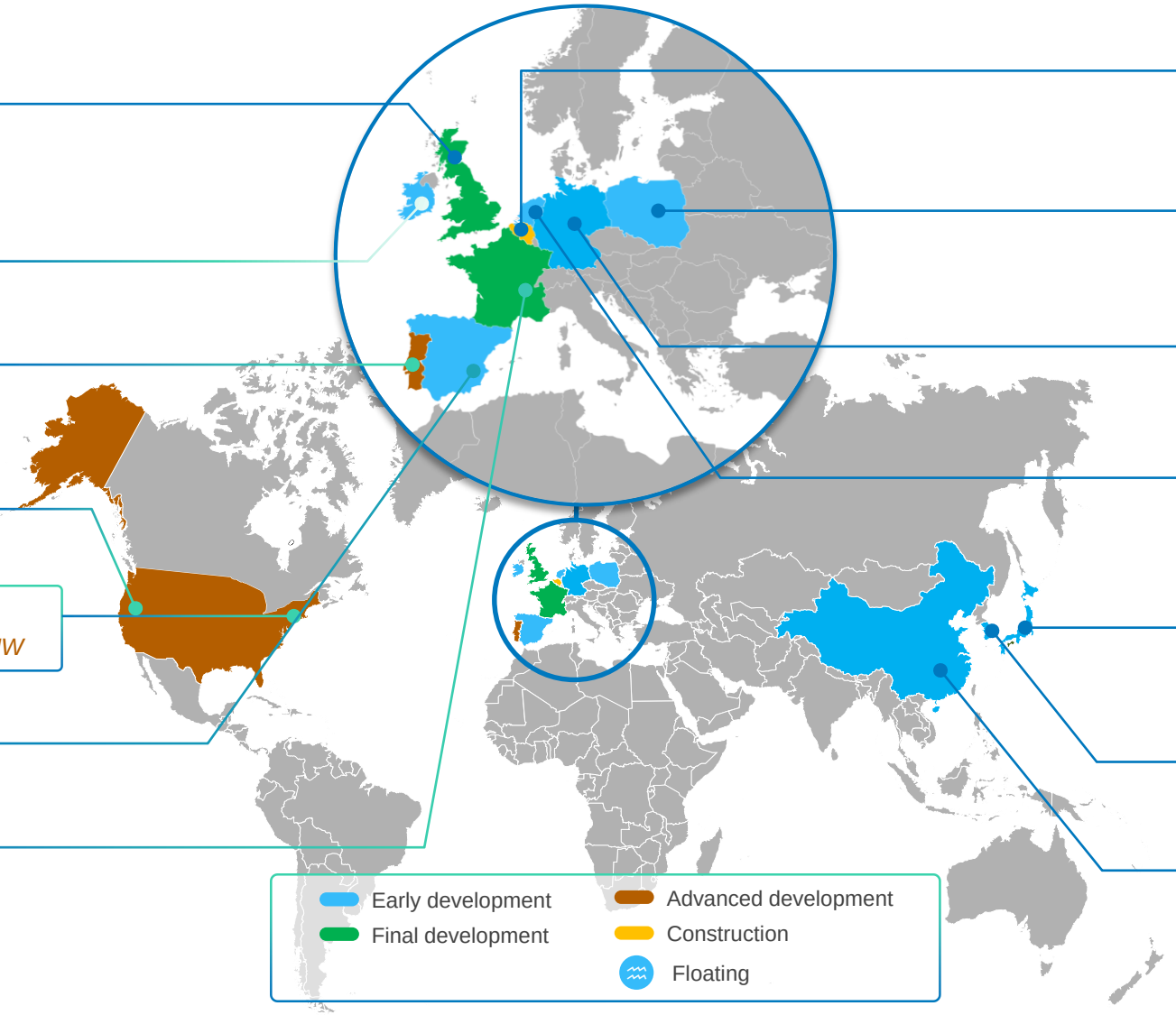
Floating
WFA, *25MW*

Floating
North California Coast, *150MW*

Mayflower Massachusetts, *1,600MW*

Floating
Canary Islands, *200MW*

EFGL, *24MW* **- Floating**
Dieppe Le Tréport, *496MW*
Iles Yeu Noirmoutier *496MW*



