



# Repsol's 5<sup>th</sup> Sustainability Day

London, 5 November 2018

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## **1. Entering in Gas & Power Business**

Embracing the energy transition, making Repsol the preferred multi-energy supplier

## **2. REGGANE PROJECT**

The energy of the Desert

## **3. Safety, Environment and Climate**

Strategy 2025



# Entering in to the Gas & Power Business

## Repsol Sustainability Day

Embracing the energy transition, making Repsol the preferred multi-energy supplier



# Our ambition

Why does Repsol enter G&P?



## New trends impacting energy markets

### **Regulation & decarbonization**

- Emissions reduction
- Energy efficiency

### **New entrants**

- Alternative business models
  - Data, digitalization, EMS

### **Technology**

- Cost reduction
  - Renewables
  - Batteries

### **Consumer**

- Digital technologies
- Mobility alternatives
- Environmental concern



## New energy consumption model

### **Electrification**

### **Renewables**

### **Distributed generation**

### **Convergence of mobility & home energy**

### **New services & business models for customers**



**Threat**  **Opportunity**



**Repsol  
Ambition**



To make the most of our opportunities, transforming Repsol into the preferred multi-energy supplier

# Threats & opportunities

Repsol has already taken a proactive approach, developing strategies for its commercial businesses



## Marketing – Transforming while Performing

- Strengthen differentiation, customer focus, segmentation, and personalized offer
- International expansion in key markets (Mexico, Peru)



## Lubricants and Specialties

- International growth of lubricants business
- High return specialties projects



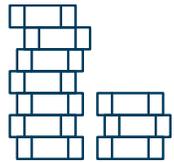
## LPG – New Commercial Strategy

- Strengthen client orientation
- Ensure commercial network efficiency

O&G commercial businesses will still be fundamental in the future, and Repsol has sound strategies to defend its position

# / Threats & opportunities

Energy transition brings many opportunities to Repsol's commercial businesses



## Gain Share of Wallet

Participate in G&P Businesses to offer a more integrated positioning



## Strengthen client relationship

Add new recurrent touch points from subscription based business models



## Manage energy migration proactively

Be active in shaping transition to G&P



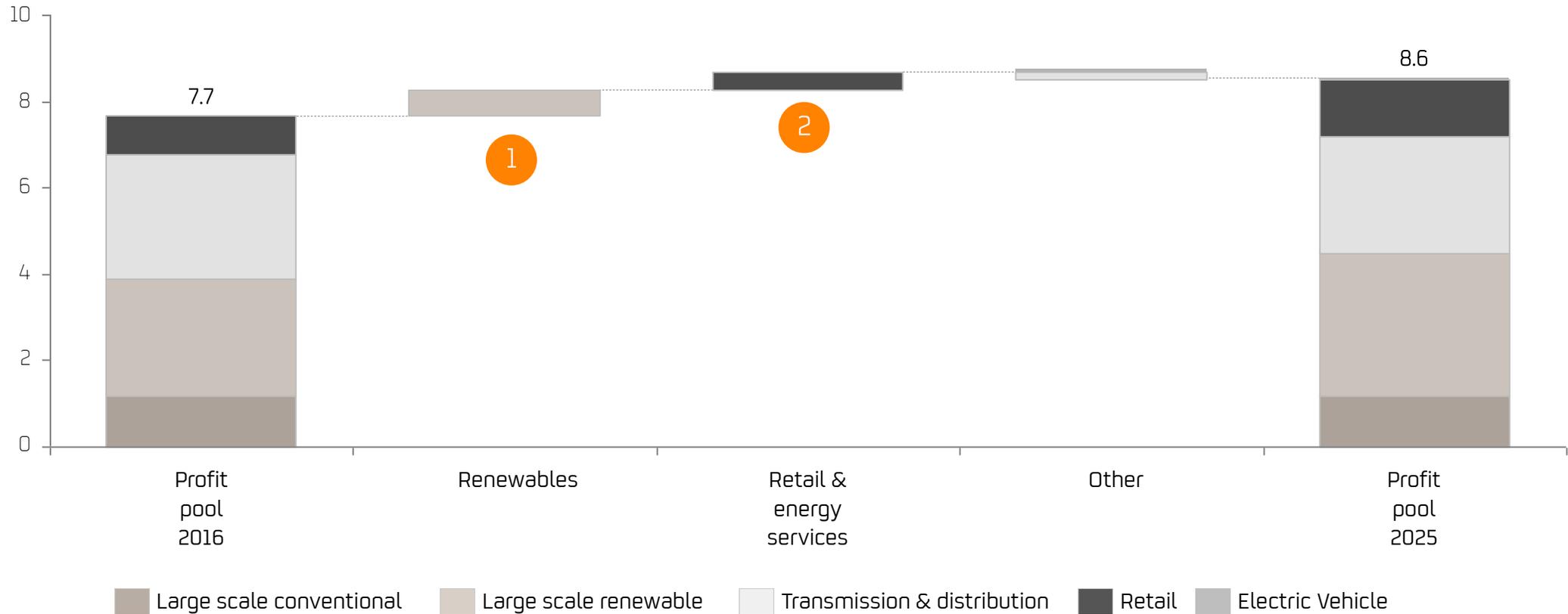
## Access growing profit pools

E.g. Distributed generation, Energy Services and E-mobility

# Threats & opportunities

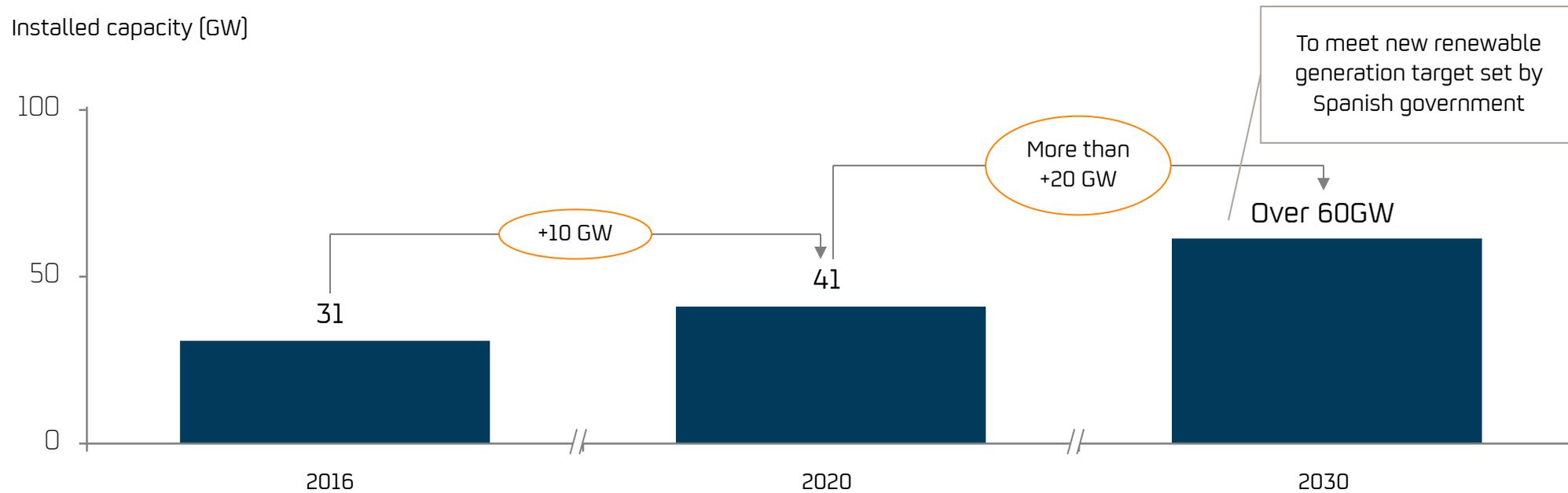
Spanish power value pool will increase based on a push for renewable generation and customer centric retail and services activities...

Spanish profit pool evolution (EBIT - B€)



# Threats & opportunities

1 Renewable generation will double till 2030 to meet environmental targets...



Note: Capacity of national system  
Source: REE

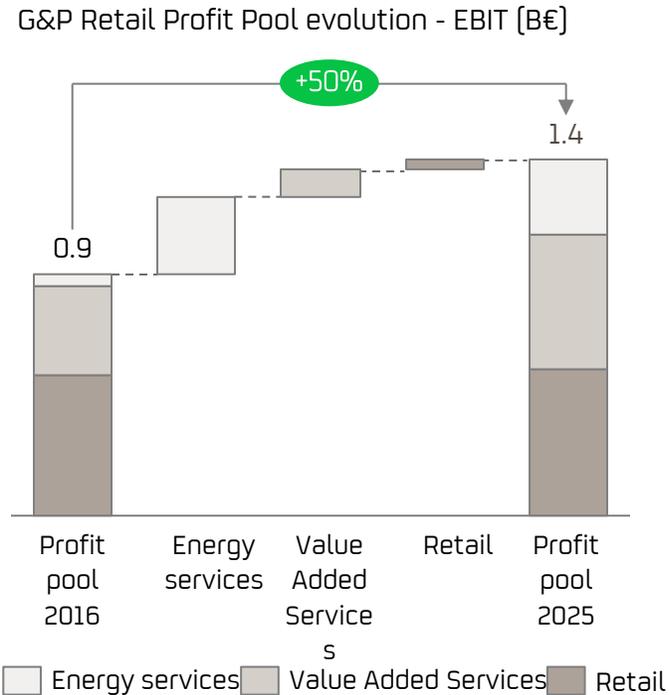
# Threats & opportunities

2 The development of new energy services will grow profit pool for G&P retail business...

New energy services and solutions are developing around the client



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



Attractive opportunity for Repsol to expand its commercial footprint and serve its clients in these new products

1. Decentral combined heat and power  
Source: CNMC, company financials, DBK

# Repsol's ambition in Gas and Power

Repsol has a leadership position in energy retail market with a customer base of more than 10M clients

## Mobility



34%  
[5.9 Mt] Share in  
retail  
stations<sup>2</sup>

## Residential segment



67%  
[0.8 Mt] share of  
LPG



33%  
[0.6 Mt] share of  
diesel

~28%  
[6 M clients]  
Maximum  
presence in  
Spanish  
households

1. Includes clients with Repsol Mas Travel, Travel Club, Repsol Mas Visa, Iberia and Autoclub 2. All Repsol Service Stations considered (COCOs, CODOs and DODOs)

# Repsol's ambition in Gas and Power

We have distinctive channels to be leveraged in G&P retail

## Key Repsol retail channels



### Largest service stations

infrastructure allows high-value direct interactions



**Distribution channels** across Spain with loyalty, exclusivity and recurrent access to customer homes

- More than 200 bottled LPG distribution agencies
- Over 250 technical service partners for bottled and bulk LPG
- Around 200 bulk diesel distributor



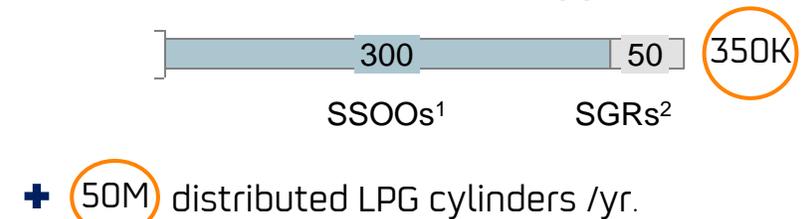
**Online channels** (e.g. Waylet) with a growing client base that is constantly connected to Repsol

## Relevant metrics

3.4k Service stations

1M Face to face interactions every day

Annual visits to client households (k)



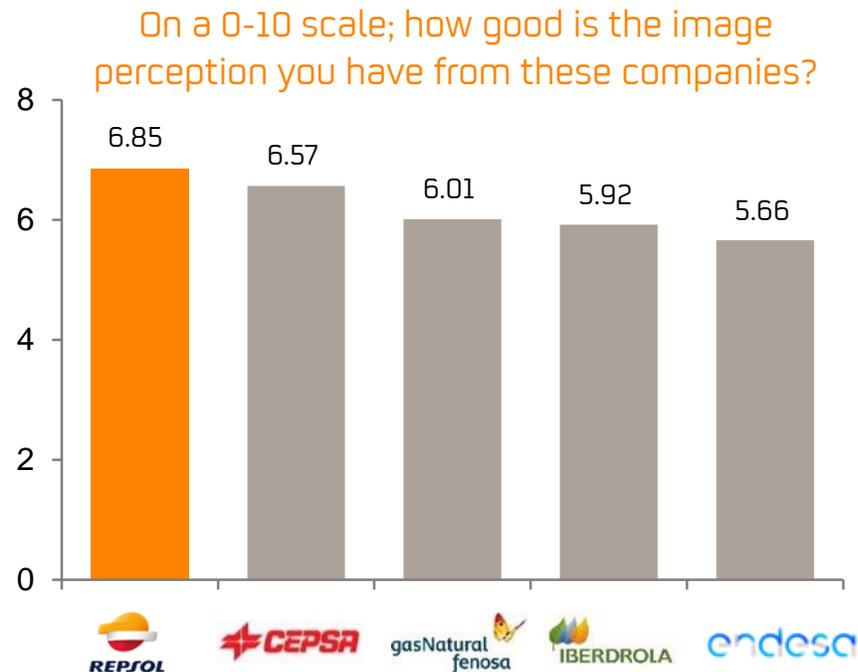
600k Waylet users in 9 months after launch

Constant interactions with clients offer opportunities for cross-selling with our current broad offering and new bundling of products

# Repsol's ambition in Gas and Power

We will play in G&P retail market leveraging Repsol's strong brand that is better positioned than incumbent utilities and our position as a major player in wholesale gas markets

