ENGIE RENEWABLES TODAY

Capacities: 24.4GW@100%

- Hydro: 16.4GW
- Wind: 5.4GW
- Solar: 2.0GW
- Others: 0.5GW

- Noram: 0.8GW
- France: 7.0GW
- Brazil: 12.7GW
- Mescat: 0.4GW
- Asia: 0.5GW
- Africa: 0.4GW

- EU (exc. France): 2.1GW
- Africa: 0.4GW
- Brazil: 12.7GW

~500MW under Corporate PPA

Financial Results

- COI 2018: €5.1bn
- COI: €1.1bn
- Capital Employed: €9.0bn
- ROCEp: 9.6%

Renewables: 22%

(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%

<table>
<thead>
<tr>
<th>Region</th>
<th>Hydro(1)</th>
<th>Wind</th>
<th>Solar</th>
<th>Others(3)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUROPE</td>
<td>4.0</td>
<td>3.6</td>
<td>1.0</td>
<td>0.3</td>
<td>9.0</td>
</tr>
<tr>
<td>NORTH AMERICA</td>
<td>-</td>
<td>0.7</td>
<td>0.1</td>
<td>0.1</td>
<td>0.8</td>
</tr>
<tr>
<td>LATIN AMERICA</td>
<td>12.2</td>
<td>0.6</td>
<td>0.3</td>
<td>0.1</td>
<td>13.1</td>
</tr>
<tr>
<td>REST OF THE WORLD</td>
<td>0.2</td>
<td>0.5</td>
<td>0.7</td>
<td>0.0</td>
<td>1.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>16.4</td>
<td>5.4</td>
<td>2.1</td>
<td>0.5</td>
<td>24.4</td>
</tr>
</tbody>
</table>

### 2018 installed capacity at % of consolidation(2)

<table>
<thead>
<tr>
<th>Region</th>
<th>Hydro(1)</th>
<th>Wind</th>
<th>Solar</th>
<th>Others(3)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUROPE</td>
<td>4.0</td>
<td>2.5</td>
<td>0.5</td>
<td>0.3</td>
<td>7.3</td>
</tr>
<tr>
<td>NORTH AMERICA</td>
<td>-</td>
<td>0.3</td>
<td>0.1</td>
<td>0.1</td>
<td>0.5</td>
</tr>
<tr>
<td>LATIN AMERICA</td>
<td>7.9</td>
<td>0.6</td>
<td>0.3</td>
<td>0.1</td>
<td>8.9</td>
</tr>
<tr>
<td>REST OF THE WORLD</td>
<td>0.2</td>
<td>0.3</td>
<td>0.4</td>
<td>0.0</td>
<td>0.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>12.1</td>
<td>3.7</td>
<td>1.3</td>
<td>0.5</td>
<td>17.5</td>
</tr>
</tbody>
</table>

(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

Source: IEA, World Energy Outlook 2018, Sustainable Development Scenario
RAPIDLY DECREASING COSTS

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

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

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

LCOE ($/MWh, 2018 real)

(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

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**IMPORTANCE OF ENERGY MANAGEMENT & TRADING CAPABILITIES FOR FUTURE DEALS**

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*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 through 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.

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Investors’ unlevered IRR for onshore wind (May 2019)

- Germany
- France
- Sweden
- Poland
- Spain (auction)
- Spain (merchant)
- UK (merchant)
- Ireland
- Norway

10%

Financial investors own almost 50% of European solar assets

- Financial investors: 55%
- IPP: 33%
- Utility: 12%

Top 50 European solar portfolio owners


Source: BNEF – “Institutional Equity Returns for Onshore Wind in Europe” – May 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

€1.1bn

Hydro 64%
Wind 31%
Solar 6%

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)

<table>
<thead>
<tr>
<th>Category</th>
<th>2019-2021 gross Capex</th>
<th>2019-2021 Capex net DBSO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydro</td>
<td>~9</td>
<td>~2.5</td>
</tr>
<tr>
<td>Wind &amp; Solar</td>
<td>~8.2</td>
<td>~1.7</td>
</tr>
<tr>
<td>Other</td>
<td>~0.3</td>
<td>~0.4</td>
</tr>
</tbody>
</table>

2019-2021 Growth Capex net DBSO

- Hydro: ~2.5bn (1)
- Wind & Solar: 30% DBOO
- Other: 70% DBSO + DSBO

Mid-range of €2.3-2.8bn

(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
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