Seamade, *487MW*

Poland, *400MW*

Germany, *700MW*

HKZ III&IV, *760MW*
Hollandse Kust Noord *750MW*

Floating
Japan, *500MW*

Floating & fixed
Korea, *1,500MW*

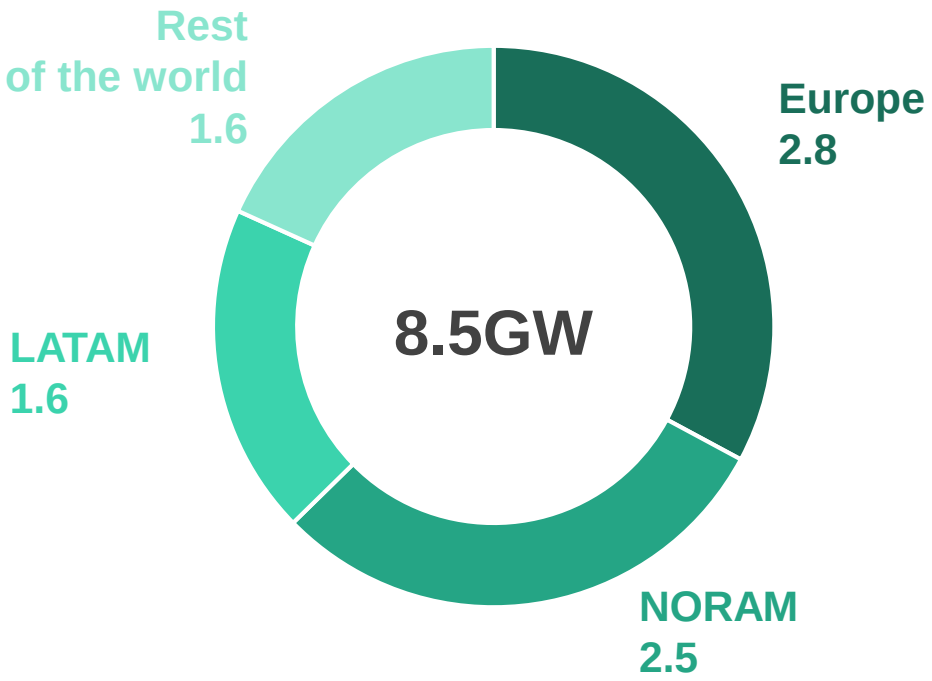
China, *1,000MW,*

FINANCIAL OUTLOOK

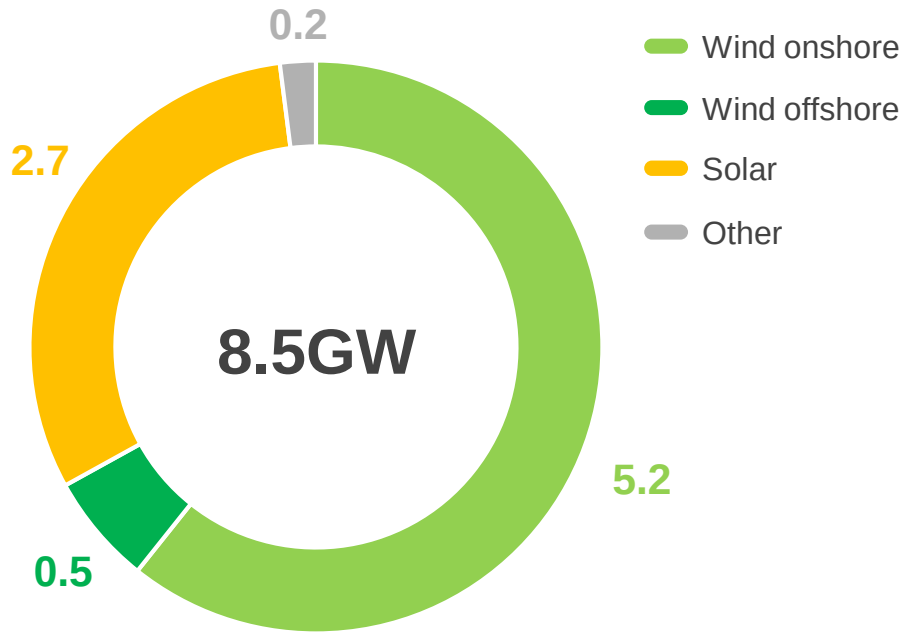