## Superior brand image



## Relevant gas player

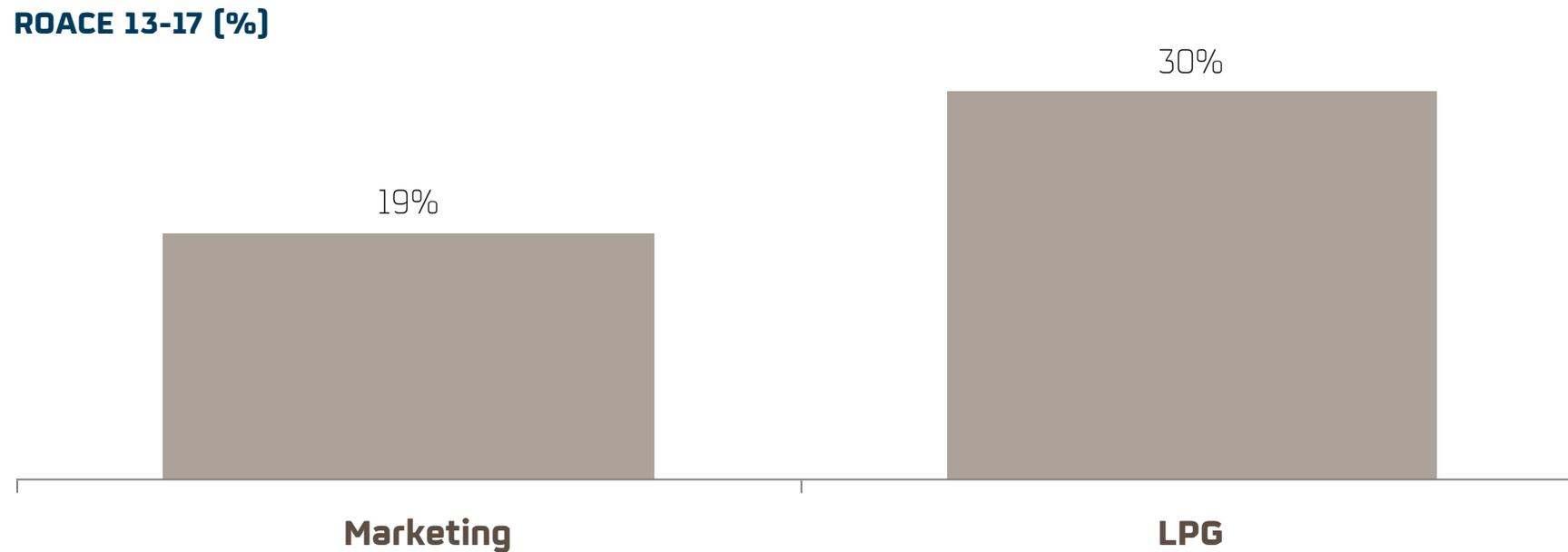


Access to competitive gas

- Significant gas supply as a major gas consumer provides a leverage to use it for competitive gas / dual offerings to customers
- Repsol internal consumption [35 TWh] is equivalent to a 10% share of the total Spanish natural gas market

# / Repsol's ambition in Gas and Power

Finally, we have a strong commercial culture with a solid track record of profitability



Our healthy commercial businesses provide us with a strong balance sheet that is a key differential factor, specially when compared to small players

# Repsol's ambition in Gas and Power



- Become a leading actor in the **energy transition** and foster sustainability and efficiency
  - Being actively present in **retail** business of power & natural gas and **low carbon energy generation**
- Create a **new business line** with relevant growth potential
  - Aiming to achieve **over 5% market share** in number of clients in G&P retail in Spain by 2025 [15% as a long-term aspiration]
- Leverage our strong customer base (10+ million) and distribution channel network with a **clear customer-oriented focus**
- Differentiate ourselves by being **technologically driven** [i.e. digital channels, distributed energy, energy storage, smart devices...]
- Converge with Repsol's mobility clients **offering a multi-energy solution** to cover broader customer needs

# Repsol's ambition in Gas and Power

In our strategic update, we stated our ambition to develop a new operated position in low carbon businesses...

**Repsol is swapping a €5-6B exposure to a medium carbon businesses through GNF...**

- |         |  |
|---------|--|
| Gas     | • Non-operated   |
| Natural | • No synergies exploited   |
| Fenosa  | • 85% regulated business in 2017 EBITDA with a mix of high/low carbon generation |



**... for an operated and synergistic position in low carbon businesses**



- Operated business with full synergies
- Leveraging previous experience in low carbon businesses, markets and know-how
- Focused business mix: wholesale gas, retail G&P and low carbon generation

Ambition

***Be players in the future energy transition, fostering sustainability and energy efficiency***

**Creating profitable low carbon businesses**

**Enhancing capabilities to thrive in energy transition**

**Reducing emissions in our operations and products**

# / Repsol's ambition in Gas and Power

... with a clear and focused roadmap to achieve our ambition with € 2.5 Bn in 2018- 2020

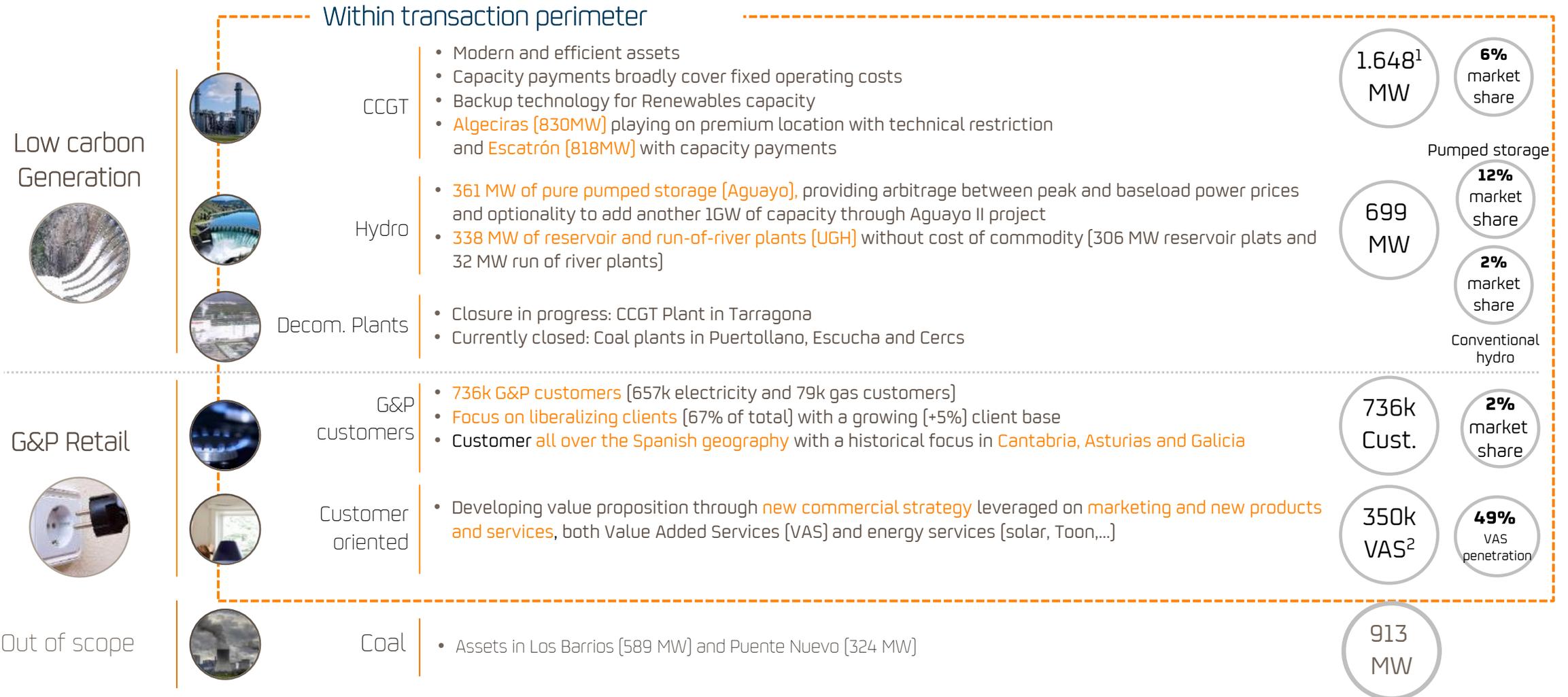
	Low carbon generation	Wholesale Gas	Retail G&P
<b>Top capability</b>	<i>Technical capabilities and experience in managing large scale projects</i>	<i>Leverage our industrial self consumption as the largest gas consumer in Spain</i>	<i>Strong brand and more than 10M client base with direct contact</i>
<b>Roadmap</b>	<ul style="list-style-type: none"> <li>• Develop a strong position in Spain achieving a low carbon integrated business</li> <li>• Technological vocation oriented to solar, wind, CCGT and other low carbon technologies</li> <li>• Diversify in emerging countries that yield higher returns</li> </ul>	<ul style="list-style-type: none"> <li>• Create a successful wholesale gas business, ensuring a competitive gas supply</li> <li>• Developing new business through gas flexibility</li> <li>• Deliver a competitive gas offer for our future retail clients</li> </ul>	<ul style="list-style-type: none"> <li>• To become a relevant Spanish low carbon multi-energy retailer</li> <li>• Progressively sophisticate our offer including advanced energy services and solutions</li> </ul>
<b>Targets by 2025</b>	~ 4.5 GW Capacity	>15% Market share <sup>1</sup>	>5% Market share <sup>2</sup> 2.5M Clients <sup>3</sup>

Investments in low carbon businesses with IRR above 10%

1. Spain market share including our refineries' consumption; 2. Spain market share in number of clients; 3. Not adjusted for dual clients

# Repsol's ambition in Gas and Power

As a key step, we acquired selected assets from Viesgo



# / Acquisition strategic fit

Generation assets are aligned with Repsol ambition in energy transition and bring first class operational capabilities...



## Low-carbon

Low CO<sub>2</sub> emissions portfolio (0.7 GW of hydro and 1.6 GW of CCGTs ) with a share of assets aligned with Repsol's Strategic Plan



## Positioned for energy transition

Controllable storage hydro and CCGTs provide flexibility to capture value in a scenario with increased hourly price volatility derived from high RES penetration



## Multi-technology

Diversified portfolio with complementary natural hedges against low-rain years or high-gas price periods and able to support RES development



## High-quality location

Optimal geographical positioning, with hydro concentrated in the North with stable rain and Bahia de Algeciras CCGT able to capture technical restrictions



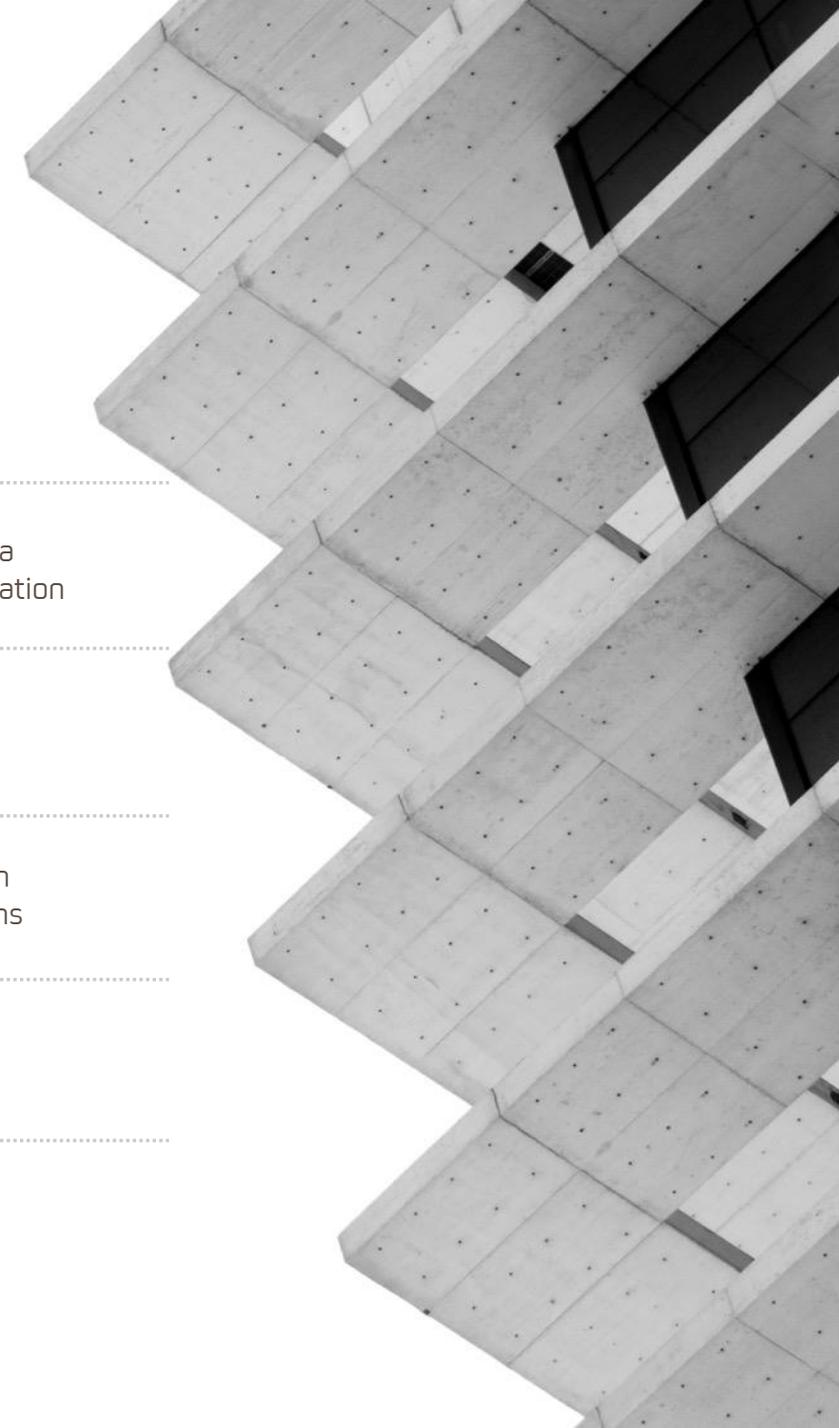
## Retail hedging

Broad experience in hedging operations with physical back-up to the G&P retail business and commodity price arbitrage



