



REPSOL Group

2018
Consolidated
financial
statements

*Translation of a report originally
issued in Spanish.
In the event of a discrepancy,
the Spanish language version
prevails*



Repsol, S.A. and investees comprising the Repsol Group
Balance sheet at December 31, 2018 and 2017

	Note	€ Million	
		12/31/2018	12/31/2017
ASSETS			
Intangible Assets	11	5,096	4,584
Property, plant and equipment	12	25,431	24,600
Investment properties		68	67
Investments accounted for using the equity method	13	7,194	9,268
Non-current financial assets	8	1,103	2,038
Deferred tax assets	23	3,891	4,057
Other non-current assets		701	472
NON-CURRENT ASSETS		43,484	45,086
Non-current assets held for sale		6	22
Inventories	16	4,390	3,797
Trade receivables and other receivables	17	6,105	5,912
Other current assets		296	182
Other current financial assets	8	1,711	257
Cash and cash equivalents	8	4,786	4,601
CURRENT ASSETS		17,294	14,771
TOTAL ASSETS		60,778	59,857
EQUITY AND LIABILITIES			
	Note	12/31/2018	12/31/2017
Share capital		1,559	1,556
Share premium and reserves		25,894	25,541
Treasury shares and own equity investments		(350)	(45)
Net income for the year attributable to the parent		2,341	2,121
Other equity instruments		1,024	1,024
SHAREHOLDERS' EQUITY	7	30,468	30,197
Equity instruments with changes through other comprehensive income		13	-
Hedging transactions	9	(106)	(163)
Translation differences		253	(241)
OTHER CUMULATIVE COMPREHENSIVE INCOME		160	(404)
NON-CONTROLLING INTERESTS		286	270
EQUITY	7	30,914	30,063
Non-current provisions	14	4,738	4,829
Non-current financial debt	8	9,392	10,080
Deferred tax liabilities	23	1,028	1,051
Other non-current liabilities	15	1,896	1,799
NON-CURRENT LIABILITIES		17,054	17,759
Liabilities associated with non-current assets held for sale		-	1
Current provisions	14	500	518
Current financial liabilities	8	4,289	4,206
Trade payables and other payables	18	8,021	7,310
CURRENT LIABILITIES		12,810	12,035
TOTAL EQUITY AND LIABILITIES		60,778	59,857

Notes 1 to 34 are an integral part of the balance sheet.

Repsol, S.A. and investees comprising the Repsol Group
Consolidated income statement for the years ending December 31, 2018 and 2017

	Note	€ Million	
		2018	2017 ⁽¹⁾
Sales		49,701	41,242
Income from services rendered and other income		172	426
Changes in inventories of finished goods and work in progress		130	206
Reversal of impairment provisions and gains on disposal of assets		277	864
Other operating income		1,073	710
OPERATING INCOME		51,353	43,448
Supplies		(38,056)	(30,251)
Amortisation of non-current assets		(2,140)	(2,399)
Personnel expenses		(1,874)	(1,892)
Transport and freights		(1,114)	(1,072)
Supplies		(739)	(842)
Impairment loss provisions recognized and losses on disposal of assets		(1,281)	(922)
Other operating expenses		(3,696)	(3,281)
OPERATING COSTS		(48,900)	(40,659)
OPERATING INCOME	19	2,453	2,789
Net interest		(230)	(288)
Change in fair value of financial instruments		200	34
Exchange gains (losses)		467	151
Impairment of financial instruments		(370)	(1)
Other finance income and expenses		(240)	(208)
FINANCIAL RESULT	21	(173)	(312)
INCOME INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD	22	1,053	630
NET INCOME BEFORE TAX		3,333	3,107
Income tax	23	(1,386)	(1,220)
PROFIT FROM CONTINUING OPERATIONS		1,947	1,887
INCOME FROM CONTINUING OPERATIONS ATTRIBUTED TO NON-CONTROLLING INTERESTS		(18)	(40)
INCOME FROM CONTINUING OPERATIONS ATTRIBUTED TO THE PARENT		1,929	1,847
INCOME FROM DISCONTINUED OPERATIONS ATTRIBUTED TO THE PARENT	24	412	274
TOTAL INCOME ATTRIBUTABLE TO THE PARENT		2,341	2,121
EARNINGS PER SHARE ATTRIBUTABLE TO THE PARENT	25	Euros / share	
Basic		1.45	1.29
Diluted		1.45	1.29

⁽¹⁾ Includes the necessary amendments to the 2017 consolidated financial statements in relation to the sale of the stake in Naturgy Energy Group, S.A. (see Note 2.2.1).

Notes 1 to 34 are an integral part of the consolidated income statement.

Repsol, S.A. and investees comprising the Repsol Group
Statement of recognized profit or loss corresponding to the years ending December 31, 2018 and 2017

	Millions of euros	
	2018	2017
CONSOLIDATED NET INCOME FOR THE YEAR ⁽¹⁾	2,359	2,161
Due to actuarial gains and losses	4	1
Investments accounted for using the equity method	25	6
Equity instruments with changes through other comprehensive income	3	1
Tax effect	4	-
OTHER COMPREHENSIVE INCOME. ITEMS NOT RECLASSIFIABLE TO INCOME	36	8
Cash flow hedging:	39	22
Valuation gains / (losses)	3	(5)
Amounts transferred to the income statement	36	27
Translation differences:	332	(2,660)
Valuation gains / (losses)	383	(2,622)
Amounts transferred to the income statement	(51)	(38)
Share of investments in joint ventures and associates:	181	(132)
Valuation gains / (losses)	-	(175)
Amounts transferred to the income statement	181	43
Tax effect	14	(30)
OTHER COMPREHENSIVE INCOME. ITEMS RECLASSIFIABLE TO INCOME	566	(2,800)
TOTAL OTHER COMPREHENSIVE PROFIT/(LOSS)	602	(2,792)
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	2,961	(631)
a) Attributable to the parent	2,940	(662)
b) Attributable to non-controlling interests	21	31

⁽¹⁾ Constituting the sum of the following consolidated income statement captions: "Net income from continuing operation" and "Net income attributable to the parent company from discontinued operations".

Notes 1 to 34 are an integral part of the consolidated statement of recognized income and expense.

Repsol, S.A. and investees comprising the Repsol Group
Statement of changes in equity corresponding to the years ending December 31, 2018 and 2017

€ Million	Equity attributed to the parent and other equity instrument holders							
	Shareholders' equity					Other cumulative comprehensive income	Non-controlling interests	Equity
	Share Capital	Share premium and reserves	Treasury shares and own equity instruments	Net income for the year attributable to the parent	Other equity instruments			
Closing balance at 12/31/2016	1,496	24,232	(1)	1,736	1,024	2,380	244	31,111
Total recognized income/(expenses)	-	2	-	2,121	-	(2,785)	31	(631)
Transactions with partners or owners:								
Share capital increase/(reduction)	60	(60)	-	-	-	-	-	-
Dividends and stockholder remuneration	-	(342)	-	-	-	-	(5)	(347)
Transactions with treasury shares and own equity investments (net)	-	-	(44)	-	-	-	-	(44)
Increases/(reductions) by perimeter variations	-	-	-	-	-	-	-	-
Other transactions with partners and owners	-	-	-	-	-	-	-	-
Other equity variations:								
Transfers between equity-line items	-	1,736	-	(1,736)	-	-	-	-
Subordinated perpetual obligations	-	(29)	-	-	-	-	-	(29)
Other variations	-	2	-	-	-	1	-	3
Closing balance at 12/31/2017	1,556	25,541	(45)	2,121	1,024	(404)	270	30,063
Impact of new standards (see note 2.2.2)	-	(351)	-	-	-	(5)	-	(356)
Adjusted opening balance	1,556	25,190	(45)	2,121	1,024	(409)	270	29,707
Total recognized income/(expenses)	-	29	-	2,341	-	570	21	2,961
Transactions with partners or owners:								
Share capital increase/(reduction)	72	(72)	-	-	-	-	-	-
Dividends and stockholder remuneration	-	(275)	-	-	-	-	(5)	(280)
Transactions with treasury shares and own equity investments (net)	(69)	(1,072)	(305)	-	-	-	-	(1,446)
Increases/(reductions) by perimeter variations	-	-	-	-	-	-	-	-
Other transactions with partners and owners	-	-	-	-	-	-	-	-
Other equity variations:								
Transfers between equity-line items	-	2,121	-	(2,121)	-	-	-	-
Subordinated perpetual obligations	-	(29)	-	-	-	-	-	(29)
Other variations	-	2	-	-	-	(1)	-	1
Closing balance at 12/31/2018	1,559	25,894	(350)	2,341	1,024	160	286	30,914

Notes 1 to 34 are an integral part of the consolidated statement of changes in equity.

Repsol, S.A. and investees comprising the Repsol Group
Statement of cash flows corresponding to the years ending December 31, 2018 and 2017

	Note	€ Million	
		2018	2017
Net income before tax		3,333	3,107
Adjusted result:		2,360	2,146
Amortisation of non-current assets	11 and 12	2,140	2,399
Other adjustments to net profit/(losses)		220	(253)
Changes in working capital		(389)	(110)
Other cash flows from / (used in) operating activities:		(725)	(30)
Collections of dividends		472	511
Income tax receivable / (payable)		(762)	(320)
Other receipts / (payments) of operating activities		(435)	(221)
CASH FLOWS FROM OPERATING ACTIVITIES	26	4,579	5,113
Payments for investments:	4, 11 and 12	(5,501)	(3,094)
Companies of the group and associates		(807)	(327)
Property, plant and equipment, intangible assets and property investment		(2,661)	(2,300)
Other financial assets		(2,033)	(467)
Proceeds from divestments:	4	4,074	254
Companies of the group and associates		3,372	16
Property, plant and equipment, intangible assets and property investment		119	78
Other financial assets		583	160
Other cash flows		68	51
CASH FLOWS FROM INVESTMENT ACTIVITIES	26	(1,359)	(2,789)
Proceeds and (payments) on equity instruments:	7	(1,595)	(293)
Acquisition		(1,808)	(304)
Disposal		213	11
Proceeds and (payments) on financial liability instruments:	8	(796)	(1,163)
Issue		18,127	10,285
Return and amortization		(18,923)	(11,448)
Payments on stockholder remuneration and other equity instruments	7	(297)	(332)
Other cash flows from financing activities:		(344)	(573)
Payments of interests		(454)	(537)
Other receipts/(payments) of financing activities		110	(36)
CASH FLOWS FROM FINANCING ACTIVITIES	26	(3,032)	(2,361)
EXCHANGE RATE FLUCTUATIONS EFFECT	26	(3)	(49)
NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS		185	(86)
CASH AND CASH EQUIVALENTS AT BEGINNING OF PERIOD		4,601	4,687
CASH AND CASH EQUIVALENTS AT END OF PERIOD:	8	4,786	4,601
Cash and banks		4,124	3,753
Other financial assets		662	848

Notes 1 to 34 are an integral part of the consolidated cash flow statement.