BALANCED PORTFOLIO OF PROJECTS OVER 2019-21

Capacity commissioned, under construction or secured 2019-21, split by geography

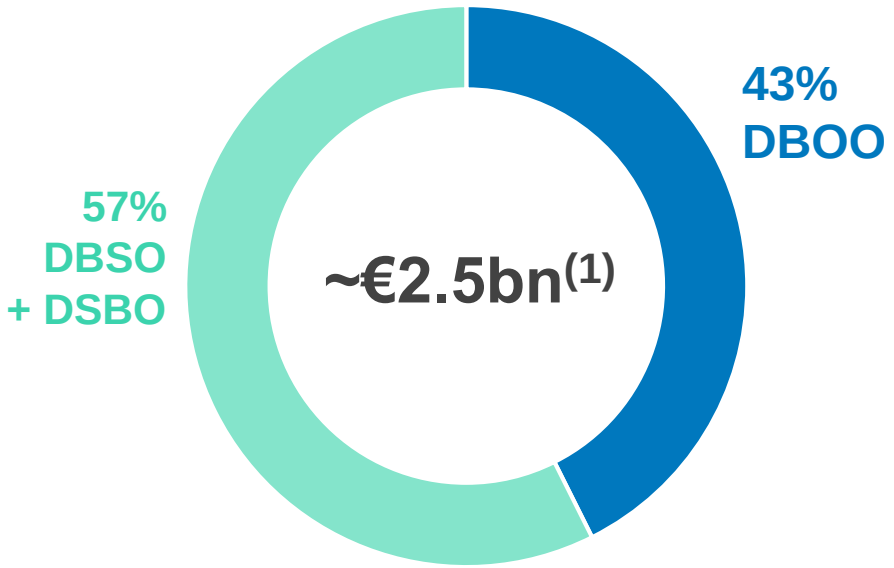


Capacity commissioned, under construction or secured 2019-21, split by technology