## In-house experience

Strong operational focus with O&M costs aligned with best practices and accumulated experience in managing technical plant investments



# / Acquisition strategic fit

We acquired hydro and CCGT assets with a combined installed capacity of ~2.4 GW<sup>1</sup>

## Hydro

- Reduced marginal costs
- Conventional hydro benefits from potential the increase in pool prices
- Strong pumped storage positioning
- Leader in Spain in terms of use
- Franchises valid till ~2060

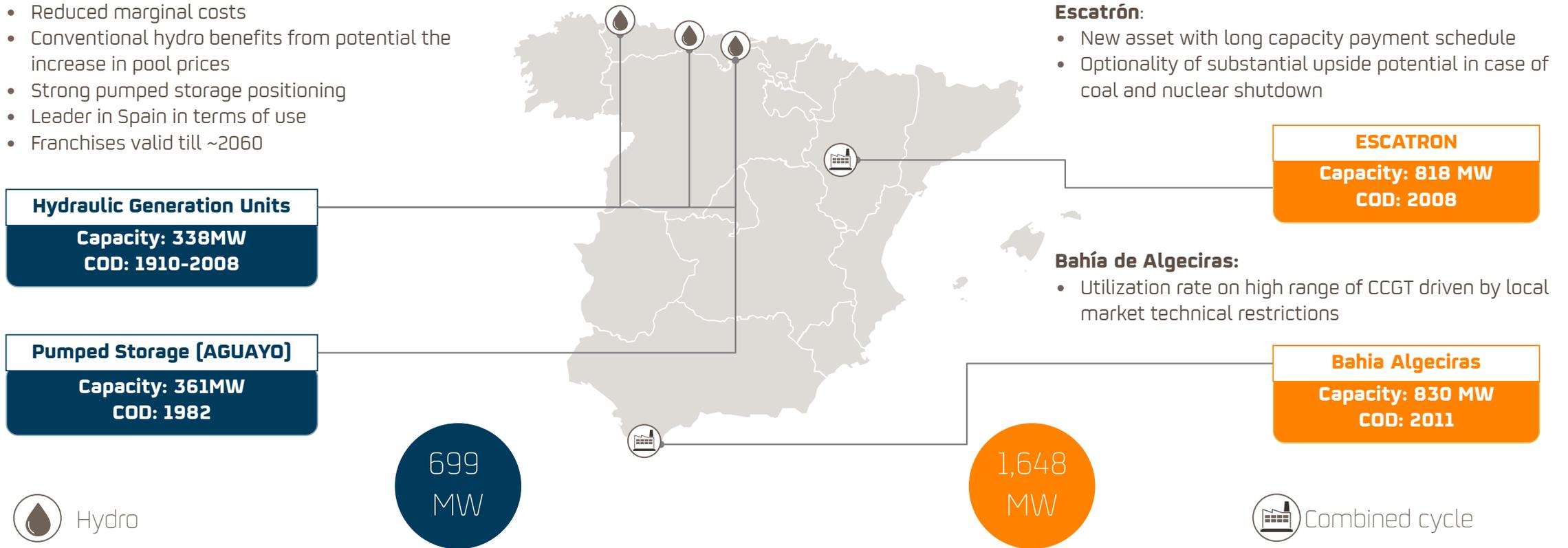
## CCGT

### Escatrón:

- New asset with long capacity payment schedule
- Optionality of substantial upside potential in case of coal and nuclear shutdown

### Bahía de Algeciras:

- Utilization rate on high range of CCGT driven by local market technical restrictions

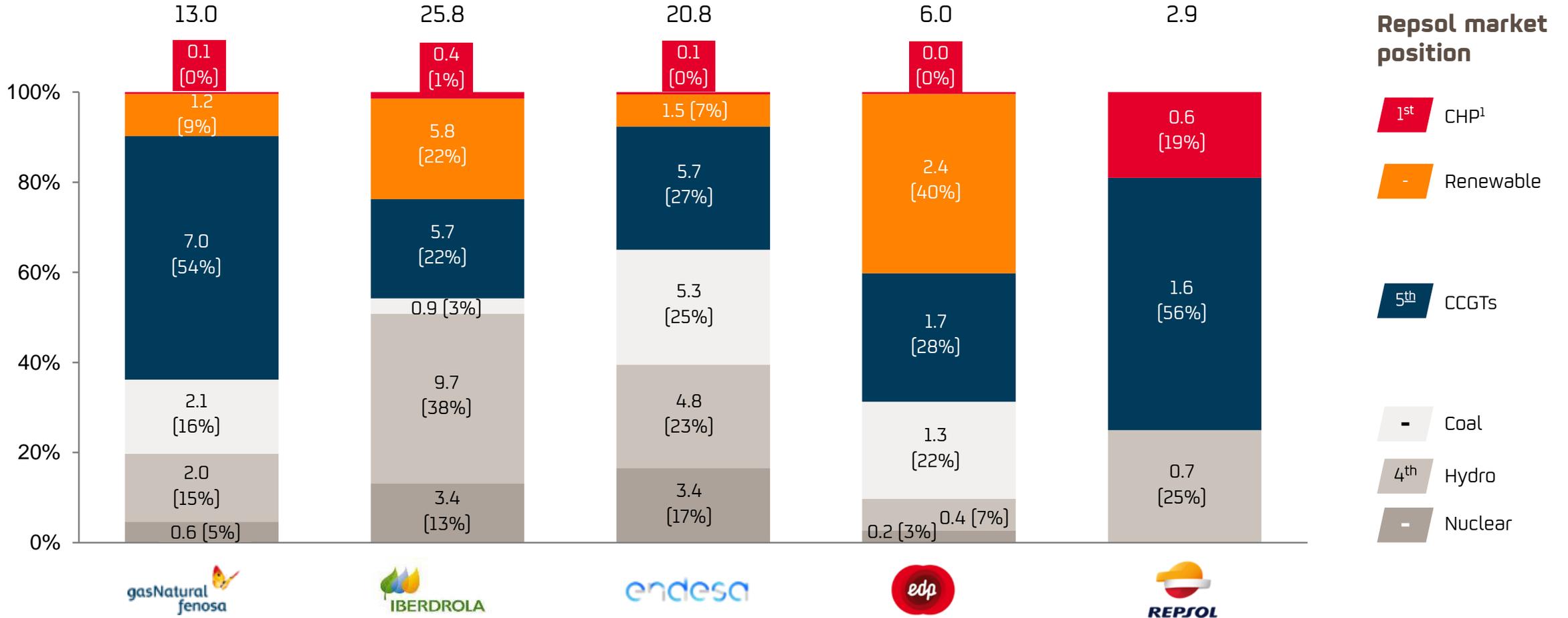


1. Gross capacity  
 Note: COD: Commercial Operation Date  
 Source: Minetur; Viesgo

# Acquisition strategic fit

After acquisition, Repsol will rank 4<sup>th</sup> or 5<sup>th</sup> in installed capacity of newly added low carbon technologies

Installed Capacity [GW, %]



1. Combined Heat and Power or cogeneration plants

Source: Annual Reports; UNESA

# / Acquisition strategic fit

Viesgo G&P retail assets support Repsol target positioning in the business



## Critical mass

Right size to help us develop a solid position (~736k customers), without incumbents legacy



## Growth orientation

Proven growth track-record (+5% customer growth in 2017 and Q12018) with significant additional potential and strong plan for future market growth



## Customer centric

Best brand-advocacy-index among G&P incumbents and best scores in transparency and value-for-money with a strong focus in the most attractive segments (Residential and SMEs)



## Digital

Highly advanced digital player (i.e. real time consumption monitoring, smart-devices, Fotofactura, etc.)



## VAS focused

High VAS penetration (49%) with wide experience in cross-selling and product bundles



## Sophisticated capabilities

Growing sophisticated solutions portfolio (e.g. Viesgo Solar, Toon, eMobility solutions)



## Value for money orientation

Strong positioning towards customer energy saving and efficiency (e.g. Laboratorio del Ahorro, Compromiso de Ahorro, HVAC and lighting for B2B)



## Scalable

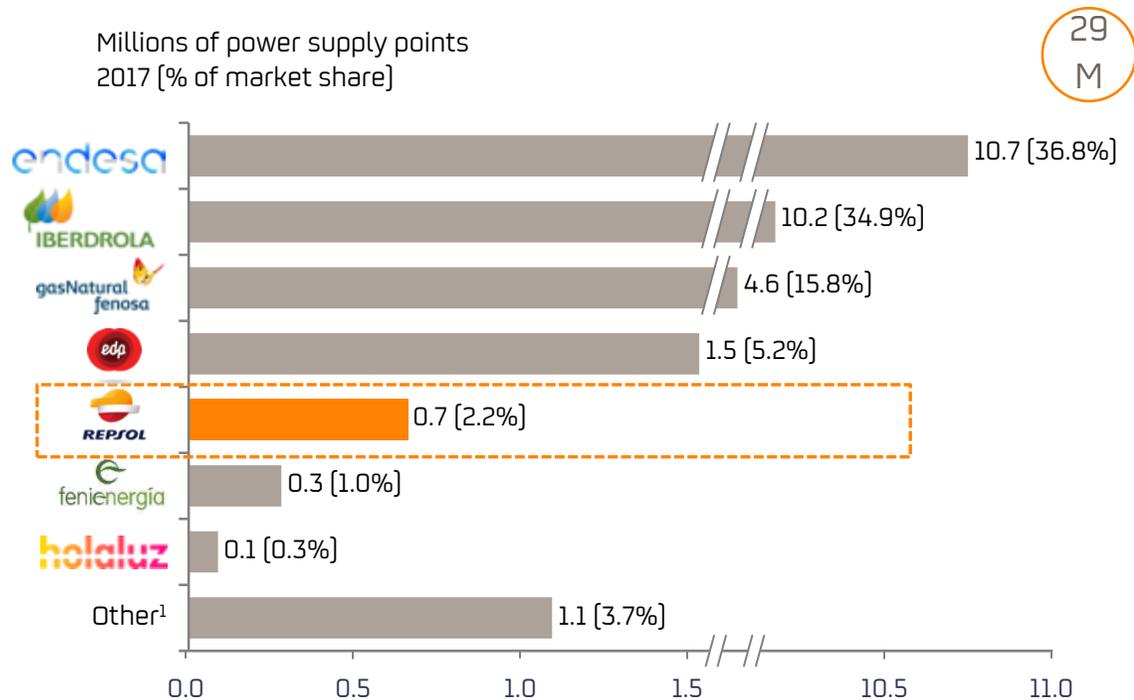
State of the art IT systems (e.g. SAP ISU, Salesforce) prepared to further scale the business



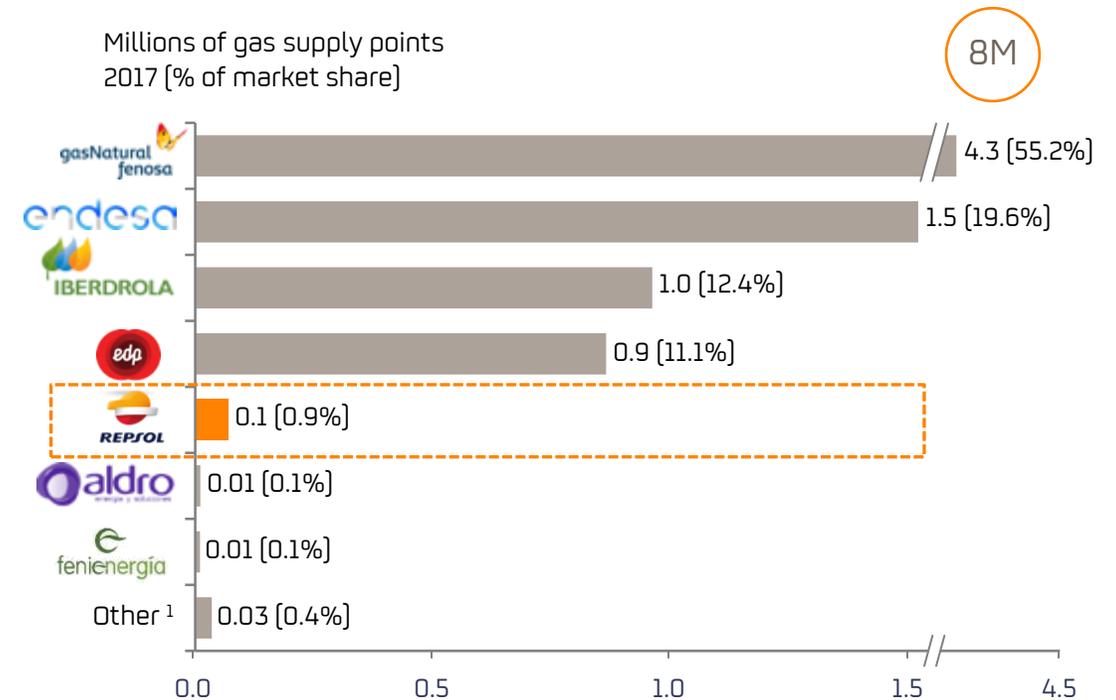
# Acquisition strategic fit

...allowing us to become the fifth player in Spanish G&P retail market

**In power retail, Repsol becomes the 5<sup>th</sup> player with 657 k customers...**



**... as in gas, with 79 k customers**



1. Other power: >300 authorized small power retailers; Other gas: >120 authorized small gas retailers  
Source: CNMC (National Commission on Markets and Competition)