Repsol, S.A. and Investees comprising the Repsol Group
NOTES TO THE 2018 CONSOLIDATED FINANCIAL STATEMENTS

INDEX

GENERAL INFORMATION

(1) ABOUT THIS REPORT	8
(2) BASIS OF PRESENTATION.....	10
(3) ACCOUNTING ESTIMATES AND JUDGMENTS.....	18

MAIN ACQUISITIONS AND DIVESTMENTS

(4) MAIN ACQUISITIONS AND DIVESTMENTS	22
---	----

SEGMENT REPORTING

(5) SEGMENT REPORTING	24
-----------------------------	----

CAPITAL STRUCTURE AND FINANCIAL RESOURCES

(6) CAPITAL STRUCTURE	26
(7) EQUITY.....	26
(8) FINANCIAL INSTRUMENTS.....	30
(9) DERIVATIVE AND HEDGING TRANSACTIONS	35
(10) FINANCIAL RISKS.....	38

NON CURRENT ASSETS AND LIABILITIES

(11) INTANGIBLE ASSETS.....	43
(12) PROPERTY, PLANT AND EQUIPMENT.....	45
(13) INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD.....	46
(14) CURRENT AND NON-CURRENT PROVISIONS.....	49
(15) OTHER NON-CURRENT LIABILITIES.....	51

CURRENT ASSETS AND LIABILITIES

(16) INVENTORIES.....	53
(17) TRADE RECEIVABLES AND OTHER RECEIVABLES.....	53
(18) TRADE PAYABLES AND OTHER PAYABLES	54

INCOME

(19) OPERATING INCOME	55
(20) ASSET IMPAIRMENT	57
(21) FINANCIAL RESULT	63
(22) INCOME INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD	63
(23) TAXES.....	64
(24) INCOME FROM DISCONTINUED OPERATIONS	69
(25) EARNINGS PER SHARE	69

CASH FLOWS

(26) CASH FLOWS.....	70
----------------------	----

OTHER DISCLOSURES

(27) COMMITMENTS AND GUARANTEES	72
(28) INFORMATION ON RELATED PARTY TRANSACTIONS	73
(29) PERSONNEL OBLIGATIONS	75
(30) REMUNERATION OF THE MEMBERS OF THE BOARD OF DIRECTORS AND EXECUTIVES.....	77
(31) ENVIRONMENTAL INFORMATION.....	81
(32) FURTHER BREAKDOWNS	82
(33) SUBSEQUENT EVENTS	84
(34) EXPLANATION ADDED FOR TRANSLATION TO ENGLISH	84

APPENDIX:

APPENDIX I: GROUP'S CORPORATE STRUCTURE	85
APPENDIX IA: MAIN COMPANIES COMPRISING THE REPSOL GROUP AT DECEMBER 31, 2018.....	85
APPENDIX IB: MAIN CHANGES IN THE CONSOLIDATION SCOPE.....	91
APPENDIX IC: JOINT OPERATIONS OF THE REPSOL GROUP AT DECEMBER 31, 2018	93
APPENDIX II: SEGMENT REPORTING AND RECONCILIATION WITH IFRS-EU FINANCIAL STATEMENTS	99
APPENDIX III: REGULATORY FRAMEWORK.....	101

GENERAL INFORMATION

(1) ABOUT THIS REPORT

1.1) About the Repsol Group

Repsol is a group of companies in the energy sector (hereinafter, “Repsol”, “Repsol Group” or “Group”) with a presence in five continents.

It performs all its energy generation, transformation and marketing activities on an integrated basis. In the oil and gas industry, such activities include exploration, development and production of crude oil and natural gas, transportation of oil products, liquefied petroleum gas (LPG) and natural gas, refining, the production of a wide range of oil products and the marketing of oil products, oil derivatives, petrochemical products, LPG, natural gas and liquefied natural gas (LNG). In the electricity industry and following the acquisition of Viesgo (see Note 4), it adds the generation and marketing of electricity and natural gas.

1.2) About the parent company

The corporate name of the parent company of the Repsol Group that prepares and files these Financial Statements is Repsol, S.A. It is registered at the Madrid Companies Register in sheet no. M-65289; its tax ID number (C.I.F.) is A-78/374725 and its C.N.A.E. no. is 70.10.

Repsol S.A. is a private-law entity, incorporated in accordance with Spanish legislation, which is subject to the Companies Act (Ley de Sociedades de Capital), whose consolidated wording was approved by Legislative Royal Decree 1/2010 of July 2nd, and all other legislation related to listed companies.

Its registered office is in Madrid, 44 calle Méndez Álvaro, where the Shareholder Information Office is also located, the telephone number of which is 900 100 100.

The shares of Repsol, S.A. are represented by book entries and listed on the continuous market of the Spanish stock exchanges (Madrid, Barcelona, Bilbao and Valencia).¹ The Company also participates in the ADS (American Depositary Shares) Program which, on March 9, 2011, began to trade on the OTCQX market, a platform within the OTC (*over-the-counter*) market in the United States, and which distinguishes issuers with improved market information policies and solid business activities.

1.3) About the consolidated Financial Statements and supplementary information

The accompanying Consolidated Financial Statements of Repsol, S.A. and its investees, comprising the Repsol Group, present fairly the Group’s equity and financial position at December 31, 2018, as well as the Group’s consolidated earnings performance, the changes in the consolidated equity and the consolidated cash flows for the year then ended.

These consolidated financial statements were prepared by the Board of Directors of Repsol S.A.² at its meeting held on February 27, 2019 and they will be submitted, together with the financial statements of its investees, for approval by their respective Annual General Meetings; it is expected that they will be approved without any modifications.³

The Group’s Management Report is published jointly with the consolidated financial statements. In addition, Repsol has published “*Information on Oil and Gas Exploration and Production Activities*” and the “*Report on Payments to Governments on Oil and Gas Exploration and Production Activities*” as supplementary information not reviewed by the external auditor.” All these reports are available at www.repsol.com.

¹ On January 28, 2019, the shares of Repsol, S.A. were withdrawn from the public offering and listing regime in Argentina.

² The preparation of the Consolidated Financial Statements, which is the responsibility of the Board of Directors of the Group’s parent company, makes it necessary to use accounting estimates and judgments when applying the accounting standards. The areas in which most significant judgments and estimates have to be made are detailed in Note 3.

³ The 2017 Consolidated Financial Statements were approved at Repsol’s Shareholder Annual Meeting held on May 11, 2018.

1.4) Main changes in the Group's activities

On May 18, 2018, Repsol, S.A. sold its stake (20.072%) in Naturgy Energy Group, S.A. to Rioja Bidco Shareholdings. (formerly Gas Natural SDG, S.A. and, hereinafter, “Naturgy” or “Naturgy Group”).

On June 6, 2018, the update of the Strategic Plan for 2018-2020 (“Strategic Plan”) was published. One of the three pillars on which the Strategic Plan is based is the development of new businesses associated with the energy transition, paying particular attention to the development of the gas business, low-emission production and the marketing of gas and electricity. To date:

- The acquisition of non-regulated low-emission electricity production businesses operated by Viesgo was completed, together with its gas and electricity marketing company (see Note 4); and
- Valdesolar Hive, S.L. was acquired, which will develop a photovoltaic project in Valdecaballeros (Badajoz), and which will have a rated power of 206.24 MW (263.7 MW peak) and may be operative between 2019 or 2020.

The Group, also in line with its Strategic Plan, increased its international presence in the *Downstream* businesses in Mexico, where it inaugurated the first service stations, and it entered in the Lubricants business with the acquisition of Bardhal de México, S.A. and in Peru where Energy Perú SAC was acquired, adding 26 service stations to the more than 500 that Repsol already had in the country.

1.5) Breakdown of the Group

The Repsol Group contains more than 300 companies incorporated in more than 40 countries (mainly in Spain, the Netherlands, Canada and the United States) that, from time to time, carry out activities abroad through branches, permanent establishments and so on.

The Repsol Group comprises subsidiaries, joint arrangements and associates. Appendix I details the main companies, subsidiaries, joint arrangements and associates that form part of the Repsol Group included in the scope of consolidation.

In the *Oil&Gas* industry, exploration and production activities are usually carried out through partnerships or associations between companies classified as joint arrangements, which are implemented through *Joint Operation Agreements*, which are included in the shareholders’ financial statements in accordance with the share of the assets, liabilities, income and expenses arising from the agreement, or as *Joint Ventures*, which are included in shareholders’ financial statements using the equity method.

In 2018, significant changes took place in the Group's composition due to the sale of the 20% stake in Naturgy Energy Group, S.A. and the acquisition, within the framework of the strategic update, of the businesses tied to the energy transition. There were no significant changes in the Group’s scope of consolidation in 2017.

For further information on changes in the Group's composition, see Note 4. and Appendix I.

(2) BASIS OF PRESENTATION

2.1) Main principles

The consolidated Financial Statements were prepared based on the accounting records of Repsol, S.A. and its investees. They are presented in accordance with the International Financial Reporting Standards (IFRSs) as issued by the *International Accounting Standards Board* (IASB), adopted by the European Union (EU) as of December 31, 2018¹ and other provisions of the applicable regulatory framework.² Of the changes in accounting standards that have been applied by the Group as of January 1, 2018³ that are noteworthy due to their impact on these financial statements were IFRS 9 *Financial Instruments* and IFRS 15 *Revenue from Contracts with Customers*, as described in section 2.2.2 of this Note.

Repsol prepares its consolidated Financial Statements including the investments in all its subsidiaries, joint arrangements and associates,⁴ whose accounting standards have been unified with those of the parent in order to present consolidated financial statements by applying uniform accounting policies.

The consolidated Financial Statements are presented in millions of euros, which is the functional currency of the parent company and presentation currency of the consolidated financial statements. The items included in these consolidated financial statements relating to the Group companies are measured using their functional currency, which is the currency in the main economic environment in which they operate; when this differs from the presentation currency, the conversion is carried out as stated below: i) The assets and liabilities in each of the balance sheets presented are translated applying the closing exchange rate on the balance sheet date, ii) income and expense items are translated applying the average cumulative exchange rate for the financial year in which the transactions were performed (however, the transaction-date exchange rate is used to translate significant transactions or when exchange rates have fluctuated significantly during the reporting financial year), and iii) any exchange differences arising as a result of the foregoing are recognized as "Translation Differences" under the Equity heading.

Transactions in currencies other than the functional currency of an entity are deemed to be 'foreign currency transactions' and are translated to the functional currency by applying the exchange rates prevailing at the date of the transaction. At each year end, the foreign currency monetary items on the balance sheet are measured applying the exchange rate prevailing at that date and the exchange rate differences arising from such measurement are recorded as "Net exchange gains/(losses)" under Financial result.

The exchange rates against the euro of the main currencies used by the Group companies at December 31, 2018 and 2017 were as follows:

	December 31, 2018		December 31, 2017	
	Closing rate	Accumulated average rate	Closing rate	Accumulated average rate
US dollar	1.15	1.18	1.20	1.13
Brazilian real	4.44	4.31	3.97	3.61

¹ The IFRSs adopted and in effect in the EU differ in some respects from the IFRSs issued by the IASB; however these differences do not have a material impact on the Group's consolidated financial statements in the years presented.

² The policies considered significant in accordance with the nature of the Group's activities are described at the end of this Note and other significant policies and those considered an accounting policy option are shown in the corresponding Notes.

³ The standards applied effective January 1, 2018, are: i) IFRS 9 *Financial Instrument*; ii) IFRS 15 *Revenue from contracts with customers*; iii) Clarifications to IFRS 15 *Revenue from contracts with customers*; iv) Amendments to IFRS 4 *Application of IFRS 9 Financial Instruments* with IFRS 4 *Insurance contracts*; v) Annual Improvements to IFRSs, 2014-2016 Cycle; vi) Amendments to IFRS 2 *Clarifications of classification and measurement of share based payment transactions*; vii) Amendments to IAS 40 *Transfers of investment property*; and viii) IFRIC 22 *Foreign currency transactions and advance consideration*. Except as described in section 2.2.2 for IFRS 9 and IFRS 15, the other standards have not had a significant impact.

⁴ Group companies are classified according to the control exercised over them: i) subsidiaries: Those companies over which Repsol exercises direct or indirect control, are fully consolidated, ii) joint arrangements: those whose strategic operational and financial decision-making require unanimous consent from the parties wielding joint control and classified as i) joint operations structured through a *Joint Operating Agreement* (JOA), or a similar vehicle whose stakes are retained by the Group or through a stake in fully consolidated subsidiaries, or ii) joint ventures recognized using the equity method; and iii) associates: stakeholdings over which there is significant influence, where Repsol's consent is not required in strategic operational and financial decision-making, but over which it has power to intervene and that are accounted for using the equity method.