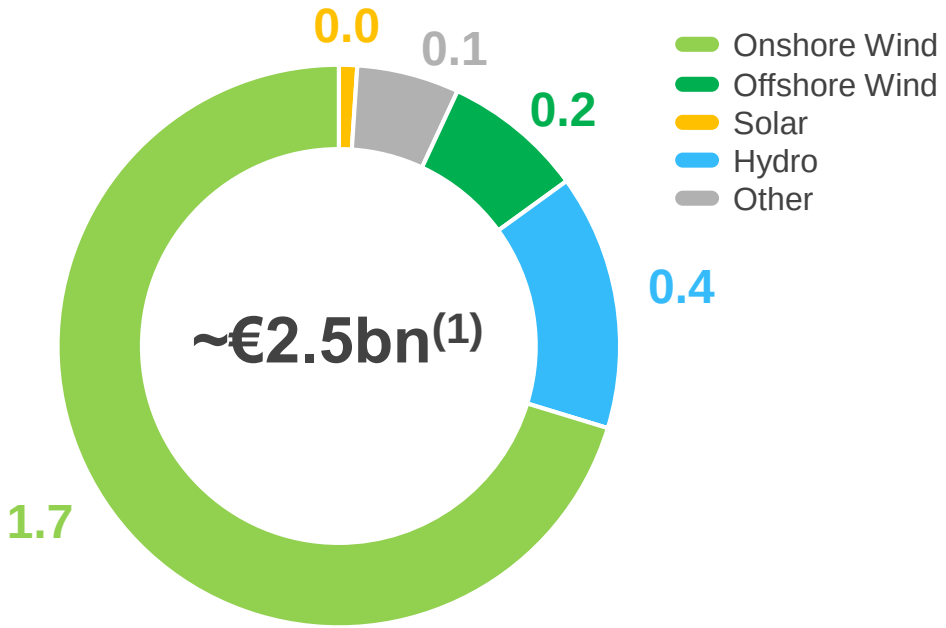


GROWTH CAPEX NET OF DBSO OVER 2019-21

By operating model



By technology

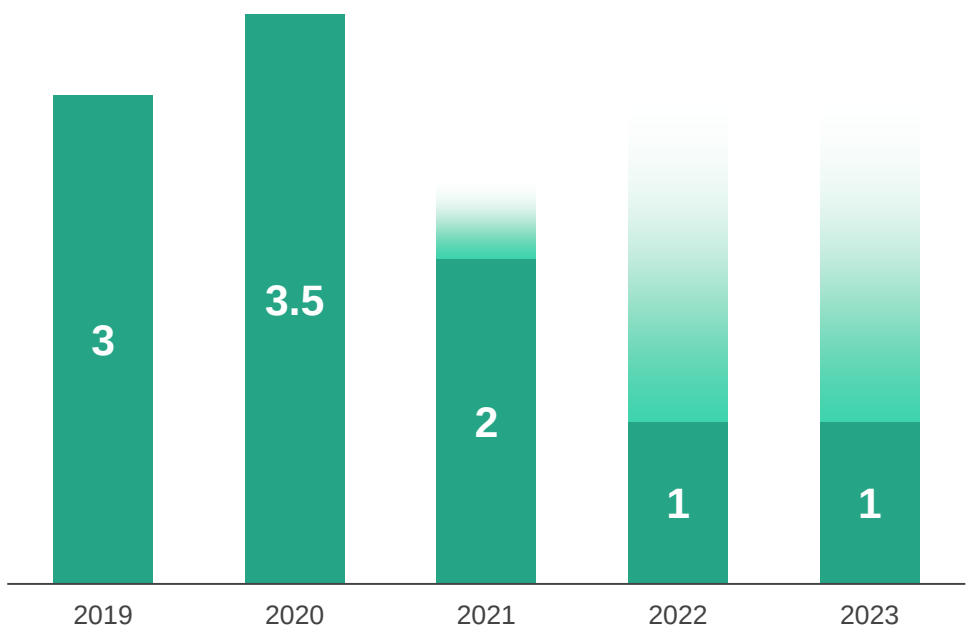


~€2.0BN OF CAPEX WILL BE EARNINGS ACCRETIVE OVER 2019-21

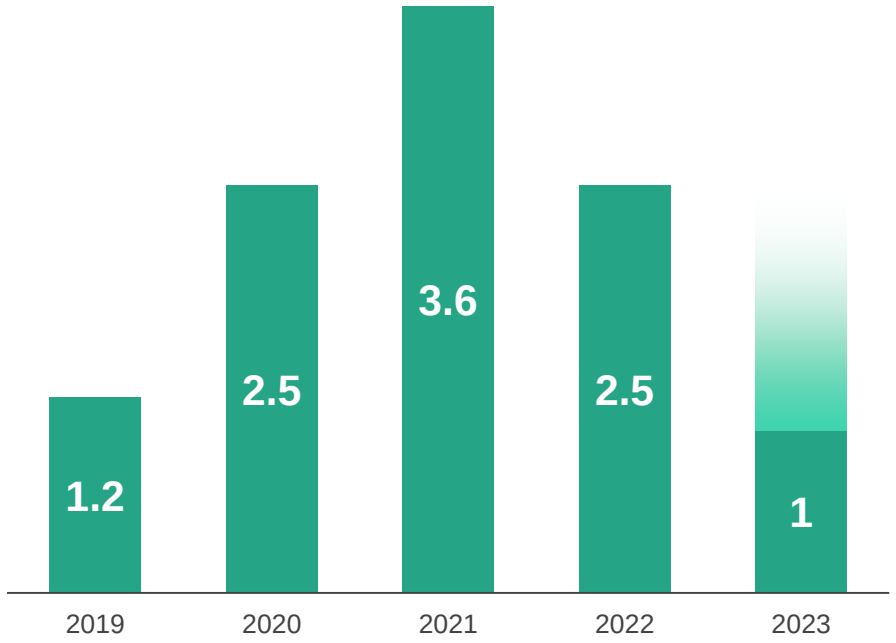
(1) Mid-range of €2.3-2.8bn

CURRENT PORTFOLIO TO SUPPORT LONG-TERM EARNING GROWTH

COD expectation over 2019-2023 (GW)



Sell-down expectations 2019-2023 (GW)



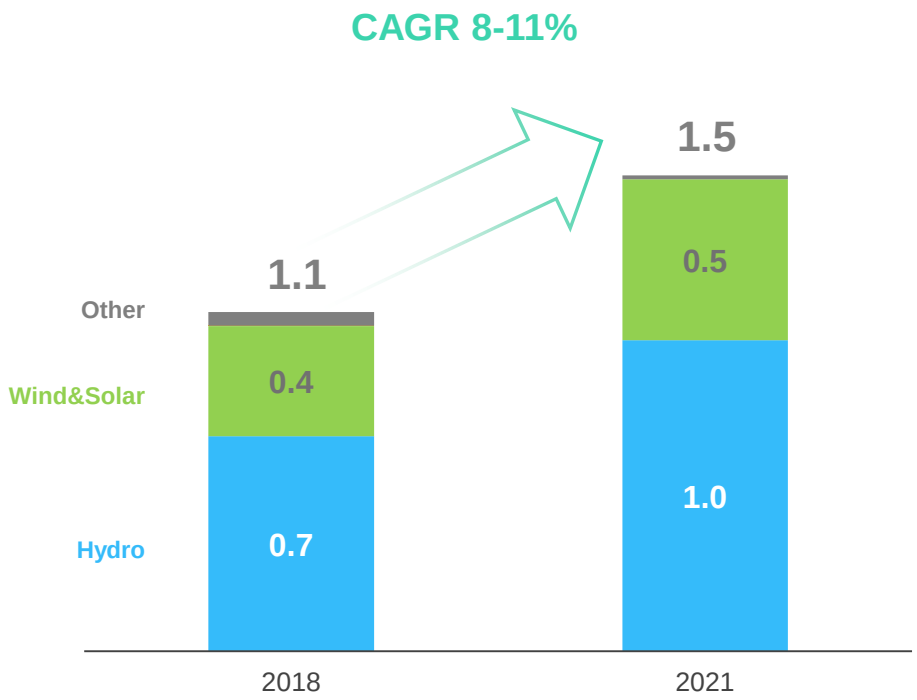
Based on 11GW already secured

Sell-downs in 2022-23 to increase following pipeline development beyond the 11 GW already secured

(1) Other: biomass and biogas, geothermal
(2) Assuming an average construction period of 12 months

COI TO GROW ACROSS ALL TYPES OF BUSINESS MODELS

COI 2018-21 indicative expectations by technology - in €bn(1)



	CAGR(2) 2018-2021	In(€bn)			
		GROWTH	*o/w* DBOO	*o/w* DBSO	*o/w* ASSOCIATES
HYDRO	8-11%	0.2-0.3	0.2-0.3	-	+0.0
WIND & SOLAR	10-13%	0.1-0.2	~0.1	~0.1	+0.0
OTHER					