# Acquisition strategic fit

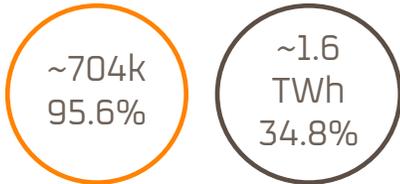
Acquired client base presents a differentiated position for the residential sector/SMEs vs. industrial

## KPIs per segment

## Strategy per segment



**Residential**



Customer-centric proposition that presents the highest Brand Advocacy Index (BAI) in the industry



Online initiatives that allow us to stand as a particularly-digitalized player



Extensive offering in Value Added Services and Energy Services vs. the rest of the competition, and focus on dual offerings that allow us to increase loyalty and margins

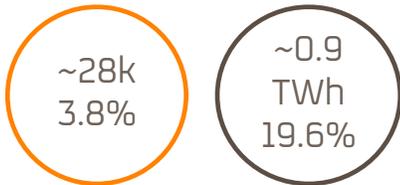


Focus on price transparency and helping clients to save in their energy bills

- Competitive electricity tariffs for <10 kW
- Innovative and transparent approach to clients



**SMEs**



Customized and in-person/telephone service



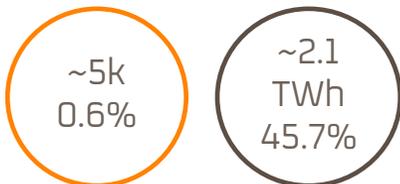
Tailored price positioning



Extensive offering in Energy Services focusing on large-sized customers



**Industrial**



 # Viesgo power and gas supply points [% of total]

 Volume of Viesgo power and gas demand [% of total]

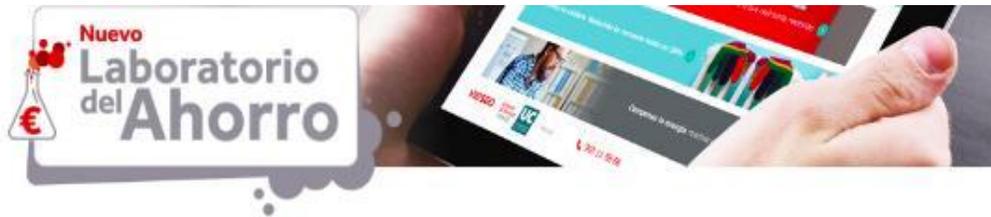
# / Acquisition strategic fit

Repsol will stand out with customer support tools and initiatives that help clients to understand their billings

Perceived price is one of the main switching drivers of the market, and with even more emphasis than the competition, Viesgo stands as a player with a superior price transparency

## "Savings Lab"

We will advise you personally and free-of-charge, so that you can save on your electric bill



¿Quieres consumir de manera más eficiente? Descubre el nuevo Laboratorio del Ahorro: un lugar en el que encontrarás asesoramiento personalizado para ahorrar en la factura de luz de tu hogar o negocio.

Descubre cómo optimizar tu consumo de luz:

- 1 Date de alta en: [laboratoriodelahorro.com](http://laboratoriodelahorro.com) te llamaremos para asesorarte de forma gratuita y personalizada.
- 2 Encontrarás útiles recomendaciones para ahorrar.
- 3 Sigue nuestro blog y podrás estar al día de nuestras novedades y formas de ahorro.

## "Fotofactura"

Send us a photo of your bill, and we will tell you how much you will save with us

### Mejoramos tu factura de luz y gas

Sigue 3 sencillos pasos:



El 75% de los clientes que usaron este servicio ya están ahorrando en su factura

### Con Viesgo siempre tendrás los mejores precios

#### Ahorra con Viesgo en tu factura de la luz



¿Qué pasa si recibes una oferta de otra compañía? Todos los clientes de Viesgo pueden beneficiarse de nuestro Compromiso Ahorro. Para saber en la práctica esto ten en cuenta:

- 1 Hace una foto a la oferta recibida y escanéala.
- 2 La analizaremos y nos pondremos en contacto contigo.
- 3 Si las condiciones de la oferta son mejores, igualaremos o mejoraremos tu contrato con Viesgo.
- 4 Si no podemos mejorar la oferta analizaremos cualquier alternativa en tu contrato.

## "Savings Commitment"

Save on your electric bill with us. You'll always get the best rates

# / Acquisition strategic fit

Acquired team has successfully launched sophisticated products and services...

## E.g. Toon, smart-thermostat,...



Signed partnership with Eneco to supply the Toon in Spain



Toon is a smart thermostat with energy management capabilities such as real-time consumption monitoring



A pilot was successfully launched and was able to sell 2,000 units



Processes and logistics have been developed to scale it up

## ... and Viesgo Solar, distributed energy solution



Signed a 5 year exclusivity agreement with Ezzing Solar to use its platform



Ezzing offers an online one-stop-shop platform to develop, track and follow up on personalized offers for solar distributed generation



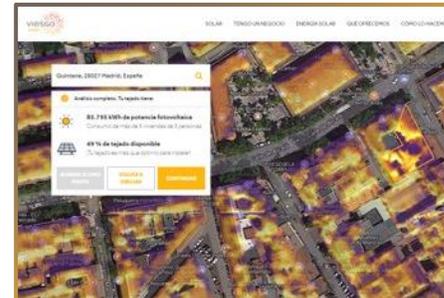
Streamline operations have been also developed:

- Simple budgeting tool
- Agreements with manufacturers
- Network of trusted installers
- Financing alternatives



Viesgo te trae Toon, mucho más que un termostato inteligente

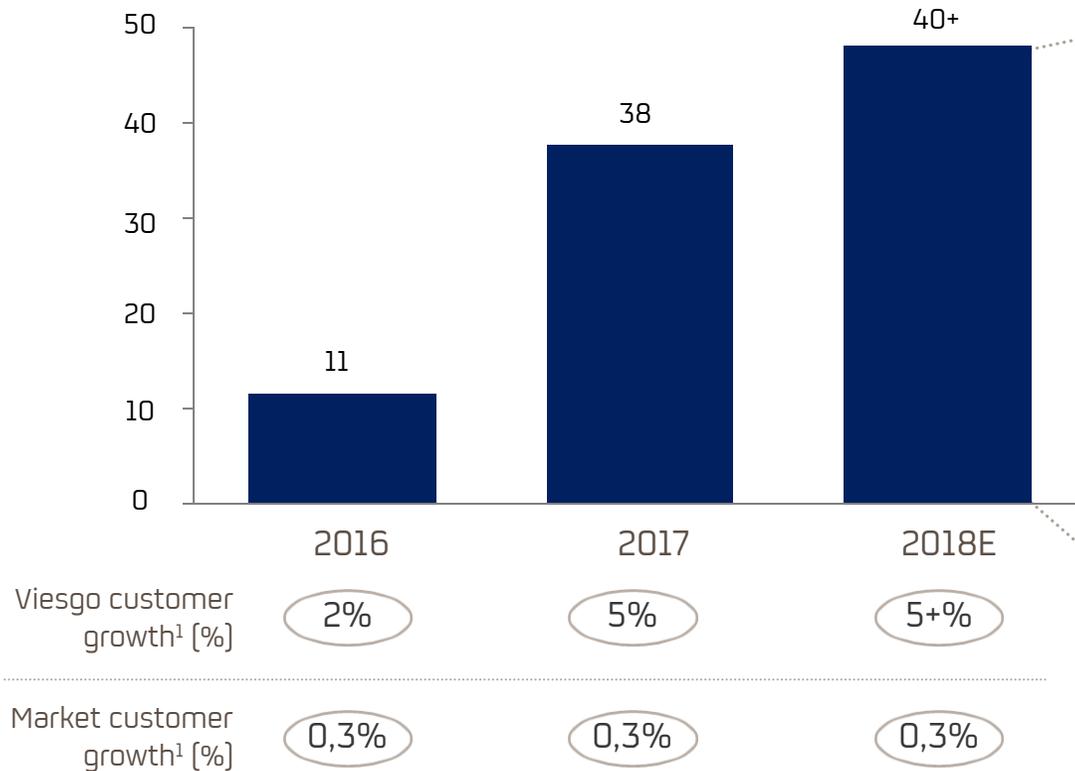
Haz de tu casa un hogar inteligente con Toon y controla tu calefacción desde el móvil.



# / Acquisition strategic fit

..and has demonstrated a strong track-record to deploy new strategies to increase customer acquisitions

## Net acquisitions<sup>1</sup> [thousands]



## Example of recent successful commercial initiatives



First Viesgo ad campaign on television, at a national level, with Alberto Contador, cycling celebrity (Oct. 16)



"Tu Oficina Online" App to monitor power consumption in real time in € (Nov. 16)



During this period, the "100% online" tariff was one of the most competitive tariffs in the market

1. Includes power & gas. 2018  
Source: CNMC, Annual Reports and website

# Acquisition strategic fit

Viesgo assets contribute directly to Repsol ambition in G&P



Repsol objectives 2025

Viesgo + Repsol key figures (2018)



Low carbon generation

4.5 GW

Total installed capacity



2.9 GW

1.6 GW

CCGT installed capacity

0.6 GW

CHP installed capacity<sup>3</sup>

0.7 GW

Hydro installed capacity



G&P retail

>5%

Market share<sup>1</sup>



2%

Market share<sup>1</sup>



Wholesale gas<sup>2</sup>

>15%

Market share



12%

Of Spanish natural gas market<sup>4</sup>

1. In number of clients. Annual market growth: 23k new power clients (over a total of 29M) and 82k new gas clients (over a total of 8M); 2. Additionally, deal will increase position in the market thanks to existing wholesale gas business and aggregated volumes from CCGTs and retail activities; 3. Combined Heat & Power. Repsol holds a total power capacity of 600 MW in 13 Combined Heat and Power (CHP) units (also called cogeneration units). Three of these units, with a total power capacity of 155 MW, have a steam turbine operating in condensate mode (similar to a combined cycle) 4. Considering acquired CCGTs consumption of 7.7 TWh on a standard year

*From ideas to a tangible business . . .*

*. . . to take advantage of the energy transition . . .*

*. . . and build a sustainable & profitable future*



**REPSOL**





# Entering in to the Gas & Power Business

## Repsol Sustainability Day

Embracing the energy transition, making Repsol the preferred multi-energy supplier



# REGGANE PROJECT



1

## **The Reggane project:**

- Country overview
- REPSOL in Algeria
- Project timeline
- Project scope

2

## **The Challenges**

- Logistics, safety & security
- Remote location
- Environmental protection
- Fougarras

3

## **HSE performance**

- Project data
- People
- Results
- HSE

# REGGANE PROJECT / REGGANE PROJECT

- Country overview
- REPSOL in Algeria
- Project timeline
- Project scope



# REGGANE PROJECT / REGGANE PROJECT

## Country Overview



### ENVIRONMENT

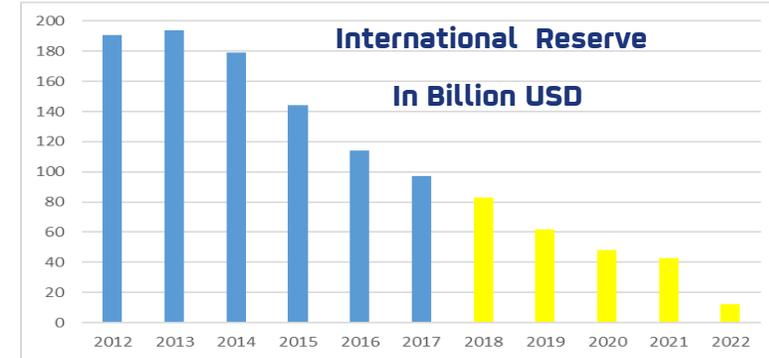
#### Short term:

- Economical key indicators in yellow nay red.
- Demography (41.5 M hab / +1.7%/y); unemployment: 11.7%\*
- Surface: 2.4 MM Km<sup>2</sup>. 1<sup>st</sup> in Africa
- GDP: 170 B\$ [ +1.7% ; 4,104 \$/capita]\* expected 3.5% in 2018
- Under pressure to reduce subsidized economy (gas, utilities, 1st necessity product)
- Risk of social unrest

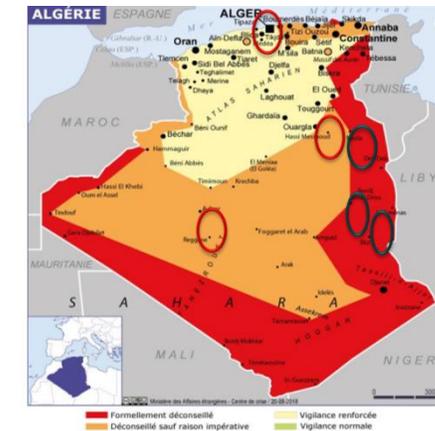
#### Medium/Long term:

- Political life driven by Bouteflika succession; presidential election March 2019.
- Foreign reserves asset reduction. Importation management
- Inflation control

\*Data 2017



- 98% foreign currency from HC export
- Since 2018, use of the billboard with risk of inflation
- Very low external debt ~3.5%