2.2) Comparative information

2.2.1 Changes in the scope of consolidation

Following the sale of the stake in Naturgy (see Note 1.4), income from said stake has been classified under "Income from discontinued operations, net of taxes" (see Note 24). The 2017 income statement has been restated for comparative purposes.

2.2.2 Application of new accounting standards

IFRS 9 Financial instruments

IFRS 9 *Financial Instruments* came into force on January 1, 2018, with the option of not restating comparative information corresponding to 2017. The impact of its initial application has been recognized directly in equity, as follows:

Asset impairment:

The initial application of the new scheme of impairment due to credit risk based on expected loss¹ has entailed a negative impact of €348 million, mainly attributable to financial assets associated with Venezuela. This impact has been recognized under "Retained earnings and other reserves", (Note 7) broken down as follows:

	12/31/2017			Adjustment IFRS 9 ⁽³⁾	01/01/2018
	Gross	Impairment provision ⁽²⁾	Net		
Non-current financial assets ⁽¹⁾	3,744	(1,706)	2,038	(289)	1,749
Other non-current assets	472	-	472	(42)	430
Trade receivables and other receivables	6,085	(173)	5,912	(71)	5,841
Current and non-current provisions	(5,222)	(125)	(5,347)	(19)	5,366
Effect on net assets		(2,004)		(421)	(2,654)
Investments accounted for using the equity method		-	9,268	(12)	9,256
Deferred tax assets				85	
Effect on Equity				(348)	

⁽¹⁾ See Note 10.3

⁽²⁾ Balance of provision model for incurred loss (IAS 39) at December 31.

⁽³⁾ The accumulated loss, if any, is presented as a reduction of the corresponding asset account.

¹ See Note 10.3 for more information relating to the Group's expected loss model.

Classification of financial assets:

Financial assets have been classified at January 1, 2018, as financial assets measured at fair value through profit or loss under "Other comprehensive income)" according to the nature of the contractual cash flows of the assets and the business model applied by the company,¹ there have been no significant impacts as a result of the changes in classification.

Below is the reconciliation of the classification of financial assets under IAS 39 and IFRS 9 on the date of initial application:

Type of instrument	Classification 12/31/2017 (IAS 39)	Classification 1/1/2018 (IFRS 9)	Amount
Equity Instruments ⁽¹⁾	Available for sale	VR ² with changes through other comprehensive income	101
		VR with changes on profit	17
Derivatives	Held for trading	VR with changes on profit	79
Loans	Loans and receivables	Amortized cost	2,106
Cash and other cash equivalents	Held to maturity investments	Amortized cost	4,593
Other instruments	VR ² with changes on profit	VR with changes on profit	62

NOTE: Does not include "Other non-current assets" and "Trade receivables and other receivables" in the balance sheet, which, at December 31, 2017, came to €470 million (non-current) and €5,161 million (current), of which €1,028 million correspond to current accounts receivable on commodities sales agreements, which are measured at fair value with changes through profit and loss; the remainder corresponds mainly to trade accounts receivable measured at amortized cost.

⁽¹⁾ Portfolio of companies not consolidated or accounted for using the equity method.

⁽²⁾ VR: Fair value.

In terms of financial liabilities, there has been no significant impact on the classification or measurement as a result of the application of IFRS 9.

Hedge accounting and derivatives:

The Group has chosen to apply IFRS 9 for the accounting of its hedging activities, despite the standard allowing for the continued application of IAS 39 until the IASB completes its "Dynamic risk management" project, on account of the greater flexibility provided by the new standard.

The new standard: (i) eliminates the requirement of retroactive assessment in order to evaluate the continuity of the hedge; (ii) allows the mitigation of accounting asymmetries caused by the operation of supply and marketing of commodity contracts and derivative instruments used as their economic hedges, through the application of the fair value option to such contracts and; (iii) provides greater flexibility in relation to hedge accounting, specifically in relation to the instruments that can be used as hedging instruments and in relation to the transactions that can be hedged.

There have been no impacts of initial application for IFRS 9 in relation to hedge accounting.

IFRS 15 Revenue from contracts with customers

IFRS 15 *Revenue from contracts with customers* and the amendments to the rest of the IFRS affected by it was applied on January 1, 2018, without re-stating the comparative information relating to 2017.

IFRS 15 replaces IAS 18 *Revenue* and IAS 11 *Construction Contracts* and applies to all revenue arising from contracts with customers, unless such contracts are within the scope of other standards. According to the new accounting recording requirements, the revenue from each of the contract performance obligations must be separately identified,

¹ Investments in debt held within a business model whose objective is to obtain contractual cash flows consisting exclusively of the principal and interest are generally measured at amortized cost. When these debt instruments are held within a business model whose objective is achieved by obtaining contractual cash flows of the principal and interest and the sale of these instruments, generally speaking, they are measured at fair value with changes in "Other comprehensive income". All other investments in debt and equity will be measured at fair value with changes through profit or loss. However, it is possible to irreversibly decide to include subsequent changes in the fair value of certain equity instruments in "Other comprehensive income" and, in general, in this case only dividends will be recognized afterwards in income.

classified and accrued. Among other issues, the standard also establishes the accounting criteria for activating the incremental costs of obtaining a contract with a customer.

The Group has reviewed the type of contracts with customers (mainly sales of crude oil, gas, petroleum products, chemicals and lubricants and specialties) and has not identified in these that there is generally more than one performance obligation. Repsol fulfills its performance obligation through delivery of the product, generally hydrocarbons, which occurs at a particular moment in time. The following impacts derived from the application of IFRS 15 are identified, which have been recorded under the balance sheet heading "*Retained earnings and other reserves*":

	12/31/2017	Adjustment IFRS 15	01/01/2018
Other non-current liabilities ⁽¹⁾	(1,799)	(20)	(1,819)
Trade payables and other payables ⁽¹⁾	(7,310)	(4)	(7,314)
Investments accounted for using the equity method	9,268	9	9,277
Effect on net assets and liabilities		(15)	
Deferred tax assets		6	
Effect on Equity		(9)	

⁽¹⁾ Two distinct performance obligations have been identified in contracts for the bulk supply of liquefied petroleum gases (LPG): (i) the sale of liquefied gas, which occurs at a specific point in time; and (ii) maintenance services, which are provided generally over the life span of the contract, giving rise to a contractual liability shown under "*Other non-current liabilities*" and "*Trade payables and other payables*" for outstanding services and that, as of January 1, 2018, came to €20 million and €4 million respectively, and accumulated losses of €18 million after tax, recognized under "*Retained earnings and other reserves*" (see Note 7).

According to certain *Upstream* segment contracts, for the payment of Group taxes, production deliveries are made to national oil companies which, once the control has been transferred, they can market freely in the market. Based on the economic substance of the transactions, the monetary value of these production volumes is shown under "*Sales*" on the income statement (formerly under "*Services rendered and other income*"). The amounts recognized in 2018 under "*Sales*" come to €570 million for this item.

As regards the incremental costs of obtaining a contract with a customer, the costs that the Group had previously recorded under the balance sheet heading "*Intangible assets*" as reflagging costs have been identified as such. The net balance of this item at January 1, 2018, came to €26 million

Finally, in relation to the additional breakdowns of information, the opening of revenue from ordinary activities (corresponding to the sum of the headings "*Sales*" and "*Services rendered and other income*") by geographical area has been incorporated (see Note 19).

2.2.3 Earnings per share

Earnings per share at December 31, 2017 have been restated with respect to that recognized in the 2017 consolidated financial statements in accordance with accounting standards, as the average number of outstanding shares considered in the calculation should be based on the new number of shares issued after the capital increases carried out as part of the compensation scheme to shareholders known as the "*Repsol Flexible Dividend*" system described in Note 7.

2.3) New standards issued for mandatory application in future years

The standards and amendments to standards issued by the IASB that will be mandatory in future reporting periods are listed below:

Standards and amendments to standards	Date of 1st application
Adopted by the European Union	
IFRS 16 <i>Leases</i>	January 1, 2019
Interpretation IFRIC 23 <i>Uncertainty over income tax treatment</i> ⁽¹⁾	January 1, 2019
Amendments to IFRS 9 <i>Prepayment features with negative compensation</i> ⁽¹⁾	January 1, 2019
Amendments to IAS 28 <i>Long-term interests in associates and joint ventures</i> ⁽¹⁾	January 1, 2019
Pending adoption by the European Union⁽²⁾	
Annual Improvements to IFRSs, 2015-2017 Cycle ⁽³⁾	January 1, 2019
Amendments to IAS 19 <i>Employee benefits: modification, reduction or settlement of the plan</i>	January 1, 2019
<i>Amendments to References to the Conceptual Framework in IFRS Standards</i>	January 1, 2020
Amendments to IFRS 3: <i>Business definition</i>	January 1, 2020
Amendments to IAS 1 and IAS 8: <i>Definition of materiality</i>	January 1, 2020
IFRS 17 <i>Insurance contracts</i>	January 1, 2021
Amendments to IFRS 10 and IAS 28 <i>Sale or contribution of assets between an investor and its associate or joint venture</i> ⁽⁴⁾	Undefined

¹ No significant impacts have been identified resulting from its application.

² With regard to these standards and amendments, the Group is currently assessing the impact their application may have on the consolidated financial statements, without any significant impacts having been identified to date.

³ Includes Amendments to IAS 12 *Income tax*, to IAS 23 *Borrowing costs* and IFRS 3 *Business combinations* and to IFRS 11 *Joint arrangements*.

⁴ The application of these amendments to IFRS 10 and IAS 28, which were originally issued in September 2014, was deferred indefinitely in December 2015, until such time as the IASB completes the project relating to the equity method, which, in turn, has been delayed until the post-implementation phase of IFRS 10, IFRS 11 and IFRS 12.

IFRS 16 Leases:

IFRS 16, *Leases*, was issued in January 2016, adopted by the European Union in October 2017, replacing IAS 17 *Leases* and the related interpretation IFRIC 14 *Determining whether an Arrangement Contains a Lease*. IFRS 16 establishes the principles for the recognition, measurement, presentation and breakdown of lease information.

Changes in accounting regulations

The main change introduced by IFRS 16 was the requirement for leases currently classified as operating leases by the lessee to be recognized in the balance sheet with similar methods to those used for finance leases under IAS 17 in force until 31 December 2018. IFRS 16 is effective for the annual periods commencing from January 1, 2019.

IFRS 16 does not introduce significant changes regarding the recognition of lease arrangements by the lessor. It does introduce significant changes for the lessee who, on the date on which the lease commences, must recognize a liability for lease payments and an asset for the right to use the "underlying asset" during the lease term in the balance sheet. Likewise, lessees must separately recognize the expense for the financial update of the lease liability and the amortization charge for the "asset for the right of use". Accordingly, the adoption of IFRS 16 will improve operating income in 2019, while increasing the finance cost. Cash flows from operating activities will also increase while, on the other hand, cash flows from financing activities will be reduced.

The lessees must also re-assess the amount of liabilities from leases if certain events occur (for example, changes in the lease period, fluctuations in future lease payments due to variations in an index or rate used to determine such payments, changes with regard to the exercise of purchase options, etc.). Lessees will recognize the amount of the new measurement of the lease liability as an adjustment to the carrying amount of the asset for the right of use, with the exception of a downward adjustment that exceeds such value, in which case, income would be recognized for the amount of such excess.

First-time application options

The Group decided to opt to perform a simplified retrospective application of the regulation, whereby the impact of the first application will be recognized in the heading “*Retained earnings and other reserves*” without a re-expression of the comparative periods. Within this option, the Group calculated the lease liability as the current value of the outstanding payments of the arrangements in force at the date of first-time application and retrospectively calculated the value of the asset for the right of use, only for those arrangements with the greatest quantitative significance, having considered for the remaining arrangements the value of the leased liability as the initial value of the asset for the corresponding right of use.