2018-21 DBSO MARGINS INCREASE LIMITED TO €0.1BN DUE TO ONE-OFF MARGINS BOOKED IN 2018
~25% OF COI TO BE MERCHANT IN 2021, MAINLY REFLECTING HYDRO

(1) Including Corporate costs and the impact of IFRS 16
(2) Based on CMD assumptions for FOREX and power prices

STRONG AMBITION FOR THE RENEWABLES BUSINESS LINES



HUGE GROWTH POTENTIAL



ENGIE HAS A UNIQUE POSITIONNING TO CAPTURE THESE GROWTH POTENTIAL AND DELIVER VALUE



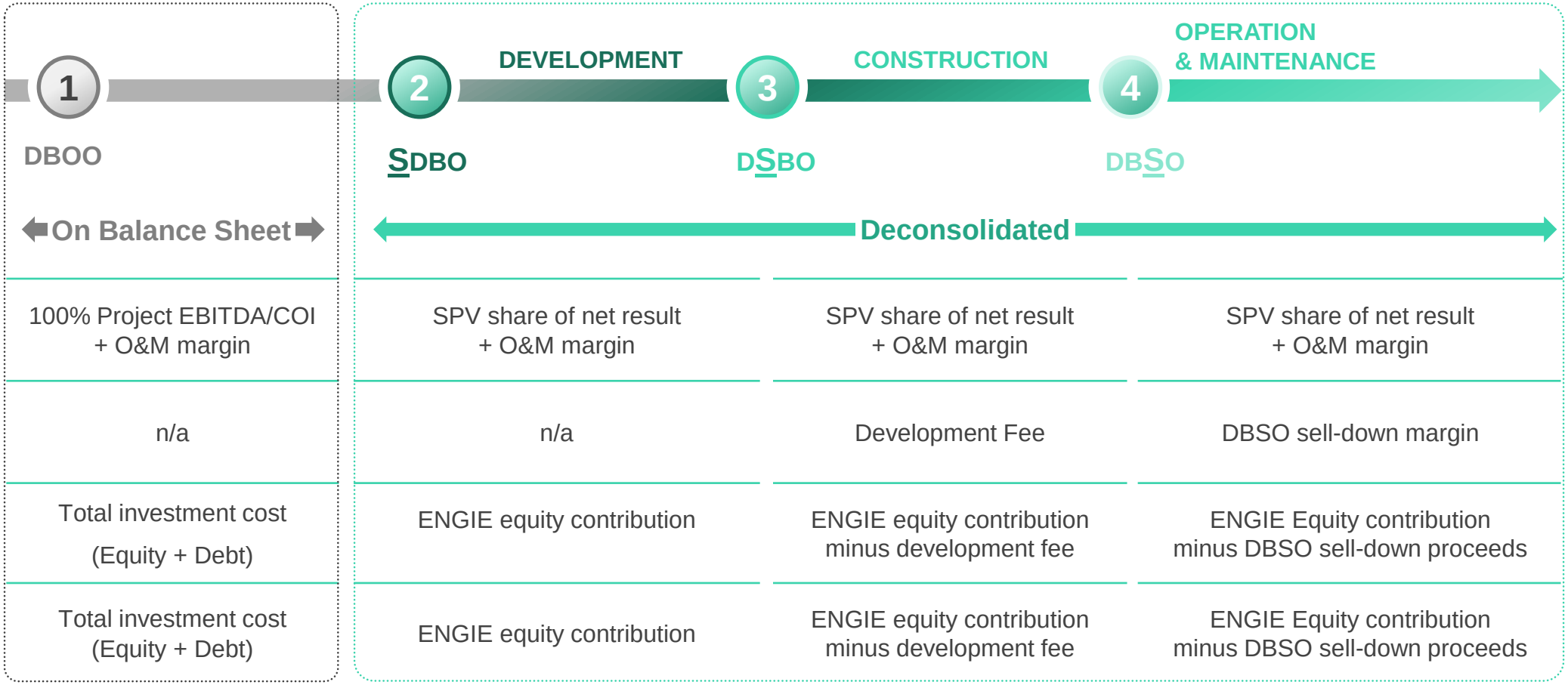
STRONG MOMENTUM; ON TRACK TO REACH CMD TARGET



APPENDICES

WIDE RANGE OF WIND & SOLAR BUSINESS MODELS

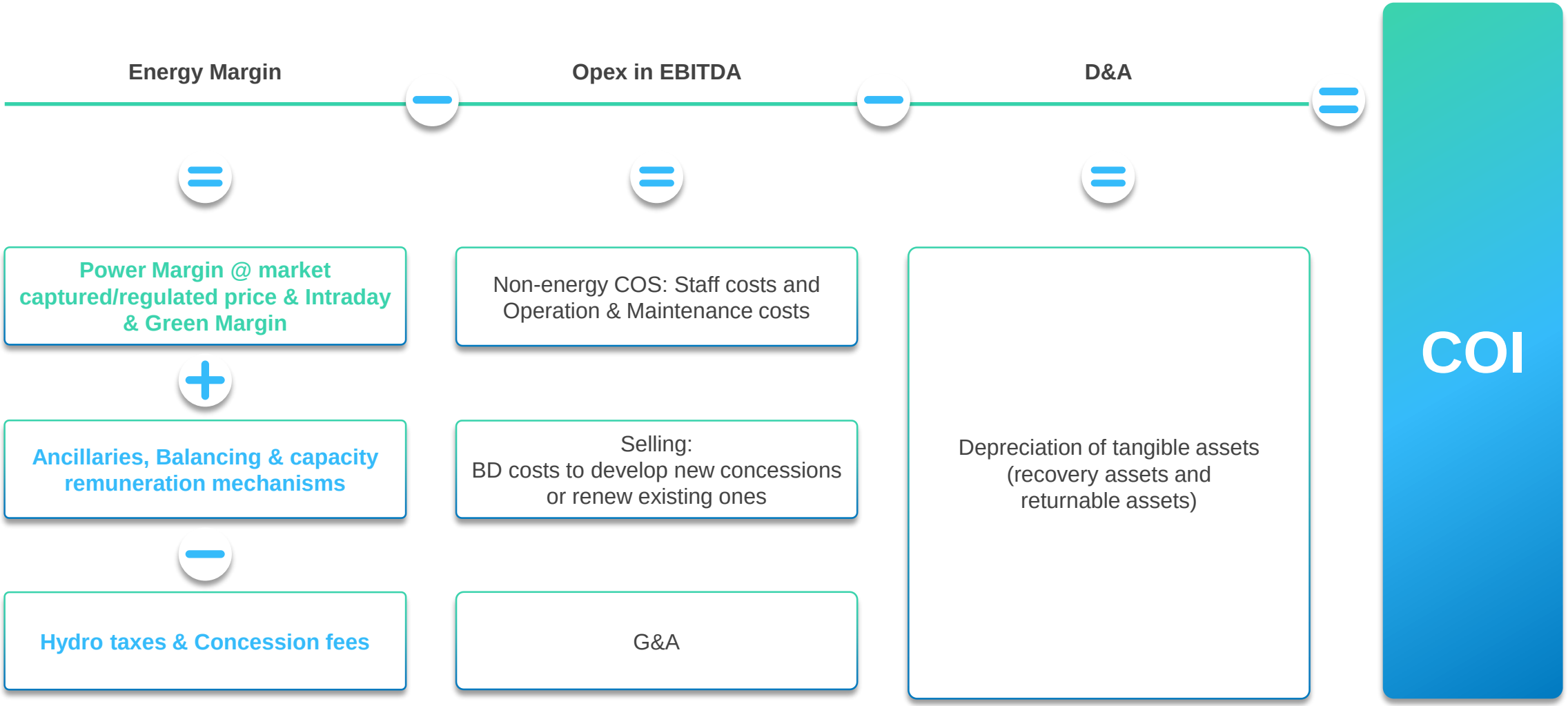
DEPENDING ON IF & WHEN SPV EQUITY IS PARTIALLY SOLD TO INVESTORS



EBITDA/COI recur.	100% Project EBITDA/COI + O&M margin	SPV share of net result + O&M margin	SPV share of net result + O&M margin	SPV share of net result + O&M margin
EBITDA/COI one-off	n/a	n/a	Development Fee	DBSO sell-down margin
CAPEX(1)	Total investment cost (Equity + Debt)	ENGIE equity contribution	ENGIE equity contribution minus development fee	ENGIE Equity contribution minus DBSO sell-down proceeds
NET DEBT(1)	Total investment cost (Equity + Debt)	ENGIE equity contribution	ENGIE equity contribution minus development fee	ENGIE Equity contribution minus DBSO sell-down proceeds

(1) Final impact

FRENCH HYDRO FINANCIAL MODEL: ILLUSTRATIVE P&L



RENEWABLES IN THE UNITED STATES
AN EVOLVING MARKET SINCE THE EARLY 2000S UNTIL TODAY…