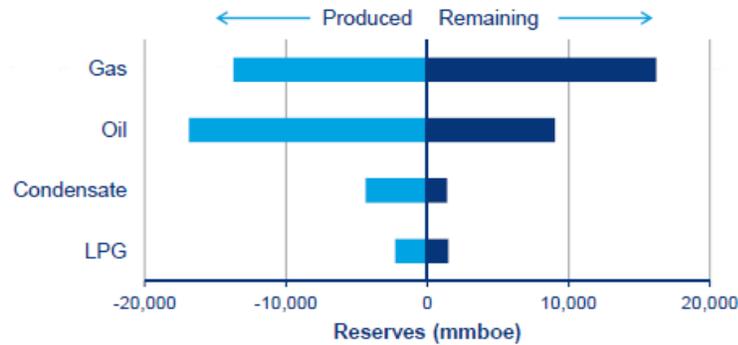


# REGGANE PROJECT / REGGANE PROJECT

## Country Overview

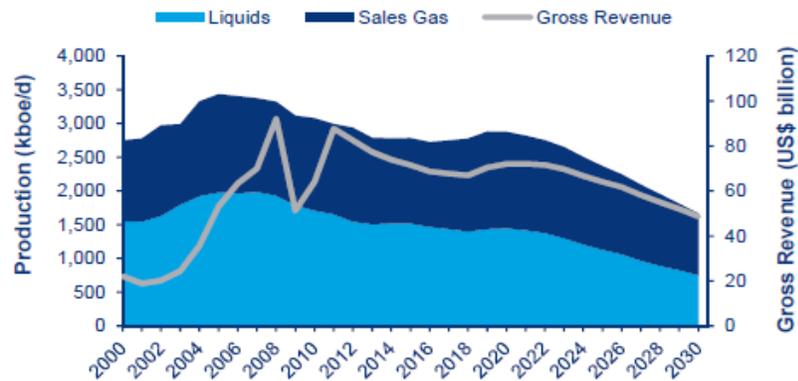


### Country reserves



- ✓ Dutch disease country
- ✓ Uncertain social climate
- ✓ Security risk-Associated cost
- ✓ Tight & changing contractual-fiscal terms
- ✓ Lengthy & cumbersome bidding processes
- ✓ Inefficient & costly supply chain-Logistics
- ✓ Easy of Doing Bussines [WB] 166/190
- ✓ Trading across borders [WB] 181/190

### Production

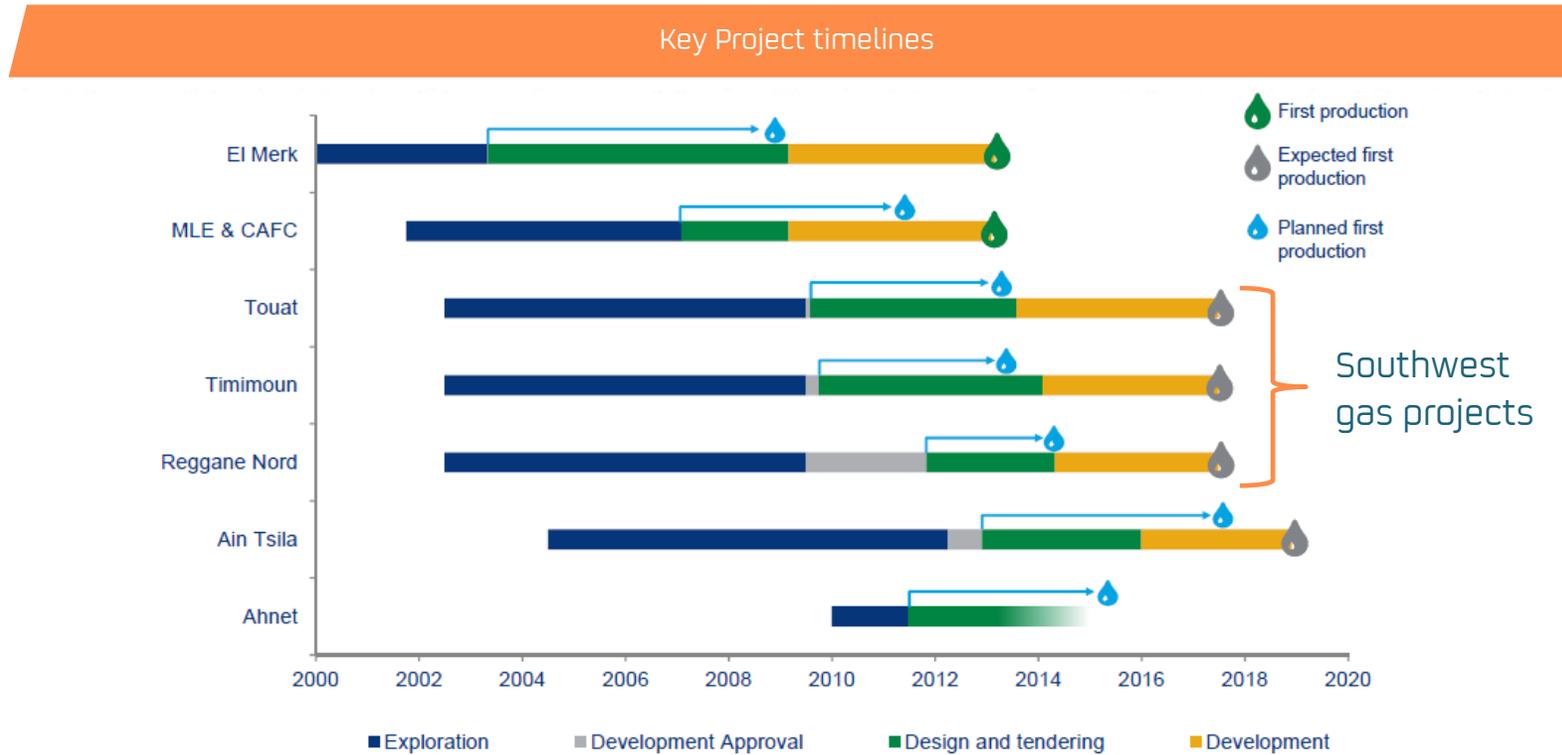


Source: Wood Mackenzie

- ✓ Declining production
- ✓ Increasing domestic demand
- ✓ Dubious local regulations
- ✓ Sonatrach dual role as partner & regulator
- ✓ Shortage of qualified manpower
- ✓ Arbitration as decision-making tool

# REGGANE PROJECT / REGGANE PROJECT

## Other Projects



Source: Wood Mackenzie

Southwest gas projects: 15-16 years from Exploration to First Gas

# REGGANE PROJECT / REGGANE PROJECT

## REPSOL in Algeria



- ✓ Repsol is present in the country since 1973
- ✓ Balanced portfolio -exploration, development, production- based on an extensive knowledge of the basins and assets

### Production:

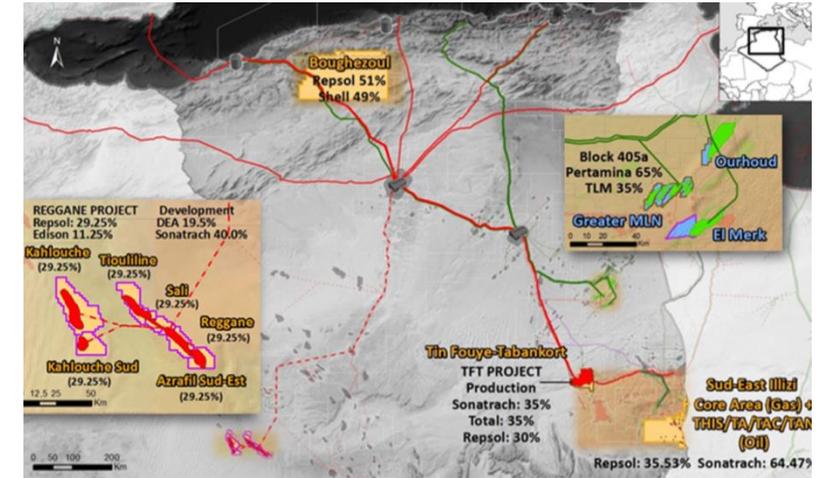
- Oil & gas production from TFT and Block 405a in the Illizi and Berkine basins

### Development:

- Reggane project with first gas in December 17

### Exploration & appraisal:

- Material oil & gas resources discovered by Repsol in South-East Illizi block (SEI).
- Boughezoul Block, also operated by Repsol, located in the promising -yet underexplored- Algerian Atlas basin



Balance portfolio with positive FCF since day one, and current production of ~8 Kboed

Low technical risk portfolio with long-term stable O&G production

Significant growth potential from exploration & appraisal assets, including resources near existing infrastructure

Secure monetization route in one of the most stable and developed MENA countries

# REGGANE PROJECT / REGGANE PROJECT

## Project timeline

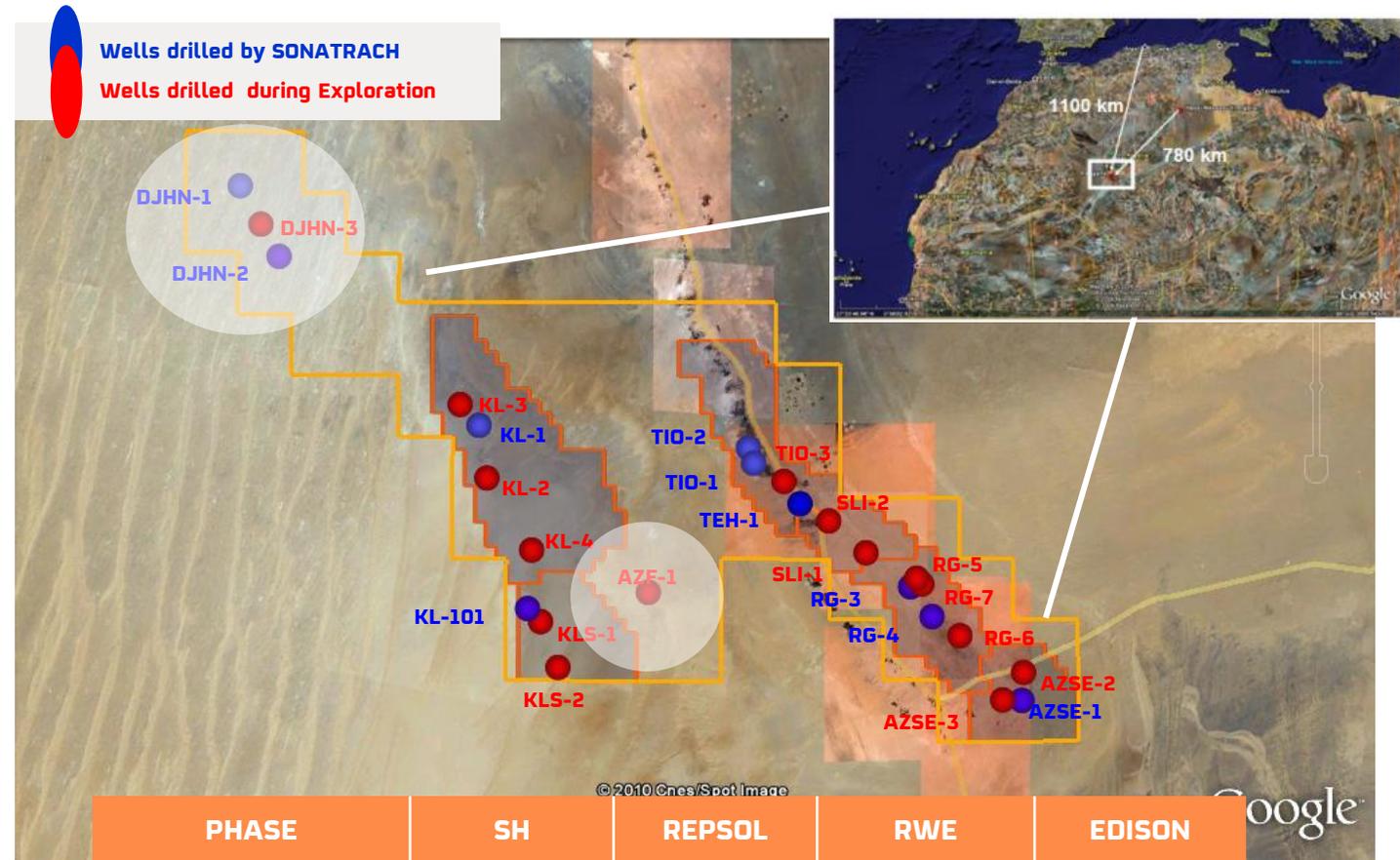
### EXPLORATION

Period 1	12-Jan-03 – 11-Jan-06
Period 2	12-Jan-06 – 11-Jan-08
Period 2 ext	12-Jan-08 – 11-Jan-10



### EXPLOITATION

FDP approval	30 Nov 2011
Exploitation Period.	30 years



PHASE	SH	REPSOL	RWE	EDISON
Exploration	-	45%	30%	25%
Development & Production	40%	29.25%	19.50%	11.25%



# REGGANE PROJECT / REGGANE PROJECT

## Project Scope



### ✓ Surface Facilities

- 8 x 10<sup>6</sup> m<sup>3</sup>/d gas Processing Plant (CPF)
- 75 km export pipeline CPF-GR5
- 280 km gas gathering network (flowlines, manifolds & trunklines)
- Airstrip & Roads (162 km at First Gas)
- Compression 8 years after First Gas

### ✓ Living quarters and Buildings

- Living Camp for 250 people
- Military Camp for 108 people
- Production & Administrative buildings
- Warehouses & Yards

### ✓ Subsurface & Drilling

- 6 fields-3 reservoirs
- 69 development wells (9 from Exploration)
- 1.7 tcf GSPA reserves (2P)
- First Gas in Dec 2017
- 1,500 km<sup>2</sup> high resolution 3D seismic

### ✓ CAPEX (US\$ million RTs 2014 )

- Total, \$3 billion (First Gas \$2 billion)

### ✓ Number Repsol secondees assigned to JV

- Peak >100 people Repsol expats @ Project
- Production phase, >50 Repsol expats



# REGGANE PROJECT / THE CHALLENGES

- Logistics, safety & security
- Remote location
- Environmental protection
- Fougarras



# REGGANE PROJECT / THE CHALLENGES

## Project Challenges



### Logistics, Safety & Security

#### PLANT

Lack of local skilled personnel.

