Low Carbon Business: Can an old dog learn new tricks?
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Strategic Update 2018 | ...we communicated a vision to develop a profitable low carbon generation business

### Retail G&P

**Strong brand and ~10M clients base with direct contact**

- To become a relevant Spanish low carbon multi-energy retailer
- Progressively sophisticate our offer including advanced energy services and solutions

### Low carbon generation

**Technical capabilities and experience in managing large scale projects**

- Develop a strong position in Spain achieving a low carbon integrated business
- **Technological vocation** oriented to solar, wind, CCGT and other low carbon technologies
- **Diversify in emerging countries** that yield higher returns

### Roadmap

<table>
<thead>
<tr>
<th>Top capability</th>
<th><strong>Targets by 2025</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt;5% Market share²</td>
</tr>
<tr>
<td></td>
<td>~ 4.5 GW Capacity</td>
</tr>
</tbody>
</table>

**Investments in low carbon businesses with equity IRR above 10%⁴**

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1. Spain market share including our refineries’ consumption; 2. Spain market share in number of clients; 3. Not adjusted for dual clients; 4. Assuming financial leverage of ~50%
Retail is not just an opportunity

Here mobility – our core – meets utility, meets IoT, meets renewables, meets storage, meets “behind-the-meter” …

New energy services and solutions are developing around the client

Value of the profit pool expected to increase by ~50%

G&P Retail Profit Pool evolution - EBIT (€)

1. Decentral combined heat and power. 2. Value Added Services  
Source: CNMC, company financials, DBK  
Note: 2017 figures not available
Retail is the opportunity to deliver on our strengths

Leverage on our brand an channels to acquire customers and materialize our customer centric vision

- Largest service stations network
  - infrastructure allows high-value direct interactions

- Distribution channels across Spain with loyalty, exclusivity
  - More than 200 bottled LPG distribution agencies
  - Over 250 technical service partners for LPG
  - Around 200 bulk diesel distributor

- Online channels (e.g. Waylet) with a growing client base that is constantly connected to Repsol

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On a 0-10 scale; how good is the image perception you have from these companies?

- Repsol: 6.85
- CEPSA: 6.57
- Gas Natural Fenosa: 6.01
- Iberdrola: 5.92
- Endesa: 5.66

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In one year we reached 1 million E & G customers (33% growth)

50% were already loyal customers from other Repsol channels

15% of our Waylet customers have become Electricity & Gas customers
Commercial creativity as main driver for growth
Our channels and brand are producing results with no signs of slow-down

- Repsol E&G is born
- Multi-energy offer: power, gas and fuel discounts
- Employees special offer

Vendor’s employees special offer
Travel Club
ECI Employees
ECI Customers
Stockholders offer

©
Technical Innovation Improving customer experience
One example: Repsol’s IT capabilities deliver “Tu oficina Online” App

Check your contracts, invoices and consumption

✓ What you have consumed so far
✓ The details of your electricity & gas consumption in €: every day and every hour, explained easily.
✓ The estimated amount for your next invoice
✓ Your electricity consumption disaggregated by appliances
✓ If you do not have the invoices payment domiciled, you can pay them via bank card.
✓ You will understand why your cost fluctuates
Technical Innovation Improving customer experience
Considered Best App by consumers

<table>
<thead>
<tr>
<th></th>
<th>Google Play Score</th>
<th>Apple Store Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repsol</td>
<td>4.4</td>
<td>4.0</td>
</tr>
<tr>
<td>Endesa</td>
<td>3.9</td>
<td>3.8</td>
</tr>
<tr>
<td>Iberdrola</td>
<td>3.9</td>
<td>2.2</td>
</tr>
<tr>
<td>Naturgy</td>
<td>3.6</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Juana Díaz Sánchez
★★★★★ 3 de octubre de 2019
Esta muy bien detallado el consumo actual, la estimación es muy acertada y las facturas las tienes claras. Es lo que se espera de una app, clara y veraz.

Silvia Hueros García
★★★★★ 6 de octubre de 2019
Te ayuda mucho a saber cuanto gastas y en que lo gastas. Muchas gracias por la ayuda.
Strategic Update 2018 | ...we communicated a vision to develop a profitable low carbon generation business

1. Spain market share including our refineries’ consumption; 2. Spain market share in number of clients; 3. Not adjusted for dual clients. 4. Assuming financial leverage of ~50%
CCGT: Repsol leading in Capacity Factor in Spain

Capacity Factor (January to July 2019)

- Repsol: 23.7%
- Naturgy: 22.3%
- Resto: 20.2%
- EDP: 19.2%
- Iberdrola: 16.2%
- Endesa: 15.2%
- Engie: 10.8%

- The accumulated production of Repsol’s CCGTs is the highest since 2009 due to:
  - Contracting Forward Capacity, anticipating CCGT market recovery...
  - Over 100 operations of physical gas purchase, reducing supply costs
  - Operating in the Futures market for Power, CO2 and Gas
  - Capturing a premium over the daily market

© 1 among companies with more than one cggf.
Wind and solar don’t need support.