- Long-term PPAs procured by utilities driven by State level policy defining Renewable Portfolio Standards (“RPS”)
- Prevailing technology is wind, solar PV starts towards the end of the decade

- Solar PV and wind with continuing decline in prices achieving grid parity in a few markets
- Several new players (developers) competing in the market
- Energy storage (batteries) start to become mainstream, specially in California
- Market starts to shift from utility PPAs to corporate PPAs, in 2010 with Walmart and Google

- Wind and solar prices achieved grid parity (or below) in several regions/markets
- Energy storage more common on renewable procurements, especially with utilities
- Strong increase in volume of MW deployed and expected to be deployed but shifting from utilities to corporate PPAs

- Corporate PPAs continuing to reduce in size (< 50MW) and tenor (10 to 12 years)
- Combined or structured solutions becoming more mainstream
- Price range for wind and solar will continue to decline
- Offshore wind to be a niche play, limited to some regions (for example New England)

WHY FLOATING OFFSHORE WIND (FOW)?

COMPLIMENTARY WITH FIXED OFFSHORE WIND AND SYNERGIES

BENEFITS AND POTENTIAL	FOW allows to tap into areas with much higher wind speeds. At farther distances from the shore, the wind blows stronger and its flow is more consistent. By using FOW, we can make use of larger areas avoiding wake effects from nearby wind turbines or other wind farms. FOW projects can also have a smaller impact on environmental surroundings and fishery.