<table>
<thead>
<tr>
<th>In GW</th>
<th>Installed H1 capacity</th>
<th>Under Construction</th>
<th>Secured</th>
<th>Total</th>
<th>Gap to Target</th>
<th>2018-21 CMD target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3</td>
<td></td>
<td>4.2</td>
<td>3.0</td>
<td>8.5</td>
<td>0.5</td>
<td>9</td>
</tr>
</tbody>
</table>

**Pipeline/Gap to 3-year target**

- **Gap to target**: 0.5
- **Pipeline**: 2.8

**Faster Growth**

**MAIN PROJECTS (MW @ 100%)**

1. **Brazil**: Umburanas (253)
   - **USA**: Live Oaks (200)
2. **Inde**: Kadapa (250)
   - **South Africa**: Kathu (200)
   - **Brazil**: Paracatu (158)
3. **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)
4. **Mexico**: Akin (100), Tropezon (126), Villa Ahumada (150)
5. **France**: several projects (401)
   - **USA**: Longdraw (225)
   - **India**: Gujarat (200)
   - **Mexico**: Nueva Xcala (200)

**3x Faster Growth**

**France**: several projects (401)
- **USA**: Longdraw (225)
- **India**: Gujarat (200)
- **Mexico**: Nueva Xcala (200)
ACCELERATION BASED ON OUR DEVELOPMENT PLATFORM

ENGIE RENEWABLES CAPACITIES EXCL. HYDRO

At 100%

<table>
<thead>
<tr>
<th>Year</th>
<th>Wind</th>
<th>Other (Biomass, biogas)</th>
<th>Solar</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>0</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>2015</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2018</td>
<td>7.9</td>
<td>2</td>
<td>0.1</td>
</tr>
<tr>
<td>2021</td>
<td>~17GW</td>
<td>~17GW</td>
<td>~17GW</td>
</tr>
</tbody>
</table>

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

At consolidation share(1)

<table>
<thead>
<tr>
<th>Year</th>
<th>Wind</th>
<th>Other (Biomass, biogas)</th>
<th>Solar</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>0</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>2015</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2018</td>
<td>5.4</td>
<td>2</td>
<td>0.1</td>
</tr>
<tr>
<td>2021</td>
<td>~9GW</td>
<td>~9GW</td>
<td>~9GW</td>
</tr>
</tbody>
</table>

+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
ENGIE NOW RANKS #2 IN RENEWABLE CAPACITY ADDITIONS

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

Faster Growth
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

**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

(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
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

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

**Base load asset**
- 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

**Key challenges**
- Optimize the assets’ availability
- Optimize O&M costs

**BRAZIL**

**Central dispatcher**
- 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

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

**Key challenges**
- GSF \(^{(1)}\)
- Keep high availability rates
- Optimize O&M costs

---

(1) Generation Scaling Factor (GSF)
ENGIE FRENCH HYDRO: 2\textsuperscript{ND} 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\textsubscript{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\textsubscript{2} emissions avoided a year

Hydro storage + run of river

Merchant (70%) + Regulated (30%)
ENGIE BRASIL

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

Private Sector - Installed capacity (GW) Net ownership

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

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

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)

Strong performance despite hydro headwind

Total electric power output

\[ \Sigma \text{ of assured energy} \]

\[ > 1 \]

Secondary energy

\[ = 1 \]

System in balance

\[ < 1 \]

GSF

(1) MRE: Energy Relocation Mechanism
(2) Generation Scaling Factor (GSF); ENA: Energia Natural afliuente
(3) PIB=GDP
(4) IPCA: Brazilian inflation rate
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 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
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
WIDE RANGE OF WIND & SOLAR BUSINESS MODELS
DEPENDING ON IF & WHEN EQUITY IS PARTIALLY SOLD TO INVESTORS

On balance sheet

1. DBOO
   Develop Build Own Operate
   No sale
   ENGIE controlled entity develops, builds, owns, operates and maintains the asset

2. SDBO
   Share Develop Build Operate
   "pSale" before development
   A deconsolidated SPV (50% or minority stake) develops, builds and performs the O&M. The SPV finances the project through project financing

3. DSBO
   Develop Share Build Operate
   "pSale" after development but before construction
   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

4. DBSO
   Develop Build Share Operate
   "pSale" after construction
   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

- DBSO or DSBO
- Deconsolidation
- ENGIE Green
- DBOO
- On Balance Sheet

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)