Both forms of energy are now cheaper than conventional and still have margin to improve

<table>
<thead>
<tr>
<th>Country</th>
<th>2019E</th>
<th>2023E</th>
<th>2030E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>€54</td>
<td>€58</td>
<td>€49</td>
</tr>
<tr>
<td>Italy</td>
<td>€24</td>
<td>€32</td>
<td>€29</td>
</tr>
<tr>
<td>France</td>
<td>€22</td>
<td>€27</td>
<td>€27</td>
</tr>
<tr>
<td>Germany</td>
<td>€17</td>
<td>€21</td>
<td>€22</td>
</tr>
<tr>
<td>UK</td>
<td>€58</td>
<td>€47</td>
<td>€47</td>
</tr>
<tr>
<td>Nordic</td>
<td>€48</td>
<td>€45</td>
<td>€33</td>
</tr>
</tbody>
</table>

Source: Goldman Sachs [4 April 2019]
Renewables are now market driven
Renewables must meet demand and not the other way around

Daily demand and generation structure 2020, GW

Daily demand and generation structure 2025, GW

Daily demand and generation structure 2030, GW

A diversified portfolio and the top energy management capabilities will enable Repsol to provide to its customers a tailormade supply of low carbon energy.

1 Others includes CHP, biomass, oil, importation / exportations

SOURCE: McKinsey Power Model
As promised, we are developing a relevant low carbon generation position in Iberia.

Circa 90% of Repsol’s 2025 low carbon capacity target will be achieved by 2022, 3 years ahead of schedule.

Repsol’s 2025 targets could be revised.

1. Combined Heat and Power plants; 2. Valdesolar (264 MW), WindFloat Atlantic (25 MW), Sigma (204 MW), Delta (335 MW) and PI (255 MW)
Not just relevant but diversified

HYDRAULIC GENERATION UNITS
COD: 1910-2008
340 MW

PUMPED STORAGE [AGUAYO]
COD: 1982
360 MW

WIND [WINDFLOAT, DELTA & PI]
COD: 2019-2022
615 MW

SOLAR [VALDESOLAR & SIGMA]
COD: 2020-2021
468 MW

ESCATRON
COD: 2008
820 MW

BAHÍA ALGECIRAS
COD: 2011
830 MW

Note: Gross capacity
COD: Commercial Operation Date
Source: Minetur; Repsol
# Delivering superior profitability in a heated market

<table>
<thead>
<tr>
<th>Project</th>
<th>Capacity (MW)</th>
<th>Annual Energy (GWh)</th>
<th>Operation (Q)</th>
<th>COD (Expected)</th>
<th>CO₂ Emissions Reduction</th>
<th>CO₂ Emissions (ton/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VALDE SOLAR</strong></td>
<td>264 MW</td>
<td>530 GWh/year</td>
<td>Q4 2020</td>
<td>COD expected</td>
<td>CO₂ emissions reduction</td>
<td>70,353 ton/year</td>
</tr>
<tr>
<td><strong>SIGMA</strong></td>
<td>204 MW</td>
<td>410 GWh/year</td>
<td>Q4 2021</td>
<td>COD expected</td>
<td>CO₂ emissions reduction</td>
<td>54,364 ton/year</td>
</tr>
<tr>
<td><strong>DELTA</strong></td>
<td>335 MW</td>
<td>993 GWh/year</td>
<td>Q4 2020</td>
<td>COD expected</td>
<td>CO₂ emissions reduction</td>
<td>86,189 ton/year</td>
</tr>
<tr>
<td><strong>PI</strong></td>
<td>255 MW</td>
<td>798 GWh/year</td>
<td>2021-2022</td>
<td>COD expected</td>
<td>CO₂ emissions reduction</td>
<td>65,607 ton/year</td>
</tr>
</tbody>
</table>

### Aggregated Equity IRR

>10%

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1. Assuming leverage of 50%, cost of debt 4.5%, expected timeline for debt repayment 18 years.
Renewables business being developed with an industrial approach, acquiring new skills across value chain

Repsol leveraged on existing key capabilities and has already developed most of the new necessary ones...