Temporary Camp for up to 3000p

#### DRILLING

Moving camp for 3 Rigs, each 250p

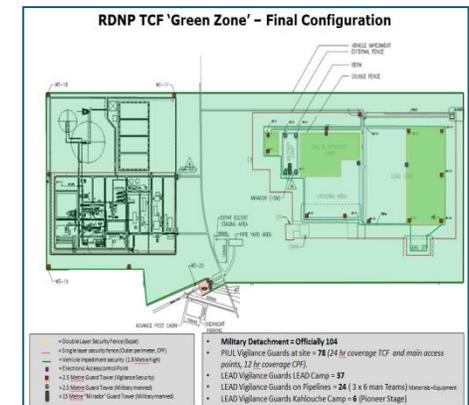
#### AIR TRANSPORT

Temporary airstrip

Strict aviation audit

#### LAND TRANSPORT

IVMS. Continuous training



# REGGANE PROJECT / THE CHALLENGES



GALE CRATER (MARTE). MARS SCIENCE LABORATORY (CURIOSITY)



CAMPOS AZRAFIL SE, SALI Y REGGANE (ARGELIA)



# REGGANE PROJECT / THE CHALLENGES



# REGGANE PROJECT / THE CHALLENGES



## ENVIRONMENT ACTIVITIES

- Create Awareness with PMT & Workers
- Waste Management
- Avoid any contaminated sites.
- Avoid any impact on wáter local resources.
- USE OF REPSOL STANDARDS



### ENVIRONMENT MONTH CAMPAIGN



Objective	Proposed Activity list for Environment Month
Creating Awareness	Participation in "Water Day" in collaboration with the Adrar Wilaya Environment dept.
	Creating Awareness of the strong need to think sustainability. Conducting campaigns and participating in Green campaign exercise in all schools in the Wilaya. GRN have been involved in the reparation of local water system (The Foggara) which is the region's heritage local water distribution network .
Week 1	Environmental campaign Awareness Poster placement and sessions with managements
Week 2	Carbon Emission reduction campaign with entire work force and various sub teams across CPF and TCF
Week 3	Carbon Emission Session campaign at Kahlouche camp and Pipeline areas
Week 4	Plant a tree campaign in collaboration with the Adrar Environment department





### REMEDIATION OF FOUGGARA TINOURT



**What?:** Representatives of L'Association de la Protection des Foggaras asked for GRN assistance to repair a line of foggara on the village of Tinourt (Project's Social Aid).



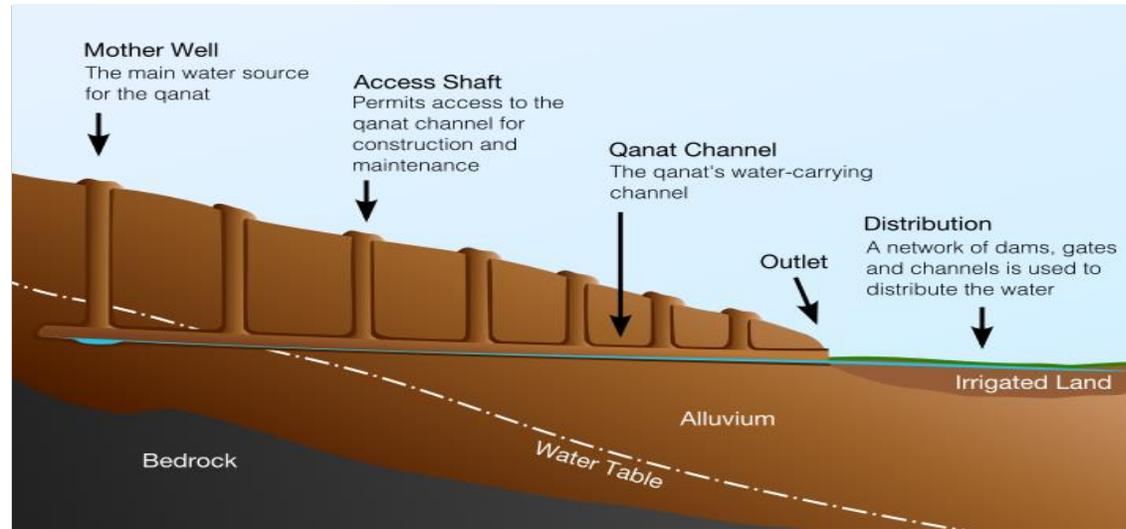
Image: crumbled foggara and water leaks

**THE SOLUTION:** 7 PVC pipes and concrete pods were provided to remediate the foggara.




# REGGANE PROJECT / THE CHALLENGES

Fougaras



# REGGANE PROJECT / HSE performance

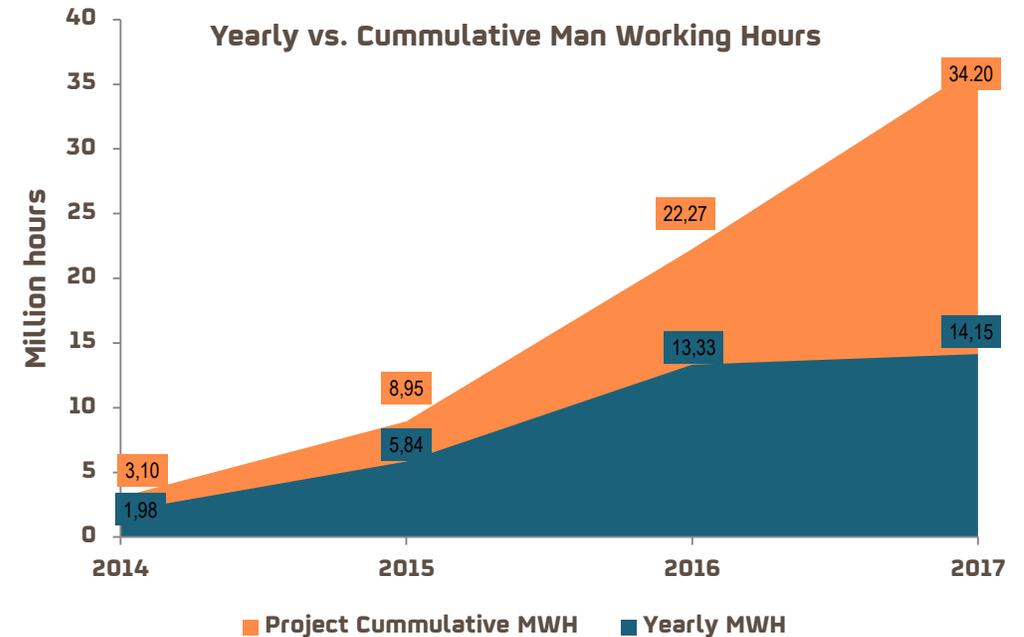


# REGGANE PROJECT / HSE performance



## PROJECT MANHOURS [OVERALL PROJECT]

EXECUTION PHASE [May 2014 - Date]	Project To Date
Groupement Reggane staff	1.105.326
Project team	833.536
Project Team Contractors	271.790
Contractors	33.087.640
- 3D Seismic Data Processing	25.552
- EPCCS-1 - PETROFAC	21.737.019
- EPC-2 - GCB	2.091.488
- Water Wells + Geopositioning ENAGEO	46.800
- KCA Deutag - Drilling Contractors	6.012.286
- EPC-3 - JV Petrojet - Stagma	3.174.495
<b>TOTAL</b>	<b>34.192.966</b>

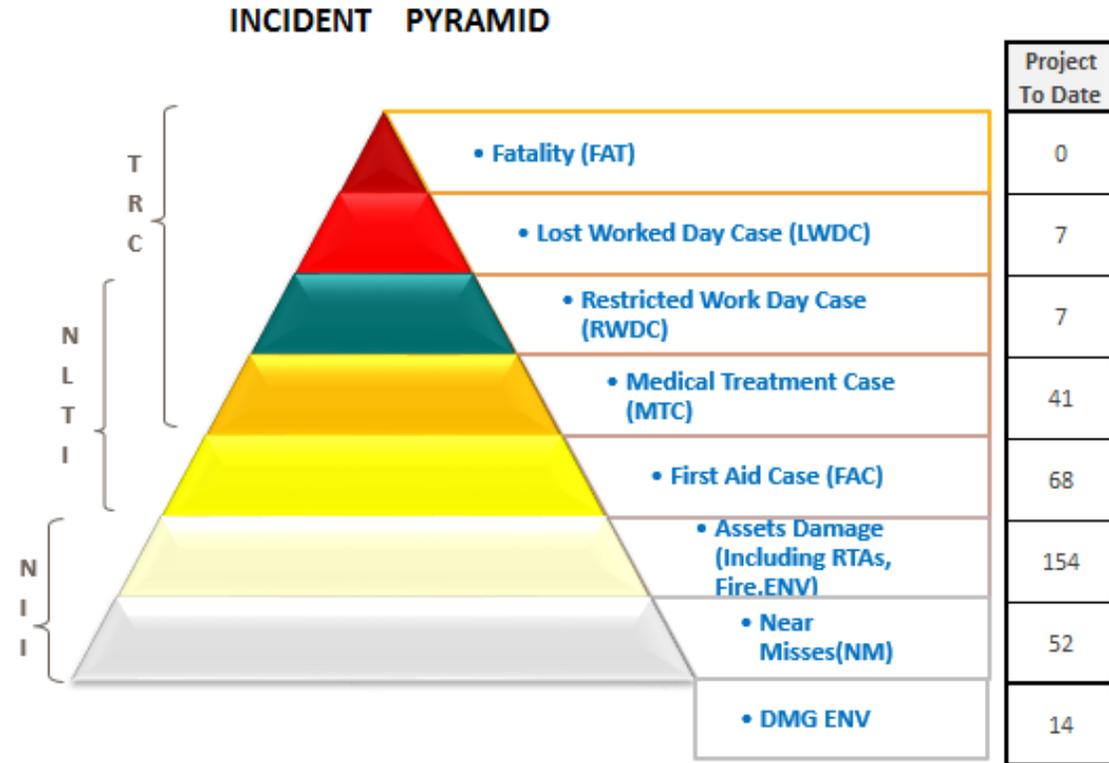


# REGGANE PROJECT / HSE performance



## Highlights:

- Milestone of First Gas Export achieved on 10/12/2017 without any Safety or Environmental major incident
- Milestone of a period of 15 millions man working hours without LTI achieved.
- Drilling operations completed >1300 days without LTI (No LTI's for the whole first drilling campaign)

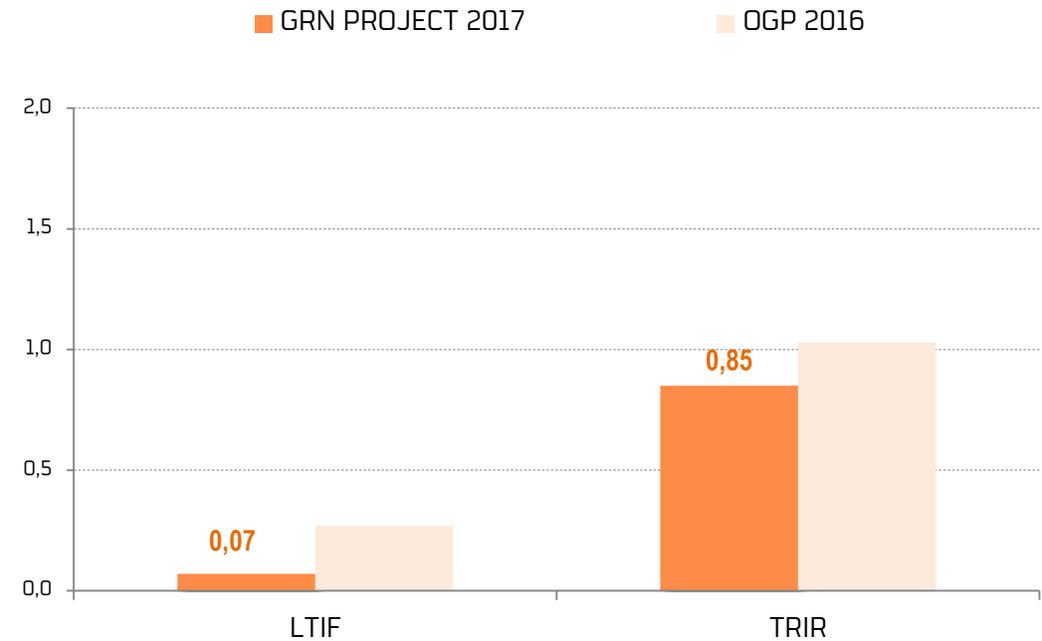


TRC: Total Recordable Case    NLTI: Non LTI Case    NII: None Injury Incident  
 RTA: Road Traffic Accident

# REGGANE PROJECT / HSE performance



	LTI	LTIF	TRI	TRIR	MWH
EPC1	4	0,18	34	1,56	21 737 019
EPC2	1	0,48	3	1,43	2 091 488
EPC3	2	0,63	9	2,84	3 174 495
DRILLING	0	0	9	1,50	6 012 286
Project to Date	7	0,19	55	1,50	34 192 966