It will also make use of the options envisaged in the standard for lessees, which permit the lease liability and the asset for the right of use corresponding to lease arrangements for assets of little value (equivalent amount in euros to US \$5,000) and short-term leases (leases for a period equal to or less than a year) not to be recognized in balance sheet.

In agreements that contain leasing and other components, mainly services, the Repsol Group will separate such components and recognize solely the lease component, pursuant to IFRS 16, *Leases*, and recognize other component as a performance contract, in accordance with the accrual criterion of the expense under the agreement.

A specific review was performed of the lease arrangement inventory classified as operating leases in accordance with the new standard, and new lease arrangements not identified previously did not arise.

With regard to the discount rate¹ used for these calculations, the Group generally used the incremental rate of the lease payable on the date of first-time application, which was determined taking into consideration, among other factors, the term of the arrangement, the economic climate of the country and the currency in which it was denominated and, when significant, the characteristics of the underlying asset.

Lastly, in relation to the recognition of leases in *Joint Operations*, which is very common in the performance of oil exploration and production activities, the Group performed a specific analysis of all its contractual obligations and will recognize all those arrangements for which it has a contractual obligation with the lessor in the balance sheet, that is, all those arrangements which: (i) it has signed in full as operating partner on its own behalf; (ii) it has jointly signed a joint arrangement with the remaining partners, in line with his percentage of ownership in the arrangement; and (iii) those that have been signed by the operating partner on behalf of the consortium or the remaining partners of the joint arrangement, in line with the terms and percentage of ownership of each partner in the arrangement. With regard to the arrangements signed on its behalf by a third party in the position of operating partner in a joint arrangement, the Group will recognize, as its percentage of ownership in the arrangement, those contracts for which it is determined that a sub-lease exists, considering in this assessment, both the repayment obligation to the operating partner of the costs of the main lease arrangement, and the control of the right to use the asset identified by the Group.

¹ The average discount rate applied to operating lease liabilities recognized at the date of first-time application of IFRS 16 was 3%.

Impacts of first-time application

The first-time application of IFRS 16 will represent an estimated impact of -€83 million after taxes recognized in “Retained earnings and other reserves”:

	12/31/2018	Adjustment IFRS 16 ⁽²⁾	01/01/2019
Assets for rights of use of the assets ⁽¹⁾	768	1,169	1,937
Investments accounted for using the equity method	7,194	(48)	7,146
Accounts receivable	-	29	29
Other current and non-current liabilities ⁽²⁾⁽³⁾	(1,624)	(1,367)	(2,991)
Non-current provisions	(4,738)	122	(4,616)
Effect on net assets and liabilities		(95)	
Deferred tax assets and liabilities		12	
Effect on Equity		(83)	

⁽¹⁾ In 2018, they were recognized in the property, plant and equipment and intangible assets headings for the amount of €768 million corresponding to financial lease arrangements prior to the first-time application of IFRS 16 which, from January 1, 2019, will be recognized under “Assets for rights of use” (see Note 15).

⁽²⁾ Basically relates to the lease of offices, service stations and facilities, cargo ships and Upstream operation platforms. Likewise, the burdensome provision associated with certain operating lease arrangements will be cancelled against the corresponding asset.

⁽³⁾ Includes the financial lease liability in accordance with the previous accounting standard.

Although the Group does not expect significant changes in these estimates, these figures may vary as a result of the review process under way at the date these financial statements were prepared.

The reconciliation between the operating lease commitments at December 31 and the liabilities recognized on January 1, 2019 in accordance with IFRS 16 is as follows:

	€ Million
Operating lease commitments as at 31 December (see Note 19,8)	1,599
Financial discount on future payments	(209)
Short-term and low-value leases	(23)
Operating lease liability recognized as at 1 January	1,367

Other impacts

As a result of the new accounting treatment of leases under IFRS 16, the Group's net income will not be affected (or the impact will be immaterial). However, other financial aggregates will be affected and, for example, operating profit will increase (lower operating expenses) and financial profit will decrease (higher financial expenses). Net cash change will also not be altered by the application of IFRS 16, but its classification will: cash flow from operating activities will increase and cash flow from financing activities will decrease, to the same extent.

In relation to the Alternative Performance Measures used by the Group, the application of the new IFRS 16 will also have impacts. Thus, for example, EBITDA (“Earnings Before Interest, Tax, Depreciation and Amortization”) and cash flow from operations will be increased. The calculation of net debt at December 31, 2018 does not include lease liabilities (recognized in “Other non-current liabilities” and “Trade and other payables” of the balance sheet).

ACTIVITY-SPECIFIC ACCOUNTING POLICIES

Hydrocarbon exploration and production operations:

Repsol recognizes hydrocarbon exploration and production operations using accounting policies mostly based on the "successful efforts" method. Under this method, the various costs incurred are treated as follows for accounting purposes:

i. The costs of acquiring exploration permits and the costs of geology and geophysics (G&G) incurred during the exploration phase are capitalized under the heading "Exploration permits" of intangible assets. During the exploration and evaluation phase they are not amortized and the existence of impairment is assessed at least once a year and, in any case, when there is an indication that impairment may have occurred, in accordance with the indicators of IFRS 6. Once the exploration and evaluation phase is over, if no reserves are found, the amounts capitalized are recognized as an expense in the profit and loss account.

ii. The costs of acquiring new interests in areas with proved and unproved reserves and resources (including bonds, resource-related costs, legal costs, etc.) are capitalized as incurred under the "Investments in areas with reserves" item of property, plant and equipment.

iii. Exploratory drilling costs, including those relating to stratigraphic exploration wells, are recognized as assets under the heading "Investments in Exploration" until it is determined whether reserves justifying their commercial development have been found. If no reserves are found, the capitalized drilling costs are registered in the income statement. In the event that reserves are found but remain under evaluation for their classification as proved, their recognition depends on the following:

- If additional investments are required prior to the start of production, they continue to be capitalized whilst the following conditions are met: (i) the amount of proved reserves found justifies the completion of a productive well if the required investment is carried out, and; (ii) satisfactory progress has been made in the evaluation of reserves and the operational viability of the project. If any of these conditions fails to be met, they are treated as impaired, and are expensed in the income statement.
- In all other cases, if there is no commitment to carry out significant activities to evaluate reserves or develop the project within a reasonable period after well drilling has been completed, or if activities have been halted, they must be recorded as an expense in the income statement.
- Costs incurred in exploratory drilling work that has yielded a commercially exploitable reserve are reclassified to "Investments in areas with reserves" under property, plant and equipment at their carrying amount.

iv. Exploration costs other than G&G costs ("Exploration rights and geology and geophysical costs"), excluding the costs of drilling exploration wells and exploration licenses, are recognized as an expense in the income statement when incurred.

v. Development expenditure incurred in lifting proved reserves and in processing and storing oil and gas (including costs incurred in drilling relating to productive wells and dry wells under development, oil rigs, recovery improvement systems, etc.) are recognized as assets under the "Investments in areas with reserves" heading of property, plant and equipment.

vi. Future field abandonment and dismantling costs (environmental, safety, etc.) are estimated, on a field-by-field basis, and are capitalized at their present value when they are initially recognized under "Investments in areas with reserves" against the dismantling provision item (see Note 14).

The investments capitalized as described above are depreciated according to the following method (see Note 3).

i. Investments in the acquisition of proved and probable reserves and common facilities are depreciated over the estimated commercial life of the field on the basis of the production for the financial year as a proportion of the proved and probable reserves.

ii. The costs incurred in surveys for the development and extraction of hydrocarbon reserves are depreciated over the estimated commercial life of the oil field on the basis of the relationship between the production of the period and the total of the most probable proved reserves of the field.

iii. Investments carried out in fields that are in the development or exploitation phase are not depreciated. These investments are tested for impairment at least once a year and whenever indications of impairment are detected.

The changes in estimated reserves are considered on a prospective basis in calculating depreciation.

Service/Gas station association rights and other rights:

Primarily corresponds to the costs of agreements linked to gas station association rights, incremental costs of obtaining contracts with customers through reflagging rights and image rights of publicity and exclusive supply to gas stations recognized under intangible assets. They are amortized on a straight-line basis over the period of the contract (between 25 and 30 years for the former and 1 year, which may be extended to a maximum of 3 years at the request of the counterparty for the others).

Swaps of oil products:

The Group arranges swaps of oil products of similar nature with other companies in a number of geographical locations so as to minimize transport costs and optimize the Group's logistics chain. These transactions are not recognized in the income statement as separate purchases and sales, but are recognized for the net amount.

Carbon emission allowances:

Emission allowances are recognized as an intangible asset and are measured when initially acquired in the market at their acquisition price, whereas free of charge emission allowances are measured at the market value prevailing at the beginning of the year to which they were issued, against deferred income as a grant (see Note 31).

(3) ACCOUNTING ESTIMATES AND JUDGMENTS

The preparation of financial statements in accordance with generally accepted accounting principles makes it necessary to make assumptions and estimates that affect the valuation of the amounts of the assets and liabilities recognized, the presentation of contingent assets and liabilities at year end and the income and expenses recognized during the year. The actual results could differ depending on the estimates made.

The accounting policies and areas which require the highest degree of judgment and estimates in the preparation of the consolidated financial statements are: (i) crude oil and natural gas reserves; (ii) calculation of the recoverable value of assets (see Notes 11, 12, 13 and 20); (iii) business combinations (see Note 4), (iv) assessment of investments in Venezuela (see Notes 13 and 20); (v) provisions for litigation, dismantling and other contingencies (see Note 14); (vi) income tax, tax credits and deferred tax assets (see Note 23); and (vii) market value of derivative financial instruments (see Note 9).

Crude oil and gas reserves

The estimate of^{1,2} oil and gas reserves is a key component of the Company's decision-making process. Oil and gas reserve volumes are used to calculate depreciation and amortization charges, applying the unit-of-production ratio method, and to test these *Upstream* assets for impairment (see "*Testing assets for impairment and calculating their recoverable amounts*" in this Note). Changes in reserve volumes could have a significant impact on the Group's results.

To estimate proven and unproven reserves and oil and gas resources, Repsol uses the criteria established by the "*SPE/WPC/AAPG/SPEE/SEG/SPWLA/EAGE Petroleum Resources Management System*", commonly referred to by its acronym SPE-PRMS (SPE standing for Society of Petroleum Engineers).

In 2018, a change in the accounting estimate was made prospectively in relation to the depreciation of certain assets relating to hydrocarbon exploration and production operations. Since January 1, 2018, the production unit criterion (see previous section) has been applied considering all the amounts of reserves expected to be produced with the investments made (proved reserves plus probable reserves, or proved reserves plus probable developed reserves). Repsol considers that the new amortization ratio will provide a better reflection of the consumption pattern of the economic benefits of this class of assets, having been applied from January 1 with the availability of the necessary reserves information and the completion of the relevant asset performance analyses. The estimated positive effect of this change on results for 2018 amounts to 336 million euros.³

Calculating the recoverable amount of assets

In order to ascertain whether its assets have become impaired, the Group compares their carrying amount with their recoverable amount at least annually and whenever there are indications that an asset might have become impaired ("*impairment test*"). If the recoverable amount of an asset is estimated to be less than its net book value, the carrying amount of the asset is reduced to its recoverable amount, and an impairment loss is recognized in the consolidated income statement.

After an impairment loss has been recognized, amortization charges are calculated prospectively on the basis of the reduced carrying amount of the impaired asset.

When there are new events, or changes in existing circumstances, which prove that an impairment loss recognized on a

¹ The classification of reserves can be consulted below:

Proved reserves: Proved reserves (scenario 1P) are those quantities of crude oil, natural gas and natural gas liquids that, with the information available to date, are estimated to be recoverable with reasonable certainty. There should be at least a 90% probability that the amounts recovered will equal or exceed the 1P estimate.

Probable reserves: Probable reserves are those additional reserves, which together with proved reserves make up scenario 2P. There should be at least a 50% probability that the amounts recovered will equal or exceed the 2P estimate. This scenario reflects the best estimate of the reserves.