<table>
<thead>
<tr>
<th>DEVELOPMENT</th>
<th>ENGINEERING &amp; CONSTRUCTION</th>
<th>OPERATION</th>
<th>PERFORMANCE MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXISTING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment analysis</td>
<td>Finance / Tax / HR / Legal</td>
<td>Energy Management</td>
<td></td>
</tr>
<tr>
<td>Procurement</td>
<td>HSE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipeline management</td>
<td>Procurement</td>
<td>Engineering</td>
<td>Analytics/Big Data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construction</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Energy Assessment</td>
<td></td>
</tr>
<tr>
<td>LEVERAGED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procurement</td>
<td>Procurement</td>
<td>Control Center / Dispatching</td>
<td></td>
</tr>
<tr>
<td>Pipeline management</td>
<td>Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construction</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Energy Assessment</td>
<td></td>
</tr>
<tr>
<td>ACQUIRED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Origination/Permitting</td>
<td></td>
<td></td>
<td>PV and wind O&amp;M capabilities</td>
</tr>
<tr>
<td>UNDER AQUISITION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPA origination</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

New hires have an average of 10 year + experience in Renewables
Renewables key risks identified and fully addressed, building capabilities that will allow for expansion.

Repsol project attracting highly qualified professionals from top renewable players

<table>
<thead>
<tr>
<th>RISKS</th>
<th>CONSEQUENCES</th>
<th>MITIGANTS IN PLACE</th>
<th>INTERNATIONAL ACTIONABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Energy Assessment Mistakes</td>
<td>1. In-house teams with average 10+ years experience in:</td>
<td>1. Very High</td>
<td></td>
</tr>
<tr>
<td>• Sub performance / availability of equipment</td>
<td>• Energy Assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cost / Time overruns</td>
<td>• Engineering &amp; Construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Operation &amp; Maintenance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Procurement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Top tier suppliers both in Equipment and BoP/BoS</td>
<td>2. Very High</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. End to end process management and IT systems</td>
<td>3. Very High</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. State-of-the-art Control Center and Data Analytics under implementation</td>
<td>4. Very High</td>
<td></td>
</tr>
</tbody>
</table>
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<th>INTERNATIONAL ACTIONABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development &amp; Interconnection</td>
<td>• Project Mortality Rate</td>
<td>1. In-house Development and Grid analysis teams with average 10+ years experience</td>
<td>1. Medium</td>
</tr>
<tr>
<td></td>
<td>• Costs/delays in Interconnection</td>
<td>2. M&amp;A or investment decision only after fatal flaw analysis both internal and from top consultants</td>
<td>2. High</td>
</tr>
<tr>
<td></td>
<td>• Reduced profitability</td>
<td>3. Market studies performed by leading companies, leveraging Repsol's international footprint</td>
<td>3. Very High</td>
</tr>
<tr>
<td></td>
<td>• Time-to-market</td>
<td>4. End to end process management and IT systems</td>
<td>4. Very High</td>
</tr>
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</table>
Renewables key risks identified and fully addressed, building capabilities that will allow for expansion.

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<th>MITIGANTS IN PLACE</th>
<th>INTERNATIONAL ACTIONABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offtake / Energy management</td>
<td>• Unable to optimize road-to-market (Merchant/PPAs)</td>
<td>1. In-house Team and Systems from Viesgo Acquisition</td>
<td>1. High</td>
</tr>
<tr>
<td></td>
<td>• Realized price below expectations</td>
<td>2. Repsol experience in international Trading in key markets</td>
<td>2. High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Repsol perceived as an excellent counterpart in Spain and abroad</td>
<td>3. Very High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. International Origination Team under recruitment</td>
<td>4. Low</td>
</tr>
</tbody>
</table>
International plan will leverage Repsol’s strengths and global footprint

Spanish situation not fully replicable so strategy should be adapted

**Select**
- Strong Market Fundamentals:
  - Relevant need for new capacity
  - Enough resource for RES affordability
  - Rule of law allowing for long term investment
  - Identification of the most recent market trends
  - No legacy may not be a disadvantage

**Leverage**
- Global footprint:
  - Shared corporate overhead
  - Understanding of local business culture
  - Potential tax optimization
  - Energy trading capabilities
  - Industrial connections for partners and counterparts.
  - Existing human capabilities
- Market position in Spain with international suppliers and partners.
- Financial firepower to go for large projects, with economies of scale
- Balance sheet solidity to be considered a partner of choice for local off takers and local developers.

**Establish**
- Origination Teams to secure PPAs with International and Local Players
- Partnerships / M&A with companies with local presence to access better projects compensating for late entrance.
- Adapt central organization establishing deconcentrated teams while insuring best practices centrally
Embracing the energy transition....

- Excelling in Retail
- Optimizing Gas Operations
- Becoming a reference in the RES world