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

**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

---

(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**

<table>
<thead>
<tr>
<th></th>
<th>At commissioning</th>
<th>Average contribution during contracted operations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Result Group</strong></td>
<td><strong>DBSO Margin</strong></td>
<td><strong>Recurring Net Result of JV</strong></td>
</tr>
<tr>
<td></td>
<td>€0.05-0.4M/MW gross capacity</td>
<td>€5-15k/MW net capacity</td>
</tr>
<tr>
<td></td>
<td>€0.05-0.15M/MW gross capacity</td>
<td>€1-10k/MW net capacity</td>
</tr>
<tr>
<td><strong>Capex Group</strong></td>
<td><strong>Net Capex DBSO</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>€0.1-0.2M/MW gross capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>€0.05-0.15M/MW gross capacity</td>
<td></td>
</tr>
</tbody>
</table>
ENGIE LEADER IN THE FRENCH MARKET

**FRENCH WIND MARKET**

15GW

<table>
<thead>
<tr>
<th>Company</th>
<th>Market Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDF Renouvelables (incl. Luxel)</td>
<td>2.1 (1)</td>
</tr>
<tr>
<td>Boralex (incl. Kallista)</td>
<td>6%</td>
</tr>
<tr>
<td>RES France</td>
<td>4%</td>
</tr>
<tr>
<td>EDPR France</td>
<td>3%</td>
</tr>
<tr>
<td>Total Eren Quadrant D.E.</td>
<td>2%</td>
</tr>
<tr>
<td>Neoen</td>
<td>2%</td>
</tr>
<tr>
<td>ERG France</td>
<td>2%</td>
</tr>
<tr>
<td>Valeco (EnBW)</td>
<td>2%</td>
</tr>
<tr>
<td>Enertrag</td>
<td>1%</td>
</tr>
<tr>
<td>Valorem</td>
<td>1%</td>
</tr>
<tr>
<td>Akio Energy</td>
<td>1%</td>
</tr>
</tbody>
</table>

**FRENCH SOLAR MARKET**

8.5GW

<table>
<thead>
<tr>
<th>Company</th>
<th>Market Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neoen</td>
<td>1.2 (1)</td>
</tr>
<tr>
<td>EDF Renouvelables (incl. Luxel)</td>
<td>4%</td>
</tr>
<tr>
<td>Urbasolar</td>
<td>3%</td>
</tr>
<tr>
<td>Photosol</td>
<td>3%</td>
</tr>
<tr>
<td>Ténergie</td>
<td>3%</td>
</tr>
<tr>
<td>Sonnedix</td>
<td>2%</td>
</tr>
<tr>
<td>Reden Solar</td>
<td>2%</td>
</tr>
<tr>
<td>Total Eren Quadrant D.E.</td>
<td>2%</td>
</tr>
<tr>
<td>Akio Energy</td>
<td>1%</td>
</tr>
<tr>
<td>Cap Vert Energie</td>
<td>1%</td>
</tr>
<tr>
<td>Générale du Solaire</td>
<td>1%</td>
</tr>
<tr>
<td>Valeco</td>
<td>1%</td>
</tr>
</tbody>
</table>

(1) End 2018
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

### French Renewable Capacities

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>2017</th>
<th>2023</th>
<th>2028</th>
<th>2028-2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioenergies</td>
<td>1.9</td>
<td>7.7</td>
<td>13.6</td>
<td>25.5</td>
</tr>
<tr>
<td>Solar PV</td>
<td>7.7</td>
<td>20.6</td>
<td>24.6</td>
<td>25.7</td>
</tr>
<tr>
<td>Onshore wind</td>
<td>20.6</td>
<td>34.9</td>
<td>34.9</td>
<td>38.5</td>
</tr>
<tr>
<td>Hydro</td>
<td>25.5</td>
<td>26.5</td>
<td>30.0</td>
<td>38.5</td>
</tr>
<tr>
<td>Offshore wind</td>
<td>2.4</td>
<td>5.0</td>
<td>102</td>
<td>113</td>
</tr>
</tbody>
</table>

**Auction mechanism**

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

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

**ONSHORE WIND**

- Awarded by tender: 2 x 850MW/yr only for utility scale solar

Source: L’Usine Nouvelle, January 2019
ENGIE IS WELL POSITIONED TO CAPTURE THE FRENCH MARKET OPPORTUNITIES