Contingent resources: Those quantities of oil that are estimated, at a given date, to be potentially recoverable from accumulations known from the application of development projects, but which are not currently considered commercially recoverable due to one or more contingencies.

Repsol applies "*SPE/WPC/AAPG/SPEE/SEG/SPWLA/EAGE Petroleum Resources Management System*", where these definitions can be consulted.

² Independent engineering firms (at least 95% of the reserves are audited externally in a three-year cycle) periodically audit registered volumes.

³ The future impact (distribution of depreciation over time) will depend on their production and the variation in estimated reserves.

prior date could have disappeared or decreased, there is a new estimate of the recoverable value of the corresponding asset, to determine whether it is applicable to reverse the impairment losses recognized in previous periods. An impairment loss of goodwill cannot be reversed in the following years.

In the event of a reversal of a previously recorded impairment, the carrying amount of the asset is increased to the revised estimate of its recoverable value, so that the increased carrying amount does not exceed the carrying amount that would have been determined in the event no impairment loss had been recognized for the asset in prior years.

For the “*impairment test*”, assets are grouped into cash-generating units (CGUs), to the extent that such assets, when individually considered, do not generate cash inflows that are independent of the cash inflows from other assets of the CGU. The grouping of assets into the various CGUs implies the use of professional judgments and the determination, among other criteria, of the business segments and geographic areas in which the Company operates. Against this backdrop, in the *Upstream* segment, each CGU corresponds to one of the various contractual exploration areas widely known as ‘*blocks*’; exceptionally, if the cash flows generated by more than one block are mutually interdependent, these blocks will be grouped into a single CGU. In the *Downstream*, segment, the CGUs are defined as a function of business activities (mainly Refining, Chemicals, commercial businesses -Marketing, LPG, Lubricants, Asphalt and Specialisms- and electricity generation and marketing) and geographical areas. With respect to the North American Gas Trading business, the Group includes a single CGU that essentially encompasses the North American assets.

Goodwill acquired on a business combination is allocated among the CGUs or groups of cash-generating units (CGUs) that benefit from the synergies of the business combination and the recoverable amount thereof is estimated, generally, by discounting the estimated future cash flows of each unit, up to the limit of the business segment.

The recoverable amount is the higher of fair value less costs of sale and value in use.

The methodology used by the Group to estimate the recoverable amount of assets is, in general, the value in use calculated by discounting to present value the future cash flows after tax expected to derive from the operation of these assets.

The cash flow projections are based on the best available estimates of the CGUs’ income and expenses using sector forecasts, prior results and the outlook for the business’s performance and market’s development:

- The Group’s annual budget and the business plan set macroeconomic forecasts for each of the countries where it has business operations, which include variables such as inflation, GDP growth, exchange rates, etc. that are used to quantify the abovementioned income and expense estimates. The aforementioned macroeconomic forecasts are prepared on the basis of the content of internal reports that use in-house estimates, based on updated external information of relevance (forecasts prepared by consultants and specialized entities).
- The Group's oil and natural gas price trend estimates (see Note 20.1) are prepared on the basis of available macroeconomic, financial and market information and analysts' forecasts. Key market variables and their foreseeable evolution are analyzed in order to calculate this, including their own forecasts of the balance of supply and demand of energy and prices. The longer-term vision is also explained by the monitoring of other variables such as: the decline; the current CAPEX; the financial sustainability of the companies in the sector to certain price environments; and the dynamics in OPEC countries in terms of fiscal sustainability. Econometric models of prices are made with all these elements, which are compared with both public and private external forecasts.
 - i. To estimate near-term (2-3 years) price trends, we basically use forecast reports produced by a selection of, investment banks, macro consultants and international benchmark agencies.¹
 - ii. The sources that present a sufficiently detailed analysis of long-term forecasts are the macro consultants and benchmark agencies (IEA and EIA). The latter perform detailed research on supply, demand and price forecasts under various scenarios

The resulting prices are consistent with the annual budget and the updated business plans.

Valuations of Exploration & Production assets (*Upstream*) use cash flow projections for a period that covers the economically productive useful lives of the oil and gas fields, limited by the contractual expiration of the operating

¹The macro consultants used are Platts Analytics (previously PIRA), IHS and Wood Mackenzie. For long-term estimates, the only sources that produce sufficiently detailed analysis and forecasts are the benchmark agencies (IEA and EIA), so only these views are considered.

permits, agreements or contracts. The key valuation assumptions used to determine the variables that most affect this business' cash flows are summarized below:

- Oil and gas sales prices. The international benchmark prices used by the Group are: Brent, WTI (West Texas Intermediate) and HH (Henry Hub). In countries where international list prices do not reflect local market circumstances, the prices modeled factor in local market prices.
- Reserves and production profiles. Production profiles are estimated on the basis of output levels at existing wells and the development plans in place for each productive field. As a consequence, these profiles are then used to estimate proved and unproved reserves and resources. (See previous heading "Crude oil and gas reserves").
- Operating expenses and capital expenditure. These are calculated for the first year on the basis of the Group's annual budget and thereafter in keeping with the asset development programs, applying an escalation factor for operating expenses and investments basically of 2%.

In the *Downstream* segment, the various businesses' cash flows are estimated on the basis of the outlook for its key variables (unit contribution margins, fixed costs and investment flows required to maintain the level of activity), in keeping with the expectations reflected in the annual budget and in the strategic plans for each business. Cash inflows and outflows corresponding to future restructuring exercises or initiatives to enhance the assets' performance are not considered. The cash flow projection period considered for this is generally five years; cash flows after year five are extrapolated without factoring in any further growth. Specifically:

- In the Refining business, and given the impact of the expansion work and upgrades carried out at the refineries, long-term projections (specifically at over 20 years) will be performed.¹ For the purpose of calculating residual values, the only investment considered is maintenance capital expenditure and any investment needed for renovation purposes in order to maintain the CGU's productive capacity.
- The key assumptions for the North American & Gas Trading businesses cash flow estimates are as follows:
 - i. Gas and LNG prices. The international benchmark prices used are: Brent, HH, Algonquin, JKM (*Japan Korea Marker*) and NBP (National Balancing Point), adjusted as required for local market considerations in the event that these benchmarks do not fully reflect local market circumstances. The price trend used is consistent with the one employed for the annual budget and the strategic plan.
 - ii. Gas and LNG marketing volumes and margins. The volumes used for cash flow forecasting purposes are estimated on the basis of the contracts in force at year-end and activity estimates, all of which in keeping with the annual budget and strategic plan. Margins factor in historical data, the price forecasts detailed in the previous point and the outlook for margins going forward.

These estimated after-tax cash flows are discounted to present value using CGU-specific discount rates determined as a function of the currency in which their respective cash flows are denominated and the risks associated with these cash flows, including country risk. Repsol discounts projected cash flows using post-tax weighted average costs of capital² for each country and business. These rates are reviewed at least once a year. This rate endeavors to reflect the current market assessments regarding the time value of money and the specific risks of the asset. Accordingly, the discount rate used takes into account the risk-free rate, the country risk, the currency in which cash flows are generated and the market, credit and business risk. To ensure that the calculations are consistent, the cash flow projections do not factor in risks that have already been built into the discount rates used, and vice versa. The discount rates used factor in average sector leverage as a reasonable proxy for the optimal capital structure, to which end management monitors leverage rates at comparable oil and gas companies during the last five years.

Furthermore, to determine whether it is necessary to recognize any impairment losses on investments in associates and joint ventures, the entire carrying amount of the investment is tested for impairment in accordance with IAS 36 *Impairment of assets*, including any goodwill that may be implicit within the investment, by comparing its recoverable amount with its carrying amount. The recoverable amount of an investment in an associate or a joint venture is evaluated individually, unless it does not generate cash inflows from continuing use that are largely independent of those generated by other Group assets or cash-generating units.

¹ The use of the period of more than 5 years began in 2011 after the refinery expansion and improvement projects came into operation. To keep the amortization rate in step with the pace of investment, we extended the timeline of cash flow projection, so that, from the fifth year onwards, EBITDA is projected, continuing at a similar level of activity and in a similar business environment.

As a result of all of the foregoing, modifications to key assumptions used to calculate the recoverable value of the assets may have a significant effect on the Group's earnings (see Note 20.2).

Business combinations

The Group's business combinations are accounted for using the acquisition method (see Note 4) and require judgments and estimates when assigning their fair values to the assets acquired and liabilities assumed in the transaction and assigning the purchase price to those fair values. In this regard, the process of valuing Viesgo's assets and liabilities should be highlighted, and has required the use of significant judgments and estimates by the Group's management team (see Note 4).

Provisions for litigation, dismantling and other contingencies

The final cost of settling claims, grievances and lawsuits could vary due to estimates based on differing interpretations of the technical rules, opinions and final assessments of the amount of the damages.

Repsol uses judgments and estimates to recognize provisions for the cost of dismantling its oil and gas production operations. These calculations are complex on account of the need to recognize the present value of the estimated future costs and to adjust this figure in subsequent years in order to reflect the passage of time and changes in the estimates due to changes in the underlying assumptions on account of technological advances and regulatory changes, economic, political and environmental security factors, as well as changes in the initially-established schedules or other terms. The dismantling provisions are updated regularly to reflect trends in estimated costs and the discount rates. These discount rates take into account the risk-free rate, by term and currency, country risk and a spread according to debt structure and the cash flow projection period. Specifically, the weighted average rate set by the Group was 4.9%

Additionally, Repsol makes judgments and estimates in recording costs and establishing provisions for environmental clean-up and remediation costs which are based on current information regarding costs and expected plans for remediation. For environmental provisions, costs can differ from estimates because of changes in laws and regulations, discovery and analysis of site conditions and changes in clean-up technology.

Therefore, any change in the factors or circumstances related to provisions of this nature, as well as changes in laws and regulations could, as a consequence, have a significant effect on the provisions recognized for these costs (see Note 14).

Evaluation of investments in Venezuela

Repsol has a presence in Venezuela through its shareholdings in mixed oil companies and gas licensees. The current situation of crisis in Venezuela and PDVSA generates uncertainty regarding business performance. To assess the recoverability of the investments in this country, which include both the investment in the share capital of the companies and the financing granted through loans, it is necessary to use certain hypotheses and assumptions, such as asset development plans, compliance with the agreements signed and the development of a climate which involves judgments and estimates that may vary from those previously made (see Notes 13 and 20).

Calculation of income tax, tax credits and deferred tax assets

The appropriate assessment of the income tax expense is dependent on several factors, including estimates of the timing and realization of deferred tax assets and the timing of income tax payments. Actual collections and payments may differ materially from these estimates because of changes in tax laws as well as unanticipated future transactions affecting the Company's tax balances (see Note 23).

MAIN ACQUISITIONS AND DIVESTMENTS

(4) MAIN ACQUISITIONS AND DIVESTMENTS

Accounting policies: Business combinations

Business combinations in which the Group acquires control of one or more businesses through the merger or spin-off of several companies or through the acquisition of all the assets and liabilities of a company or of a party constituting one or more businesses, are recognized using the acquisition method in accordance with the provisions of IFRS 3 Business Combinations. The acquisition method involves, except for the recognition and measurement exceptions set out in IFRS 3, the accounting at the acquisition date of the identifiable assets acquired and liabilities assumed at their fair value at that date, provided that this value can be measured reliably. Within the liabilities assumed in the business combination, any identified contingent liabilities are also accounted for at the acquisition date, although these would not have been recognized in accordance with the general accounting criteria for provisions because the outflow of economic benefits is not probable, provided that it corresponds to a present obligation arising from past events and its fair value can be measured reliably. Acquisition-related costs are recognized as expenses in the income statement.

The difference between the cost of the business combination and the value of the identifiable assets acquired less the liabilities assumed is recognized as goodwill if it is positive, or as income in the income statement if it is negative.