FLOATING OFFSHORE WIND IS COMING OF AGE	FOW is no longer confined to R&D and is ready for large-scale deployment. It can benefit from the cost reduction learning curve of fixed offshore wind. It is also using the latest technology available in the rest of the offshore wind supply chain.
INDUSTRIALIZATION – COSTS ARE FALLING WITH ATTRACTIVE LCOE	Floating offshore wind has a very positive cost-reduction outlook. Prices will decrease as rapidly as they have in onshore and fixed offshore wind, and potentially at an even greater speed. ENGIE is working with supply chain to optimize the complete system with a mid term objective to reach the same LCOE for commercial FOW projects as fixed offshore wind.
ATTRACTIVE MARKET	Growth to 12GW in 2030 will entail a more accelerated rate of growth than was seen for onshore and fixed offshore wind, but should be possible due to floating offshore wind benefitting from the technological advances and cost reductions already achieved within the fixed offshore wind.
PIONEER, FIRST MOVER IN FLOATING WIND AND POSITIONING AS KEY PLAYER IN POTENTIAL FLOATING WIND MARKET	Wind Float Atlantic (25MW) under construction Eoliennes Flottantes du Golfe du Lion (24MW) final development North California Coast (150MW) advanced development Canary Islands (200MW) early development Korea and Japan (+1000MW) at early stage development

Additional key markets for the JV are UK, US, and Norway.