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

Source: Finergreen
ENGIN 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

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

<table>
<thead>
<tr>
<th>Power Plants under construction</th>
<th>PPAs Duration (years)</th>
<th>Installed Capacity (MW)</th>
<th>Commercial Capacity (aMW)</th>
<th>Offtaker (corporate or captive clients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 Campo Largo II Complex (Wind)</td>
<td>~ 5</td>
<td>361</td>
<td>200</td>
<td>Corporate</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>361</td>
<td>200</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power Plants under development</th>
<th>Installed Capacity (MW)</th>
<th>Commercial Capacity (aMW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Sto. Agostinho (Wind)</td>
<td>600</td>
<td>440</td>
</tr>
<tr>
<td>11 Umburanas II (Wind)</td>
<td>300</td>
<td>165</td>
</tr>
<tr>
<td>12 Campo Largo III (Wind)</td>
<td>250</td>
<td>137</td>
</tr>
<tr>
<td>13 Assú I, II, III and IV (Solar)</td>
<td>120</td>
<td>36</td>
</tr>
<tr>
<td>14 Alvorada (Solar)</td>
<td>90</td>
<td>27</td>
</tr>
<tr>
<td>Total</td>
<td>1,560</td>
<td>805</td>
</tr>
</tbody>
</table>

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
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

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

Notes:
1. PTC & ITC: Production Tax Credit & Investment Tax Credit
2. ERCOT: Electric Reliability Council of Texas
3. PJM: Pennsylvania-New Jersey-Maryland Interconnection
Large portfolio of projects (>10GW) and well diversified (technology, markets and delivery date)

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

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

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

**Solar**
- Operating: 72MW
- Pipeline: 3,000+MW
- Under Construction or secured: 525MW

**Wind**
- Operating: 889MW
- Pipeline: 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
# GREEN PPA OFFERINGS

**ENGIE’S RENEWABLES CONTINUUM**

## KEY CLIENT PRIORITIES

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

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

(1) RECs: Renewable Energy Certificates
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
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

---

\(^{(1)}\) Under construction or secured capacities  
\(^{(2)}\) Public and private letter rating included
## 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)

<table>
<thead>
<tr>
<th>In $M</th>
<th>Average year 1-5</th>
<th>Year 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>EBITDA before Tax Equity Income (TEI)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>EBITDA/COI after TEI</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>D&amp;A</td>
<td>-3</td>
<td>-3</td>
</tr>
<tr>
<td>COI</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Interest expense</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Net result</strong></td>
<td><strong>10</strong></td>
<td><strong>2</strong></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>In $M</th>
<th>Average year 1-5</th>
<th>Year 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>O&amp;M margin invoiced to Project Co.</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Share of Project Co. net income</td>
<td>2.5</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>EBITDA/COI</strong></td>
<td><strong>2.6</strong></td>
<td><strong>0.6</strong></td>
</tr>
<tr>
<td><strong>Net result</strong></td>
<td><strong>2.6</strong></td>
<td><strong>0.6</strong></td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>50:50 EXCLUSIVE JV WITH JOINT-CONTROL, BALANCED GOVERNANCE AND SELECTIVE INVESTMENT CRITERIA…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound market fundamentals</td>
</tr>
<tr>
<td>Stable regulatory frameworks</td>
</tr>
<tr>
<td>Contracted NPV (i.e. cash flows visibility)</td>
</tr>
<tr>
<td>Compliance with target risk return profile</td>
</tr>
<tr>
<td>Maximize project self-financing with capital rotation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>… SUPPORTING VERY AMBITIOUS GROWTH TARGETS (GROSS GW(^{(1)}))</th>
</tr>
</thead>
<tbody>
<tr>
<td>today</td>
</tr>
<tr>
<td>1.5 gw</td>
</tr>
<tr>
<td>4 gw</td>
</tr>
<tr>
<td>5-7 gw</td>
</tr>
<tr>
<td>5-10 gw</td>
</tr>
<tr>
<td>2025E</td>
</tr>
</tbody>
</table>

---

*Operational/Under construction*

*Under advanced development*

---

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
ENGIN/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 ENGIN 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 ENGIN 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
- WFA, 25MW
- North California Coast, 150MW
- Mayflower Massachusetts, 1,600MW
- Canary Islands, 200MW
- EFGL, 24MW - Floating
- Dieppe Le Tréport, 496MW
- Iles Yu Noirmoutier 496MW
- Seamade, 487MW
- Poland, 400MW
- Germany, 700MW
- HKZ III&IV, 760MW
- Hollandse Kust Noord 750MW
- Japan, 500MW
- Korea, 1,500MW
- China, 1,000MW