4.1) Acquisition of businesses from Viesgo

On November 2, the non-regulated low emission electricity production businesses, as well as their regulated and non-regulated gas and electricity trading companies were acquired from Viesgo in the framework of the Strategic Plan.

As regards to the generation business, the purchase encompasses hydroelectric power stations in the north of Spain and two combined cycle gas power stations in Algeciras (Cádiz) and Escatrón (Zaragoza), with Viesgo's operating coal power plants being excluded from the transaction. With regards to regulated and non-regulated gas and electricity retail marketing, the operation implies the acquisition of nearly 750,000 customers that are distributed throughout the Spanish territory, mainly in Cantabria, Galicia, Andalucía, Asturias, Castilla y Leon and the Madrid Region.

The acquisition price amounts to €732 million.

The purchase price has been allocated to the assets acquired and liabilities assumed based on the estimated fair values at the acquisition date for the integration of the businesses in the Group's financial statements, in accordance with accounting regulations (see Note 2 "*Basis of presentation*").

The fair value of electricity generation assets (property, plant and equipment) has been calculated using an "*Income approach*" (discount of cash flows based on variables not observable in the market¹). The most sensitive assumptions incorporated in the asset cash flow projections are: i) electricity prices², (ii) operating costs and (iii) discount rates.³ For the valuation of the customer portfolio (Intangible assets), a revenue approach was also followed, taking into account profitability and the estimated number of years of relationship with them.

The difference between the acquisition price of the businesses acquired and the fair value of the assets and liabilities recognized, including the deferred taxes arising from the differences between the new fair value of the assets acquired and their tax value, is allocated to goodwill (€49 million). The value of the goodwill is justified both by the valuation of the businesses acquired and by the synergies expected to materialize after the acquisition as a result of the integration of the generation and marketing businesses in the Repsol Group.

Repsol has obtained an independent valuation report to review the allocation of the acquisition price of the assets acquired and liabilities assumed on the basis of their fair value. The conclusions of this report have been considered in the valuation and do not differ significantly from those used by Repsol.

¹ Level 3 input data according to fair value hierarchies defined by IFRS 13 "*Measurement of the fair value*".

² Price trend of the electricity pool: 2018: €56/Mw/h, 2019: €56/Mw/h, 2020: €55/Mw/h, 2021: €56/Mw/h, 2022: €55/Mw/h, 2023: €55/Mw/h, 2024: €55/Mw/h, 2025: €54 /Mw/h.

³ The discount rate used after tax was 6.5%.

The accounting for this business combination, given that the twelve-month period from the acquisition has not yet expired, would be reviewed if the circumstances set out in IFRS 3 "Business Combinations" were to arise.¹

The breakdown of the net assets acquired at November 2, 2018 and the goodwill generated after this acquisition is as follows:

€ Million	Fair value	Carrying value of the acquired company
Intangible assets	133	60
Property, plant and equipment	354	391
Deferred tax assets	247	247
Other non-current assets	20	20
Other current assets	137	137
Cash and cash equivalents	22	22
Total Assets	913	877
Current and non-current provisions	(59)	(61)
Deferred tax liabilities	(9)	-
Other current liabilities	(162)	(162)
Total Liabilities	(230)	(223)
NET ASSETS ACQUIRED	683	654
COST OF ACQUISITION	732	
GOODWILL	49	

During the period and from the date of acquisition, the businesses acquired generated operating revenues of €274 million, with a net loss of -€31 million, mainly due to the measurement at market value of derivatives contracted during the year. Transaction expenses incurred in the period amount to €4 million, which are recognized under "Other Operating Expenses".

4.2) Sale of the stake in Gas Natural SDG, S.A.

On May 18, 2018, Repsol, S.A. completed the sale of its stake in Naturgy Energy Group, S.A. (200,858,658 shares, representing 20.072% of the share capital) for the total price of €3,816,314,502, equivalent to €19 per share, pursuant to the provisions of the purchase agreement entered into with Rioja Bidco Shareholdings, S.L.U. on February 22, 2018.

The gain generated by the sale amounted to €344 million net of taxes recognized under "Profit from discontinued operations" in the income statement (see Note 24), which also includes the income generated by this investment until February 22, 2018, amounting to €68 million. The income derived from the ownership interest in Naturgy in 2017 (€274 million), which were recognized under "Income Investments Accounted for Using the Equity Method", were classified under the new heading and, therefore, the income statement for 2017 was restated for comparison purposes (see Note 1.4).

¹ Business combinations for which the valuation process required to apply the acquisition method has not been completed on the year-end closing date are posted using provisional values. These values must be adjusted within a maximum of one year from the acquisition date to reflect new information obtained about facts and circumstances that existed at the acquisition date and which, if known, would have affected the measurement of the amounts recognized at that date. Such adjustments shall be recognized retrospectively so that the resulting values are those that would result from initially having had such information, adjusting, to the extent necessary, the comparative information presented in the financial statements for prior periods.

SEGMENT REPORTING

(5) SEGMENT REPORTING ¹

5.1) Definition of segments and presentation model of the results for the period by segments

The segment reporting disclosed by the Group in this section is presented in accordance with the disclosure requirements of IFRS 8 *Operating segments*.

The definition of the Repsol Group's business segments is based on the delimitation of the different activities performed and from which the Group earns revenue or incurs expenses, as well as on the organizational structure approved by the Board of Directors for business management. Using these segments as a reference point, Repsol's management team (Executive Committees) analyzes the main operating and financial indicators in order to make decisions about segment resource allocation and to assess how the Company is performing.

At December 31, 2018, the operating segments of the Group are:

- *Upstream*, corresponding to the exploration and production of crude oil and natural gas reserves.
- *Downstream*, corresponding, mainly, to the following activities: (i) refining and petrochemistry, (ii) trading and transportation of crude oil and oil products, (iii) marketing of oil, petrochemical and LPG products, (iv) marketing, transport and regasification of natural gas and liquefied natural gas (LNG) and (v) generation of electricity and the marketing of electricity and gas in Spain.

Lastly, *Corporation and others* includes activities not attributable to the aforementioned business segments, and specifically, corporate expenses, financial result and inter-segment consolidation adjustments.

The Group has not aggregated any operating segments for presentation purposes.

In presenting the results of its operating segments Repsol includes the results of its joint ventures² and other companies managed as such³ in accordance with the Group's stake, considering its operational and economic metrics in the same manner and with the same detail as for fully consolidated companies. Thus, the Group considers that the nature of its businesses and the way in which results are analyzed for decision-making purposes is adequately reflected.

In addition, the Group, considering its business reality and in order to make its disclosures more comparable with those in the sector, utilizes as a measure of segment profit the so-called Adjusted Net Income, which corresponds to net income from continuing operations at replacement cost ("*Current Cost of Supply*" or CCS), net of taxes and non-controlling interests, without including certain income and expenses ("*Special Items*"). Financial income is assigned to the adjusted net income of *Corporation and others*.

The Current Cost of Supply (CCS) is commonly used in this industry to present the results of *Downstream* businesses which must work with huge inventories subject to continual price fluctuations is not an accepted European accounting regulation, yet does enable the comparability with other sector companies as well as monitoring businesses independently of the impact of price variations on their inventories. Under Income at CCS, the cost of volumes sold during the reporting period is calculated using the costs of procurement and production incurred during that same period. Due to the above, adjusted net income does not include the so-called Equity effect. This Inventory Effect is presented separately, net of tax and non-controlling interests, and corresponds to the difference between Income at CCS and that arrived at using the Weighted Average Cost approach, which is the method used by the Group to determine its earnings in accordance with European accounting regulations.

Furthermore, Adjusted Net Income does not include the so-called Special Items, i.e. certain material items whose separate presentation is considered appropriate in order to facilitate analysis of the ordinary business performance. This heading includes gains/losses on divestments, staff restructuring charges, asset impairment gains/losses and

¹ Some of metrics presented in this Note are classified as Alternative Performance Metrics (APMs) in accordance with ESMA guidelines (for further information, see Appendix I of the Consolidated Management Report or www.repsol.com). All of the figures shown throughout this Note have been reconciled with IFRS-EU financial statements in Appendix III.

² In the segment reporting model, joint ventures are consolidated proportionally in accordance with the Group's percent holding. See Note 13 and Appendix I, where the Group's main joint ventures are identified.

³ Corresponds to Petrocarabobo, S.A., an associated entity of the Group (Venezuela).

provisions for contingencies and other relevant income or expenses. These special items are presented separately, net of the tax effect and non-controlling interests.

Following the agreement reached on February 22, 2018 for the sale of the 20.072% stake in Naturgy Energy Group. S.A. (see Note 4.2), its income prior to said date has been classified as “Discontinued operations” under *Special items* (previously classified under “Corporate and other”), restating the comparative figures published in the consolidated Financial Statements for the financial year 2017.

The way in which the results of exchange rate fluctuations on tax positions in currencies other than the functional currency are presented has changed during the period, and these changes are reflected in the Special Items to facilitate the monitoring of business results and align us with best practices in the industry. The comparative figures for the first half of 2017 have not been restated, given their immateriality.

5.2) Results for the period by segments

SEGMENTS	€ Million	
	2018	2017 ⁽¹⁾
Upstream	1,325	632
Downstream	1,583	1,877
Corporate and other	(556)	(378)
ADJUSTED NET RESULT	2,352	2,131
Inventory effect	(68)	104
Special items	57	(114)
NET INCOME	2,341	2,121

⁽¹⁾ Includes the necessary modifications with respect to the 2018 consolidated financial statements (see Note 2 “Basis of presentation”) in relation to the sale of the stake in Naturgy.

For a description of segment income for 2018, see section 4 of the consolidated Management Report at www.repsol.com.

5.3) Disclosures by geography and segment

The breakdown by geography and segment of the main year-end 2018 and 2017 metrics for which geographic segmentation is material is provided below:

	Results from operations		Adjusted net income		Operating investments ⁽¹⁾		Non-current assets ⁽²⁾		Capital employed ⁽³⁾	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Upstream	2,514	1,009	1,325	632	1,973	2,089	25,514	25,636	21,515	21,612
Europe, Africa and Brazil	1,614	726	768	355	442	437	4,319	4,182	-	-
Latin America-Caribbean	726	594	501	386	314	477	4,813	4,940	-	-
North America	273	(58)	212	(43)	659	564	8,584	8,555	-	-
Asia and Russia	465	251	264	161	166	213	2,537	2,750	-	-
Exploration and other	(564)	(504)	(420)	(227)	392	398	5,261	5,209	-	-
Downstream	2,143	2,467	1,583	1,877	1,831	805	11,118	10,312	11,338	9,749
Europe	2,039	2,420	1,500	1,852	1,578	632	9,500	8,933	-	-
Rest of world	104	47	83	25	253	173	1,618	1,379	-	-
Corporate and other	(261)	(262)	(556)	(378)	70	42	733	3,968	1,500	1,745
TOTAL	4,396	3,214	2,352	2,131	3,874	2,936	37,365	39,916	34,353	33,106

⁽¹⁾ Includes investments accrued during the period net of divestments but does not include investments in “Other financial assets.”

⁽²⁾ Excludes “Non-current financial investments”, “Deferred tax assets” and “Other non-current assets”.

⁽³⁾ Includes capital employed from continuing operations.

For more segment reporting and the reconciliation of these figures with the IFRS-EU Financial Statements, see Appendix II.

CAPITAL STRUCTURE AND FINANCIAL RESOURCES

(6) CAPITAL STRUCTURE

Repsol, as an essential part of its strategy, has committed to a policy of financial prudence. The financial structure targeted is defined by this commitment of solvency and the aim to maximize shareholder returns, by optimizing the cost of capital.