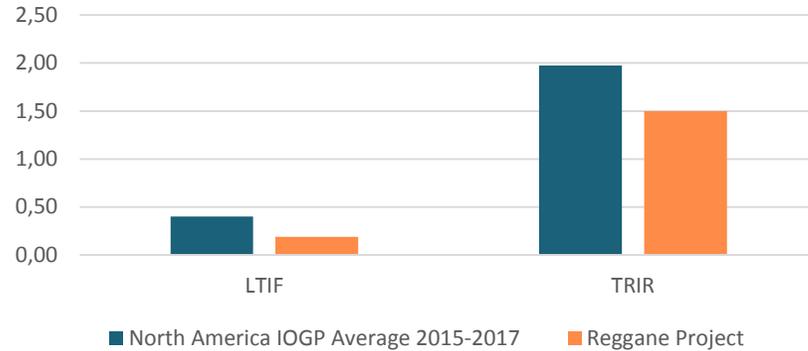


# REGGANE PROJECT / HSE performance

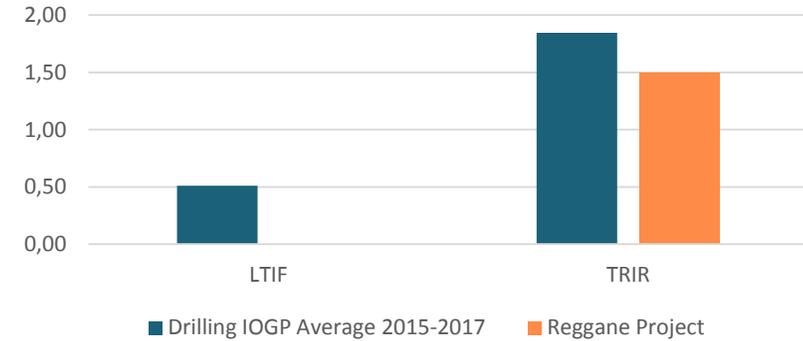


**REPSOL**

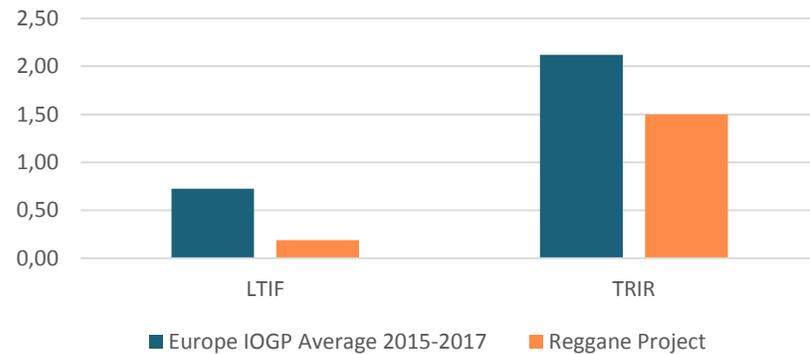
**North America IOGP Avg. 2015-2017 vs. Reggane**



**Drilling IOGP Average 2015-2017 vs. Reggane**



**Europe IOGP Average 2015-2017 vs. Reggane**



# REGGANE PROJECT / HSE performance



# REGGANE PROJECT / HSE performance



# REGGANE PROJECT / HSE performance



# REGGANE PROJECT



# Safety, Environment and Climate Strategy to 2025



November 5th, 2018

# Key Action Lines 2018-2025

Environment and Safety as basis of value creation, excellence, and responsibility

Key Action Lines

1

Achieving leadership in **process safety**

2

**Quantification** of environmental impacts and dependencies to support our business decisions

3

Enhancing Safety and Environment management of **Non-Operated** activities and Business relationships

4

Progressing towards excellence in the **learning process**

5

**Decommissioning** processes with Safety and Environment criteria

6

Keeping **social license** through outstanding environmental performance

7

Moving towards excellence in sustainable **water** management

8

Reduce Company's carbon and energy intensity

9

Boosting **culture, transformational leadership** and Safety and Environment awareness

10

Integrating **digitalization, innovation and new technologies** in Safety and Environment management

11

Evolving towards a high level management model of Safety and Environment and **developing technical knowledge**

# Our position on Climate Change

How will we prepare our company for a low emissions future?

**In Repsol we believe that two global goals have to be pursued:**

- ✓ *To fight against climate change and*
- ✓ *To provide access to affordable energy in order to support economic growth and development*

- **We set up and deploy ambitious energy efficiency programs to reduce energy consumption and GHG emissions as one of the key elements of our strategy.** These programs pursue long term targets which have been made public in order to facilitate their progress by the stakeholders.
- **We consider natural gas as the most cost effective solution to promote a structured transition to a low emissions future, specifically in the power generations field.** In this sense, our upstream portfolio evolves towards greater percentage of gas versus oil (about 63% in production and 74% in reserves).
- We are convinced that **innovation and technological development** are essential for ensuring reliable and sustainable energy supply in the long term.
- **Carbon Capture, Utilization and Storage** is a key element to hold the increase in the global average temperature well below 2°C above pre-industrial levels. **Repsol supports the deployment of these technologies**, working to allow projects to be technically and economically feasible, sustainable and socially acceptable.
- We have the ambition to develop a new operated position in **low carbon business** where energy efficiency, gas, biofuels, CCUS and **renewables** will be needed.

# A differentiated Company targets and commitments



# Targets and ambitions

Working towards a low emissions future

## Long term approach

Paris Agreement ambition to reduce carbon intensity 40% by 2040

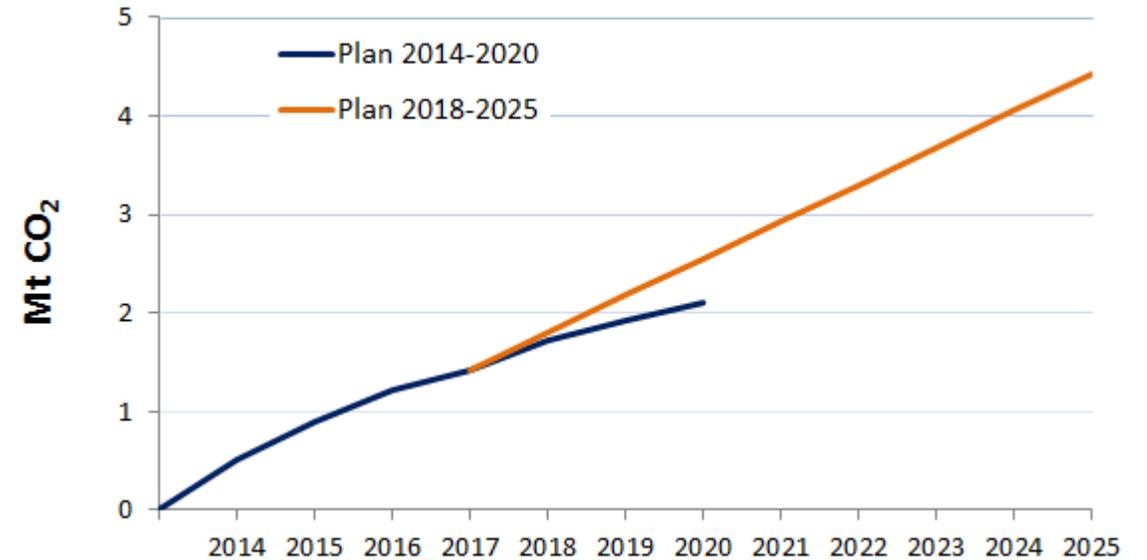


Emissions reduction -3% t CO<sub>2</sub>/GJ



## New targets by 2025:

- Methane
- Routine Flaring
- GHG emissions



Additionally in the period 2006-2013 we have reduced 3.1 Mt CO<sub>2</sub>

**Environment and Safety  
as the basis of value  
creation, excellence and  
responsibility**



# Index



Background, Methodology  
& Process



Key projects: a quick look  
Culture & leadership  
Anticipatory safety  
Circularity  
Water stewardship  
Environmental quantification and  
monetization



# Background

- Previous Safety and Environment planning covered from 2103 to 2017
- New Repsol Strategic Plan
- The whole process has been led by the Safety & Environment Comittee, involving people from all Repsol´s Bussiness lines

# Process

**Nov  
2017**

**Work  
plan  
definition**

**Feb  
2018**

**Diagnosis  
SWOT  
matrix**

**Mar  
2018**

**Vision  
Action Lines  
Objectives  
2025**

**April  
2018**

**Validation  
by top  
management**

**Jun  
2018**

**Key  
projects to  
2025**

**Sep  
2018**

**Approval**

**Feb  
2019**

**Metrics**

**Annual  
follow-up**

## STRATEGIC VISION INTERVIEWS

- Top Management Interviews

## ANALYSIS OF INTERNAL SOURCES

- Internal References
- Interviews with Unions
- Questionnaire to employees

## ANALYSIS OF EXTERNAL SOURCES

- Best practices
- Think tanks
- Trends
- External Interviews

**2 Working Groups [Safety and Environment] made up of Repsol's experts in different topics [Operations, Projects, S&E Management, etc]**

# Index



Background, Methodology  
& Process



## Key projects: a quick look

- Culture & leadership
- Anticipatory safety
- Circularity
- Water stewardship
- Environmental quantification and monetization



# Safety Culture & Leadership

- **Process of cultural transformation**
- **Real and visible leadership is the cornerstone to boost Safety Culture**
- **Integrated into all decision-making**

**Key Project:  
Safety  
Leadership  
Transformation  
Program**

# Anticipatory Safety to prevent major accidents

- Reinforce existing models of safety barrier management
- Asset integrity as a key aspect [focus on the less visible components: underground and submarine equipment]

**Key Project:  
Leading  
Indicators  
Scorecard**

# New opportunities for a Circular Economy

- Move towards quantitative analysis of Circular Economy initiatives
- Promote the identification and implementation of new opportunities
- Implementation of indicators for each Business
- Establishment of Circular Economy targets
- Promote industrial symbiosis

An orange rectangular box containing the text "Key Project: Reciclex" in white, bold, sans-serif font. The box is positioned over a background of overlapping, semi-transparent ribbons that form a circular shape. Each ribbon has the words "CIRCULAR ECONOMY" and a green arrow pointing to the right, repeated along its length.

# Water stewardship

- **Quantify**
- **Identify alternative sources**
- **Reduce consumption**
- **Improve the significance of current performance indicators**
- **Incorporate the real value of water in the decision process**

**Key Project:  
Repsol Water  
Book**

# Quantification of environmental impacts and opportunities

Repsol is working towards the definition and implementation of an integrated economic model aimed to:

- Manage our environmental impacts and dependencies by considering their actual value in the economic analysis of projects
- Analyze the value added by the Environmental Management and its impact in the business
- Integrate environmental criteria into decision-making regarding new projects, acquisitions, and operational excellence in assets

**Key Project:  
Repsol  
Environmental  
Data Analysis  
System  
(READS)**



**Leadership in the  
energy transition. New  
Energy and climate  
targets and ambitions**



# Index



**Repsol Long-Term approach**



**Targets to improve our Short-Term levers**



**Repsol experience issuing a Green Bond**



# Repsol Long-Term approach

Working towards a low emissions future

In Repsol we believe that two global goals have to be pursued:

- To fight against **climate change** and
- To **provide access to** affordable **energy** in order to support economic growth and development



Defining a global carbon intensity indicator

$t\ CO_2/GJ$

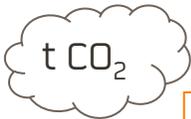
Supply energy [**GJ**] with the lowest possible emissions [**CO<sub>2</sub>**]

# Repsol Long-Term approach

How to manage the global indicator?



## Primary Energy



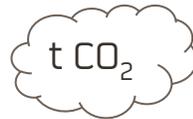
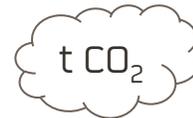
Biofuels

Oil

Gas

## Transformation

Downstream



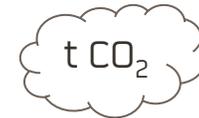
## Final Energy

Electricity ⚡ GJ

Non fuel products ⚡ GJ



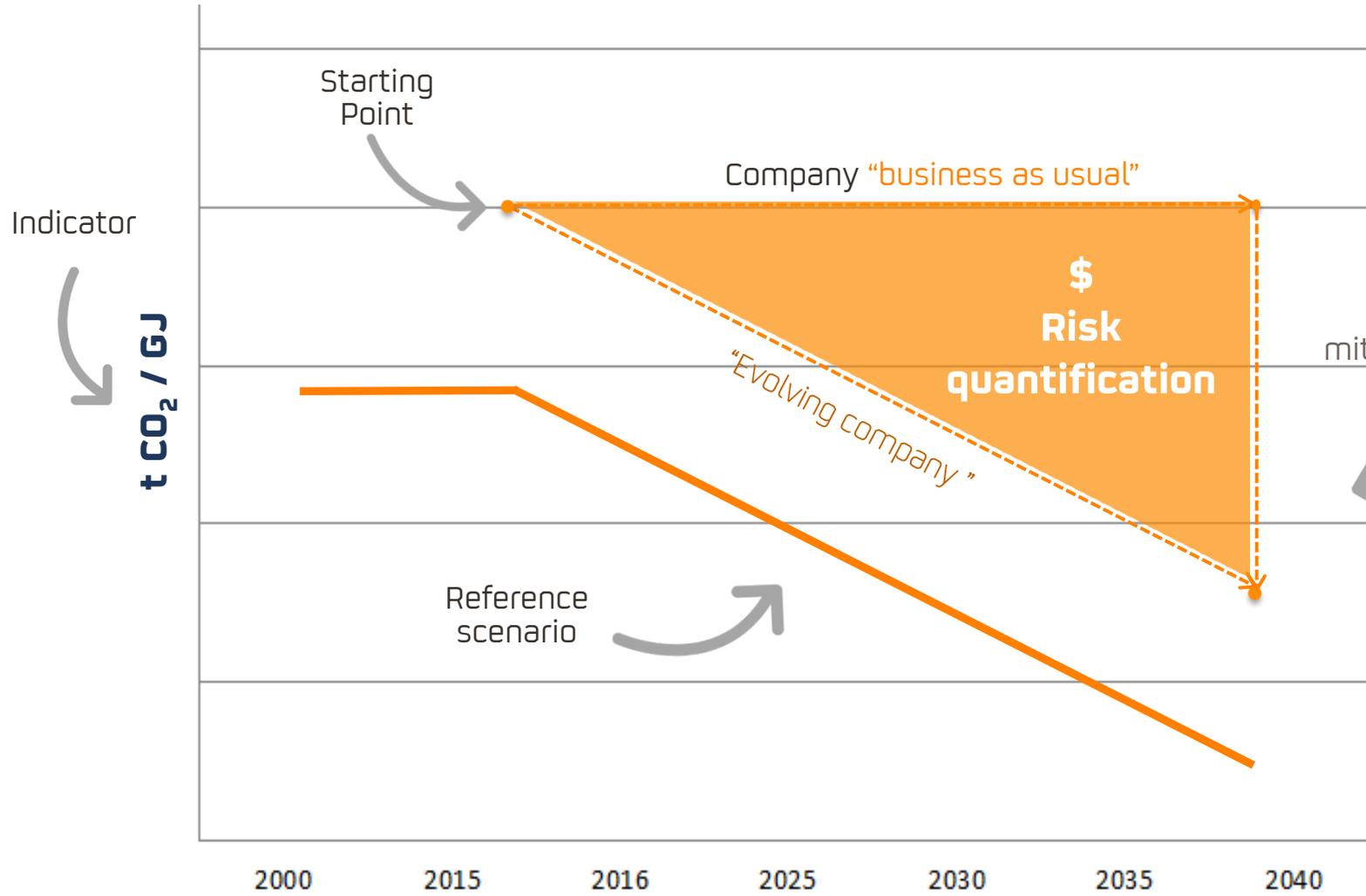
Fuel products ⚡ GJ



t CO<sub>2</sub> / GJ

# Repsol Long-Term approach

Defining Scenarios and Levers to mitigate the transition risks



Levers in order to mitigate the risks

**Taxonomy**  
Sustainable Finance

- Ratio Oil to Gas
- Energy Efficiency
- Methane emissions
- Flaring
- NFU, Chemistry
- Biofuels
- Renewables
- CCUS
- Green / Blue H<sub>2</sub>
- Natural Sinks
- Etc.