Legend:
- Early development
- Advanced development
- Final development
- Construction
- Floating
- Floating & fixed
FINANCIAL OUTLOOK
### BALANCED PORTFOLIO OF PROJECTS OVER 2019-21

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

- **Europe**: 2.8 GW
- **NORAM**: 2.5 GW
- **LATAM**: 1.6 GW
- **Rest of the world**: 1.6 GW

8.5 GW

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

- **Wind onshore**: 5.2 GW
- **Wind offshore**: 0.2 GW
- **Solar**: 2.7 GW
- **Other**: 0.5 GW

8.5 GW
GROWTH CAPEX NET OF DBSO OVER 2019-21

By operating model

57% DBSO + DSBO

43% DBOO

~€2.5bn\(^{(1)}\)

By technology

~€2.5bn\(^{(1)}\)

0.0

0.1

0.2

0.4

1.7

~€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)

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>3</td>
<td>3.5</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Sell-down expectations 2019-2023 (GW)

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>1.2</td>
<td>2.5</td>
<td>3.6</td>
<td>2.5</td>
<td>1</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Technology</th>
<th>2018</th>
<th>2021</th>
<th>CAGR 8-11%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydro</td>
<td>0.7</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Wind &amp; Solar</td>
<td>0.4</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1.1</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>CAGR (2)</th>
<th>In(€bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018-2021</td>
<td>GROWTH</td>
</tr>
<tr>
<td>Hydro</td>
<td>8-11%</td>
<td>0.2-0.3</td>
</tr>
<tr>
<td>Wind &amp; Solar</td>
<td>10-13%</td>
<td>0.1-0.2</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Impact on ENGIE F/S</th>
<th>DEPARTMENT</th>
<th>CONSTRUCTION</th>
<th>OPERATION &amp; MAINTENANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBITDA/COI recur.</td>
<td>DEVELOPMENT</td>
<td>CONSTRUCTION</td>
<td>OPERATION &amp; MAINTENANCE</td>
</tr>
<tr>
<td>EBITDA/COI one-off</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPEX(1)</td>
<td>Total investment cost (Equity + Debt)</td>
<td>ENGIE equity contribution</td>
<td>ENGIE Equity contribution minus development fee</td>
</tr>
<tr>
<td>NET DEBT(1)</td>
<td>Total investment cost (Equity + Debt)</td>
<td>ENGIE equity contribution</td>
<td>ENGIE Equity contribution minus DBSO sell-down proceeds</td>
</tr>
</tbody>
</table>

(1) Final impact

Impact on ENGIE F/S:
- **DBOO**: Deconsolidated
- **SDBO**: On Balance Sheet
- **DSBO**: Deconsolidated
- **DBSO**: On Balance Sheet

Impact on ENGIE F/S:
- **EBITDA/COI recur.**
  - 100% Project EBITDA/COI + O&M margin
- **EBITDA/COI one-off**
  - n/a
- **CAPEX(1)**
  - Total investment cost (Equity + Debt)
- **NET DEBT(1)**
  - Total investment cost (Equity + Debt)

Impact on ENGIE F/S:
- **SPV share of net result**
  - + O&M margin
- **n/a**
  - Development Fee
- **ENGIE equity contribution**
  - ENGIE equity contribution minus development fee
  - ENGIE equity contribution minus DBSO sell-down proceeds

ENGIE Equity contribution minus development fee
ENGIE Equity contribution minus DBSO sell-down proceeds

(1) Final impact
FRENCH HYDRO FINANCIAL MODEL: ILLUSTRATIVE P&L

Energy Margin
- Power Margin @ market captured/regulated price & Intraday & Green Margin
- Ancillaries, Balancing & capacity remuneration mechanisms
- Hydro taxes & Concession fees

Opex in EBITDA
- Non-energy COS: Staff costs and Operation & Maintenance costs
- Selling: BD costs to develop new concessions or renew existing ones
- G&A

D&A
- Depreciation of tangible assets (recovery assets and returnable assets)

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

EARLY 2000 TO 2010
- 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

FROM 2010 TO 2015
- 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, especially in California
- Market starts to shift from utility PPAs to corporate PPAs, in 2010 with Walmart and Google

FROM 2015 TO TODAY
- 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

FROM 2018 ONWARDS
- 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.

PIioneer, 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.