The determination of the target financial structure takes into account the leverage ratio, defined as the relationship between net debt¹ and capital used² (both metrics calculated in accordance with the Group's Reporting Model described in Note 5). This ratio evolves and is analyzed on a continued basis, also making certain future estimates of them as a key limiting factor in the Group's investment strategy and dividend policy. The calculations of these ratios, based on the following balance sheet headings at December 31, 2018 and 2017, are as follows:

	€ Million	
	2018	2017
Equity	30,914	30,063
Non-current financial debt	9,392	10,080
Current financial liabilities	4,289	4,206
Non-current financial assets ⁽¹⁾	(974)	(1,920)
Other current financial assets	(1,711)	(257)
Cash and cash equivalents	(4,786)	(4,601)
Financial instruments from interest rate derivatives and others (see Note 9)	(48)	(70)
Net debt from joint ventures	(2,723)	(1,171)
Net debt^{(2) (3)}	3,439	6,267
Capital employed⁽²⁾	34,353	36,330
Leverage ratio	10.0%	17.3%

⁽¹⁾ Corresponds to balance sheet heading "Non-Current Financial Assets" without including equity instruments.

⁽²⁾ Alternative Performance Measures. For further information, see Appendix I of the consolidated Management Report.

⁽³⁾ Does not include €1,624 Million and €1,541 Million, relating to debts for current and non-current financial leases in 2018 and 2017, respectively (see Note 15).

(7) EQUITY

	€ Million	
	2018	2017
Shareholders' equity:	30,468	30,197
Share capital	1,559	1,556
Share premium and reserves:	25,894	25,541
Share premium	6,428	6,428
Legal reserve ⁽¹⁾	299	299
Retained earnings and other reserves ⁽²⁾	19,342	18,967
Dividends and remuneration on account	(175)	(153)
Treasury shares and own equity investments	(350)	(45)
Net income for the year attributable to the parent	2,341	2,121
Other equity instruments	1,024	1,024
Other cumulative comprehensive income	160	(404)
Non-controlling interests	286	270
TOTAL EQUITY	30,914	30,063

⁽¹⁾ Under the Spanish Companies Act, 10% of profit for each year of the parent company must be transferred to the legal reserve until the balance of this reserve reaches at least 20% of share capital. The legal reserve can be used to increase capital provided that the remaining reserve balance does not fall below 10% of the increased share capital amount. Otherwise, until the legal reserve exceeds 20% of share capital, it can only be used to offset losses, provided that sufficient other reserves are not available for this purpose.

⁽²⁾ "Other reserves" includes, in 2018, the impact of the standards of initial application (see Note 2.2.2).

¹ The formula considers net and not gross debt to factor in the effect of financial investments. In keeping with its conservative financial policy, Repsol holds cash and cash equivalents and undrawn credit lines. As a result, the net debt leverage ratio provides a more accurate picture of the Group's financial solvency.

² Corresponds to the sum of net financial debt and equity.

7.1) Share capital

The subscribed share capital at December 31, 2018 and 2017, registered within the Companies Register, consisted of 1,527,396,053 fully subscribed and paid up shares of €1 par value each, in book entry form, and all listed on the Spanish stock exchanges and the Buenos Aires Stock Exchange¹. The Company participates in an ADS (*American Depositary Share*) program in the United States, whose shares are traded on the OTCQX market.

Following the bonus share issue, concluded in January 2019, the share capital of Repsol, S.A. is currently represented by 1,558,877,582 shares, each with a par value of €1. Under accounting regulations, because the abovementioned capital increase had been registered within the Companies Register before the Board of Directors authorized the consolidated financial statements for issue, this bonus share issue has been recognized in the Group's financial statements as of December 31, 2018.

At the Annual General Meeting held on May 11, 2018, the Company's stockholders approved two bonus share issues to execute the stockholder remuneration scheme known as "*Repsol Flexible Dividend*", in substitution of what would have been the traditional final dividend from 2017 profits and the interim dividend from 2018 earnings, under which stockholders can instead choose between receiving their remuneration in cash (by selling their bonus share rights in the market or back to the Company) or in Company shares.

The first of these two bonus share issues took place between June and July 2018 and the second, between December 2018 and January 2019. The main characteristics of these issues are detailed below:

		June/July 2018	Dec 2018 /January 2019
IN CASH	Holders who accepted the irrevocable purchase commitment ⁽¹⁾	13.26% rights	27.86% rights
	Deadline for requesting sale of rights to Repsol at guaranteed price	June 29	December 31
	Fixed price guaranteed by right	€0.485 gross/right	€0.411 gross/right
	Gross amount of the rights acquisition by Repsol	€ 100 Million	€ 175 Million
IN SHARES	Holders who opted to receive new Repsol shares	86.74% rights	72.14% rights
	Number of rights required for the allocation of a new share	34	35
	New shares issued	39,708,771	31,481,529
	Approximate share capital increase	2.55%	2.06%
	Capital increase close	July 10	January 11

⁽¹⁾ Repsol has renounced the bonus share rights acquired by virtue of the above-mentioned purchase commitment and, by extension, the shares corresponding to those rights. The balance sheet as of December 31, 2018 recognizes the obligation to pay the shareholders that had accepted the irrevocable purchase commitment in the bonus issue completed in January 2019, corresponding to the sale or rights to Repsol for €175 million, as a reduction in equity under "*Dividends and shareholders' remunerations*".

On November 14, 2018, a capital reduction was made through the redemption of 68,777,683 own shares, of €1 par value each, approved by Repsol's General Shareholders' Meeting held on May 11, 2018. The capital reduction aims to offset the dilutive effect of the bonus share issues executed in 2018. The capital reduction was performed with a charge to unrestricted reserves, through the provision of a reserve for redeemed capital, for an amount equal to the par value of the redeemed shares. These shares were delisted from the Madrid, Barcelona, Bilbao and Valencia stock markets.

According to the latest information available at the date of authorization of the accompanying Consolidated Financial Statements for issue, the significant shareholders are:

Significant shareholders	% on share capital
Sacyr, S.A. ⁽¹⁾	7.87
Blackrock, Inc ⁽²⁾	4.63
CaixaBank, S.A. ⁽³⁾	3.58

⁽¹⁾ Sacyr, S.A. retains its shareholding via Sacyr Securities, S.A., Sacyr Investments S.A. and Sacyr Investments II, S.A.

⁽²⁾ Blackrock, Inc. holds its investment through a number of controlled entities. The information relating to BlackRock, Inc. is based on the statement filed by that entity with the CNMV on August 2, 2018 on the share capital figure of 1,596,173,736 shares.

⁽³⁾ On September 20, 2018, CaixaBank S.A. announced the agreement adopted by its Board of Directors to sell its current shareholding in Repsol, S.A.

¹ On January 28, 2019, the shares of Repsol, S.A. were withdrawn from the public offering and listing regime in Argentina.

At December 31, 2018, the following Group companies' shares were publicly listed:

Company	traded	listed	Stock exchanges ⁽¹⁾	closing	quarter	Currency
Repsol, S.A.	1,527,396,053	100%	Spanish stock exchanges (Madrid, Barcelona, Bilbao, Valencia)	14.08	15.48	Euros
			Buenos Aires ⁽²⁾	615.00	666.29	pesos
			OTCQX ⁽³⁾	16.03	17.66	Dollars
Refinería La Pampilla, S.A.	3,534,890,000	100%	Lima stock exchange	0.126	0.134	soles

⁽¹⁾ Exchanges or markets for which the Group has specifically applied for admission to trading. Other exchanges, markets or multilateral trading platforms on which the shares may be traded without having been specifically requested by the Group are not included.

⁽²⁾ On January 28, 2019, the exclusion of Repsol, S.A. shares from the Argentine Stock Market took effect.

⁽³⁾ Since March 9, 2011, Repsol's ADSs have been traded on the OTCQX market, a US OTC (*over-the-counter*) trading platform.

7.2) Treasury shares and own equity investments

The main transactions undertaken by the Repsol Group involving treasury shares¹ were as follows:

Million euros	2018			2017		
	No. of shares	Amount	% capital	No. of shares	Amount	% capital
Opening balance for the year	3,028,924	45	0.19%	94,185	1	0.01%
Market purchases ⁽¹⁾	149,753,457	2,343	9.61%	23,630,054	339	1.52%
Market sales ⁽¹⁾	(60,081,841)	(913)	3.85%	(20,716,006)	(295)	1.33%
Capital redemption ⁽²⁾	(68,777,683)	(1,125)	4.41%	-	-	0.00%
Repsol Flexible Dividend ⁽³⁾	234,697	-	0.00%	20,691	-	0.00%
Balance at year end⁽⁴⁾	24,157,554	350	1.55%	3,028,924	45	0.19%

⁽¹⁾ In 2018, "Market Purchases" includes purchases made under the Share Repurchase Program for their amortization (see previous section), which commenced on September 4 and ended on November 8, for which 62,705,079 shares have been acquired. Also in 2018 and 2017 "Market Purchases" and "Market Sales" include the shares acquired and delivered within the framework of the Share Purchase Plan and Share Purchase Plans by the beneficiaries of the multi-year variable remuneration programs (in 2018 567,754 shares were delivered in accordance with the provisions of each of the plans (see Note 29.4) and other transactions within the framework of the discretionary treasury stock operations described in the Repsol Group's Internal Code of Conduct in the securities market area

⁽²⁾ Includes 6,072,604 treasury shares acquired before April 4 (date of calling the 2018 General Shareholders' Meeting).

⁽³⁾ New shares received in the share capital increases carried out within the framework of the "Repsol Flexible Dividend" Program corresponding to the shares held in treasury stock.

⁽⁴⁾ The balance at December 31, 2018, includes derivatives contracted by Repsol, S.A. from financial institutions for a notional total of 24 million shares, under which voting rights and economic risk intrinsic to the underlying were transferred to the Group.

7.3) Dividends and shareholder remuneration

During 2018 and 2017, the Company's shareholders were also remunerated by means of the program denominated "Repsol Flexible Dividend", whose main characteristics are described in section 1 "Share capital" of this Note and whose figures are compiled in the following chart:

	No. of free allocation rights sold to Repsol	Purchase commitment price (€/right)	Disbursement in cash (€ Million)	New shares issued	Remuneration in shares (€ Million)
December 2016/January 2017	296,735,539	0.335	99	30,760,751	392
June/July 2017	442,703,938	0.426	189	30,991,202	449
December 2017/January 2018	393,708,447	0.388	153	29,068,912	440
June/July 2018	206,366,731	0.485	100	39,708,771	655

¹ Transactions carried out exercising the powers delegated by the Company's shareholders at the Annual General Meeting of March 28, 2014 and May 11, 2018, authorizing the Board of Directors, for a five-year period, to carry out the derivative acquisition of Repsol shares, directly or through subsidiaries, up to a maximum number of shares such that the sum of those acquired plus treasury shares already held by Repsol and any of its subsidiaries does not exceed 10% of the Company's capital, insofar as the price or value of the consideration delivered is not less than the par value of the shares or more than their quoted price on the stock exchange. The current authorization (conferred by the Annual Shareholders' Meeting of May 11, 2018) was granted for five years running from the date of the Annual General Meeting, and nullified the equivalent resolution ratified at the ordinary Annual General Meeting held on March 28, 2014, in relation to any part thereof that had not been used.

In addition, in January 2019, under the “Repsol Flexible Dividend” program, replacing what would have been the interim dividend from 2018 profits, Repsol paid out €175 million in cash (€0.411 per right before withholdings) to those shareholders opting to sell their bonus share rights back to the Company, and delivered 31,481,529 shares, worth €453 million, to those opting to take their dividend in the form of new shares from the Parent Company.

At the date of the authorization for issue of these Consolidated Financial Statements, the Company's Board of Directors is expected to submit a proposal to the next Ordinary General Shareholder's Meeting to continue the “Repsol Flexible Dividend”, program, through the implementation of a bonus share issue, on the same dates as those on which the company has traditionally paid the final dividend together with the corresponding share capital reduction through the amortization of own shares to offset the dilutive effect of these share capital increases.