**Carbon Pricing**

# Repsol Long-Term approach

## Targets and ambition



### Our ambition

Repsol has a clear ambition (-40% by 2040) to reduce our carbon intensity and fight against climate change

Repsol uses the ratio  $t\ CO_2/GJ$  to measure its  $2^\circ C$  path progression

Repsol has a clear positioning and values aligned with climate change:

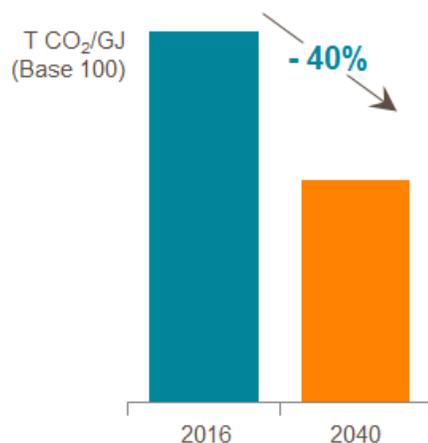
- Supply society with access to affordable energy
- Be part of the solution in the fight against climate change

**Objective:** Supply the energy needed with a reduced impact to environment.

**Ratio used:** carbon intensity ( $t\ CO_2/GJ$ )

Note: 40%  $tCO_2/GJ$  reduction needed to achieve the 2 degrees objective from Paris Agreement  
Source: Repsol, IEA

Paris Agreement ambition to reduce carbon intensity 40% by 2040



Repsol aligned with the 40% reduction through key levers

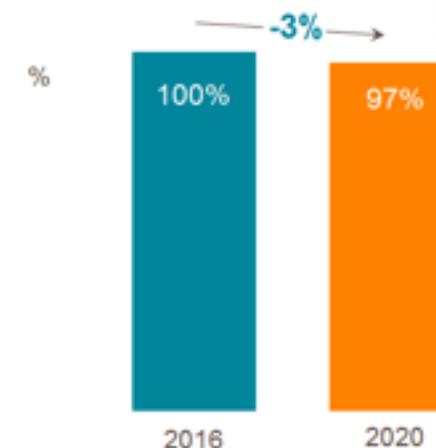
Key levers for  $CO_2$  emissions reduction:

- Natural gas shift
- Energy efficiency
- Methane emissions
- Minimizing flaring
- Carbon capture, utilization and storage
- Non fuel uses (chemicals)
- Increase biofuels
- Increase use of renewables
- Natural sinks
- Hydrogen & others

### Our commitment

Emissions reduction  
-3%  $t\ CO_2/GJ$

Emissions intensity reduction



# Index



**Repsol Long-Term approach**



**Targets to improve our Short-Term levers**



**Repsol experience issuing a Green Bond**



# Targets to improve our Short-Term Levers

Reducing methane emissions to support the role of natural gas



**25%/25** REPSOL commits to reduce by 25% its methane emissions by 2025

Scope all O&G operated assets [170 ktCH<sub>4</sub> in 2017]

COLLABORATION WITH PARTNERS SHARING  
BEST PRACTICES AND TECHNOLOGY  
DEVELOPMENT



**Methane Guidance Principles Roundtable**

## Accurate detection and quantification methodologies implementation

- Expanding application scope of LDAR techniques
- Testing emerging technologies
- Developing digital projects

## Emission reduction opportunities identification & application

- Continuous updating of Opportunities Catalogue
- Sharing external and internal best practices
- Applying mitigation technologies

## Transition to a lower emission portfolio

- Focused on gas as a transition fuel
- Considering GHG emissions as a key factor in the decision making process



# Targets to improve our Short-Term Levers

Working at a pace to minimize the routine flaring by 2030

**50% reduction of the routine flaring by 2025**

Scope: all O&G operated assets  
Baseline: 2017

## REPSOL ZERO ROUTINE FLARING ENDORSEMENT

1

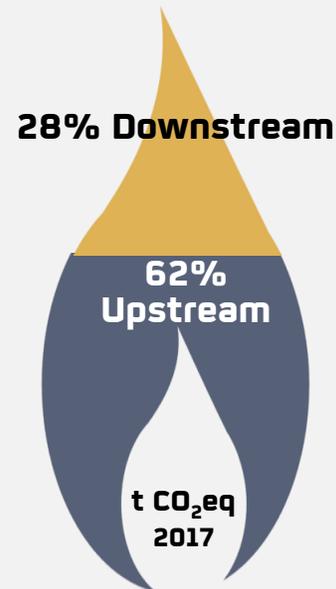
Minimize routine flaring in E&P operations by 2030



**WORLD BANK GROUP**

2

Ensure that new fields include, from design phase, solutions to avoid routine flaring and venting



### ON SITE MINIMIZATION

- More accurate measurement
- Identification of routine / non-routine flaring
- Improve facility design and operational procedures

### GAS REUTILIZATION

- Fuel combustion
- Power generation
- Re-injection



### COMMERCIAL SOLUTIONS

- Include in the gas sales after treatment, if any.



#### WHAT IS ROUTINE FLARING

Flaring during normal oil production operations in the absence of sufficient facilities or amenable geology to re-inject the produced gas, utilize it on-site, or dispatch it to a market.

# Targets to improve our Short-Term Levers

Going beyond improving efficiency in our facilities: New reduction Plan 2018-2025

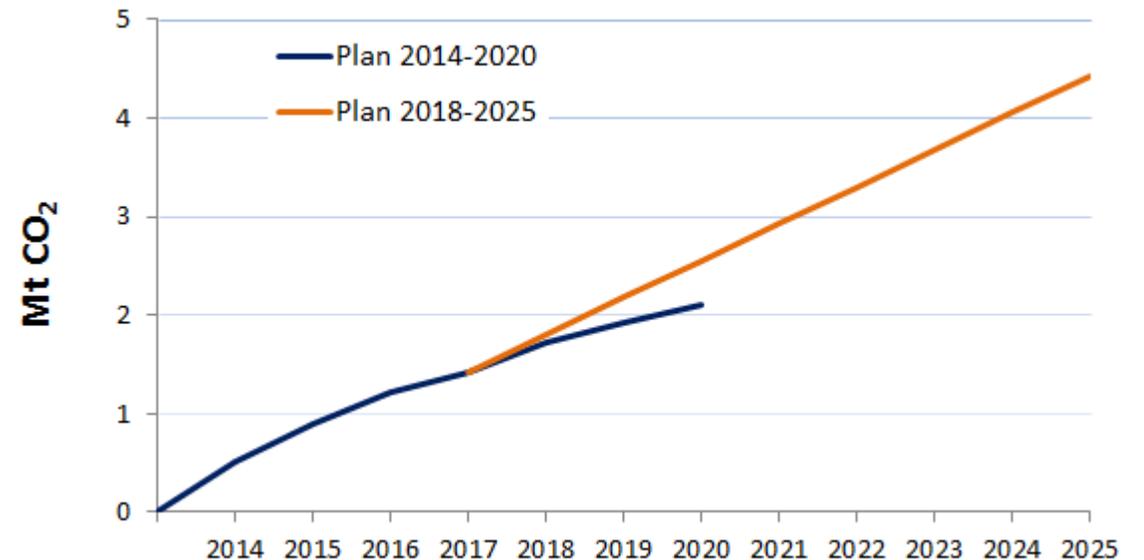
## Efficiency improvement

1. Electrification
2. Units simplification
3. Networks simplification
4. Opportunities for energy use
5. Fugitive emissions reduction
6. Flaring & Venting opportunities
7. Environment integration (energy import/export)
8. Adaptation and optimization of fuel gas, steam and H<sub>2</sub> balances
9. Digitalization

## New processes and technologies

10. Renewable generation
11. New processes
12. CO<sub>2</sub> Capture and use
13. Green hydrogen

Expressing **our ambition**:  
Our goal goes **beyond improving efficiency** in our facilities!



**3 Mt CO<sub>2</sub>eq by 2025**

# Index



**Repsol Long-Term approach**



**Targets to improve our  
Short-Term levers**

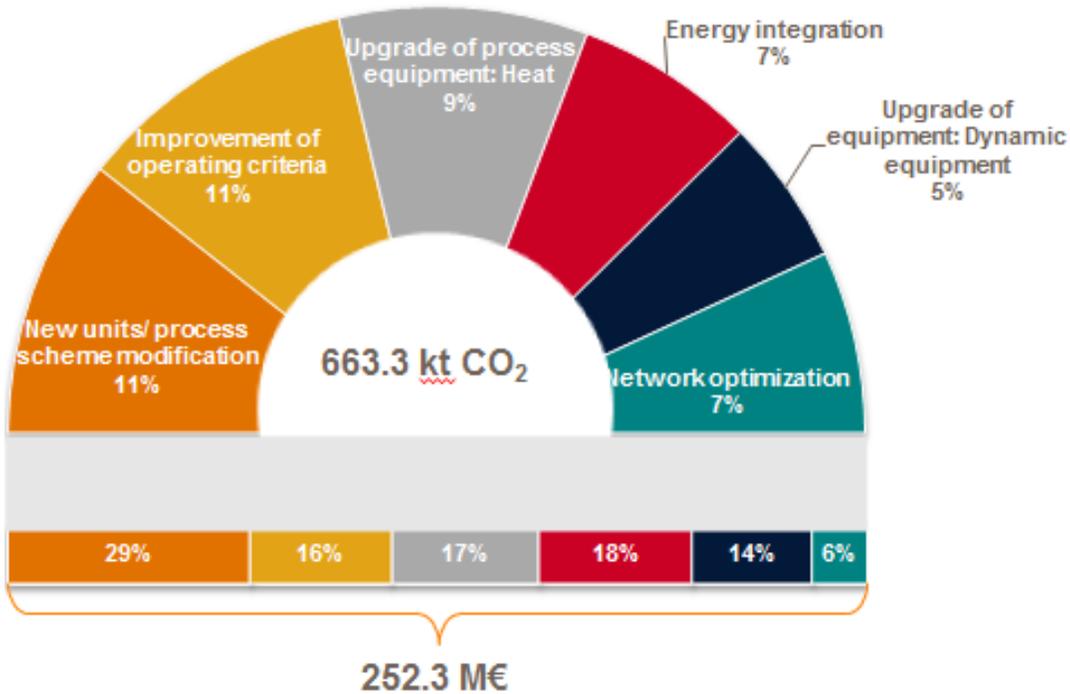


**Repsol experience issuing  
a Green Bond**



# Repsol experience issuing a green bond

Repsol green bond: A year later...



\$

51%

of the funds were allocated by the year 2017

CO<sub>2</sub>

55%

of the GHG emissions were avoided by the year 2017

*And more than 130 actions!*



*2017+ new energy efficiency and low emissions projects to allocate the rest of the funds*

June 2018: **First Third Party verification** process\*

\* All projects have been verified under ISO 14064-1 standard.

# Repsol experience issuing a green bond

## ... and some remarks for the future



- **Repsol was pioneer in the issuance of a green bond by a leading O&G company, reinforcing our commitment with sustainability.**
- It deserved many positive recognitions in the financial markets. Opening, at the same time, **a necessary debate about the important role of oil and gas sector** in the energy transition and in the sustainable financing markets.
- Our commitments to sustainability include new low carbon businesses, as well as ambitious energy efficiency programs and support of CCUS technologies. **In our view it is very important to move towards a broader green taxonomy** that includes all these initiatives that have a clear positive impact in the environment, regardless of the sector. Allowing all energy sources to play a positive role in the future scenario and to have access to green financing.
- We have a great opportunity ahead of us. It is necessary that **innovation, technology, regulation and also financing converge in a single path: securing a sustainable future.**
- Repsol's intention is to continue **being active at green financing markets in the future** to support the implementation of our Sustainability Plan:
  - Funding projects for the development of low carbon business and new technologies that clearly contribute to a low emissions scenario.
  - Always following the ICMA's Green Bond Principles, in the same way that we did in our existing Green Bond.

# Safety, Environment and Climate Strategy to 2025



November 5th, 2018



# Repsol's 5<sup>th</sup> Sustainability Day

London, 5 November 2018