7.4) Other equity instruments

On March 25, 2015, Repsol International Finance, B.V. (hereinafter, “RIF”) issued perpetual subordinated bonds guaranteed by Repsol, S.A., with a value of €1,000 million (redeemable at the request of the issuer from year six or under certain circumstances stipulated in the bond terms and conditions).

This bond was placed with qualified investors and trades on the Luxembourg Stock Market, accruing a fixed annual coupon of 3.875% from the issuance date until March 25, 2021, which is payable to the bondholders annually from March 25, 2016 and a fixed annual coupon equal to the 6-year swap rate applicable plus a spread from March 25, 2021.

The issuer can defer the coupon payments without triggering an event of default. Coupons so deferred will be cumulative and will be mandatorily settled following certain events described in the related terms and conditions of the issue.

This bond was recognized under “Other equity instruments”, included under equity in the balance sheet, considering that it does not meet the accounting conditions required to be treated as a financial liability¹. The finance cost, net of taxes, associated with the coupon on the subordinated bond has been recognized under “Retained earnings and other reserves” amounting to -€29 million.

7.5) Non-controlling interests

The equity attributable to non-controlling interests at December 31, 2018 and 2017 relates basically to the following companies:

	€ Million	
	2018	2017
Petronor, S.A.	173	153
Refinería La Pampilla, S.A.	66	72
Repsol Comercial de Productos Petrolíferos, S.A.	32	32
Otras compañías	15	13
TOTAL	286	270

¹ This bond does not involve a contractual obligation to make payment in cash or other financial assets or an obligation to exchange financial assets or liabilities.

(8) FINANCIAL INSTRUMENTS

8.1) Financial assets

The breakdown of financial assets included in the balance sheet line-items can be found below:

	€ Million	
	2018	2017
Non-current financial assets	1,103	2,038
Non-current trade operation derivatives ⁽¹⁾	33	2
Other current financial assets. ⁽²⁾	1,711	257
Current trade operation derivatives ⁽³⁾	241	60
Cash and cash equivalents ⁽²⁾	4,786	4,601
TOTAL	7,874	6,958

⁽¹⁾ Recognized in "Other non-current liabilities" on the balance sheet.

⁽²⁾ This variation can mainly be attributed to the cash generated by the stakeholding in Naturgy (see Note 4.2).

⁽³⁾ Recognized in "Other receivables" of the balance sheet.

The detail, by type of assets, of the Group's financial assets at December 31, 2018 and 2017, is as follows:

Millions of euros	December 31, 2018 and 2017							
	At fair value with changes through P&L		At FV with changes through Other comprehensive income		At amortised cost ⁽³⁾		Total	
	2018	2017	2018	2017	2018	2017	2018	2017
Equity instruments ⁽²⁾	24	-	105	118	-	-	129	118
Derivatives ⁽⁴⁾	33	2	-	-	-	-	33	2
Loans	-	-	-	-	921	1,868	921	1,868
Others	53	52	-	-	-	-	53	52
Non-current	110	54	105	118	921	1,868	1,136	2,040
Derivatives ⁽⁴⁾	308	77	10	-	-	-	318	77
Loans	-	-	-	-	174	4	174	4
Time deposits	-	-	-	-	1,455	231	1,455	231
Cash and cash equivalents	9	9	-	-	4,777	4,592	4,786	4,601
Others	3	1	-	-	2	4	5	5
Current	320	87	10	-	6,408	4,831	6,738	4,918
TOTAL ⁽¹⁾	430	141	115	118	7,329	6,699	7,874	6,958

⁽¹⁾ Headings "Other non-current assets" and "Trade and other receivables" of the consolidated balance sheet include €667 Million classified under long-term and €5,864 Million classified under short-term in 2018 (2017: €470 Million classified under long-term and €5,161 Million classified under short-term), corresponding to commercial receivables not included in the breakdown of the financial assets in the previous table net of the corresponding impairment provisions.

⁽²⁾ This heading includes minority financial investments in certain companies over which the Group does not have management influence.

⁽³⁾ The items which do not accrue explicit interest are recognized at their face value whenever the effect of not discounting the related cash flows is not significant.

⁽⁴⁾ Includes non-current hedging derivatives amounting to €10 Million (see Note 9).

Loans

In 2018 and 2017, within current and non-current "Loans" are loans granted to Group companies, mainly transactions carried out with companies consolidated using the equity method, which are not eliminated in the consolidation process, amounted to €1,095 million and €1,871 million, respectively. These included financing to joint ventures in Venezuela (see Notes 13 and 22), the balance of which at December 31, 2018 and 2017 amounted to €518 million and €1,296 million,¹ respectively.

¹ Includes in 2018 and 2017, -€480 million and -€214 million, respectively, for the negative value of Cardón IV's investment (see Note 13).

The average accrued return on these financial assets amounts to an average interest rate of 5.07% and 6.51% in 2018 and 2017, respectively, and their maturity is as follows:

	€ Million	
	2018	2017
2019	-	4
2020	195	504
2021	142	181
2022	60	69
Subsequent years	524	1,110
TOTAL	921	1,868

Deposits and cash

The corresponding carrying amount at December 31, 2018 and 2017 can be seen below:

	€ Million	
	2018	2017
Cash equivalents ⁽¹⁾	662	848
Cash and Banks	4,124	3,753
TOTAL	4,786	4,601

⁽¹⁾ They primarily correspond to liquid financial assets, deposits or liquid investments needed to meet payment obligations in the short term that can be converted into a known amount of cash within a period usually shorter than three months and that are subject to an insignificant risk of changes in value.

8.2) Financial liabilities

The breakdown of financial liabilities included in the consolidated balance sheet line-items can be found below:

	€ Million	
	2018	2017
Non-current financial liabilities ⁽¹⁾	9,392	10,080
Non-current trade operation derivatives ⁽²⁾	18	-
Current financial liabilities ⁽¹⁾	4,289	4,206
Current trade operation derivatives ⁽³⁾	250	215
TOTAL	13,949	14,501

⁽¹⁾ This change reflects the cancelation of the bonds upon their maturity and the reclassification of bonds maturing in no more than 12 months between both headings.

⁽²⁾ Recognized in "Other non-current liabilities" on the consolidated balance sheet.

⁽³⁾ Recorded in "Other payables" on the consolidated balance sheet. (see Note 18).

The breakdown of these financial liabilities at December 31, 2018 and 2017 is provided below:

€ Million	December 31, 2018							
	At VR with changes in profit/(losses)		At amortized cost		Total		Fair value	
	2018	2017	2018	2017	2018	2017	2018	2017
Bonds and obligations	-	-	5,243	6,323	5,243	6,323	5,493	6,812
Loans	-	-	2,789	2,625	2,789	2,625	2,789	2,625
Bank borrowings	-	-	1,208	1,013	1,208	1,013	1,161	992
Derivatives ⁽³⁾	74	68	-	-	74	68	74	68
Other financial liabilities	-	-	96	51	96	51	97	51
Non-current	74	68	9,336	10,012	9,410	10,080	9,614	10,548
Bonds and obligations	-	-	2,855	3,406	2,855	3,406	2,862	3,419
Loans	-	-	660	233	660	233	660	233
Bank borrowings	-	-	704	539	704	539	704	539
Derivatives ⁽³⁾	300	243	-	-	300	243	300	243
Other financial liabilities	-	-	20	-	20	-	20	-
Current	300	243	4,239	4,178	4,539	4,421	4,546	4,434
TOTAL ^{(1) (2)}	374	311	13,575	14,190	13,949	14,501	14,160	14,982

⁽¹⁾ At December 31, 2018 this heading includes €1,427 million corresponding to "Other non-current liabilities" (year-end 2017: €1,346 million) and €197 and €195 million corresponding to "Other payables" related to finance leases carried at amortized cost that are not included in the table above.

⁽²⁾ In relation to liquidity risk, the distribution of funding by maturity at December 31, 2018 and 2017 is provided in Note 10.

⁽³⁾ In 2018, it includes non-current and current hedging derivatives (see Note 9) amounting to €56 million and €1 million, respectively (€68 million and €2 million in 2017, respectively).

The breakdown of average financial balances outstanding and cost by instrument is as follows:

€ Million	2018		2017	
	Average volume	Average cost	Average volume	Average cost
Bonds and obligations	8,598	2.59%	10,318	2.76%
Bank borrowings	2,037	2.99%	1,815	2.72%
Loans and other financial liabilities	3,016	2.98%	2,939	2.48%
TOTAL	13,651	2.74%	15,072	2.70%

Bank borrowings

This heading reflects the loans granted to the Group companies, mainly in Spain and Peru, by several banks in order to fund their projects and operations. It also includes drawdowns under short-term credit facilities extended by banks.

Bonds and obligations

Key issues, repurchases and redemptions carried out in 2018¹

- In January 2018, ROGCI repurchased a bond maturing in February 2021 and a fixed-annual coupon of 3.75% for a total of \$251 Million. (see Note 21).
- In February 2018 the bond issued by Repsol International Finance B.V. (RIF) was canceled at maturity. (RIF) in September 2012 as part of the EMTN Program was repaid at maturity for the nominal amount of €750 million, with a fixed annual coupon of 4.375%.
- In July 2018 the bond issued by RIF in July 2016 under the EMTN Program was canceled at maturity. This bond was for a nominal amount of €600 Million and had an annual coupon indexed to the 3-month Euribor plus a 70 basis

¹ Key issues, repurchases and redemptions carried out in 2017: i) in February a bond issued by RIF was cancelled at maturity (nominal amount of €886 Million and fixed annual coupon of 4.75%), ii) in May, RIF issued a green bond guaranteed by Repsol, S.A. (nominal of €500 Million, maturing 2022 and a fixed annual coupon of 0.50%), iii) in June ROGCI repurchased bonds for an amount \$87 Million, iv) in September, ROGCI repurchased a bond maturing December 2017 and fixed annual coupon of 6.625%, for a total amount of £266 million, v) in November, ROGCI repurchased a bond maturing in June 2019 and a fixed annual coupon 7.75%, for a total amount of \$403 Million }

point spread.

The outstanding balance of bonds and obligations at December 31, 2018:

ISIN	Issuing entity	Issue date	Currency	Nominal (millions)	Average rate %	Maturity	Listed ⁽⁵⁾
US87425EAE32 ⁽³⁾	Repsol Oil & Gas Canada Inc.	oct-97	Dollar	50	7.250%	oct-27	-
US87425EAH62 ⁽³⁾	Repsol Oil & Gas Canada Inc.	may-05	Dollar	88	5.750%	may-35	-
US87425EAJ29 ⁽³⁾	Repsol Oil & Gas Canada Inc.	ene-06	Dollar	102	5.850%	feb-37	-
US87425EAK91 ⁽³⁾	Repsol Oil & Gas Canada Inc.	nov-06	Dollar	115	6.250%	feb-38	-
XS0733696495 ⁽¹⁾	Repsol International Finance, B.V.	ene-12	Euros	1,000	4.875%	feb-19	LuxSE
US87425EAN31 ⁽³⁾	Repsol Oil & Gas Canada Inc.	may-12	Dollar	57	5.500%	may-42	-
XS0933604943 ⁽¹⁾	Repsol International Finance, B.V.	may-13	Euros	1,200	2.625%	may-20	LuxSE
XS0975256685 ⁽¹⁾	Repsol International Finance, B.V.	oct-13	Euros	1,000	3.625%	oct-21	LuxSE
XS1148073205 ⁽¹⁾	Repsol International Finance, B.V.	dic-14	Euros	500	2.250%	dic-26	LuxSE
XS1207058733 ⁽²⁾	Repsol International Finance, B.V.	mar-15	Euros	1,000	4,500% ⁽⁴⁾	mar-75	LuxSE
XS1334225361 ⁽¹⁾	Repsol International Finance, B.V.	dic-15	Euros	600	2.125%	dic-20	LuxSE
XS1352121724 ⁽¹⁾	Repsol International Finance, B.V.	ene-16	Euros	100	5.375%	ene-31	LuxSE
XS1451452954 ⁽¹⁾	Repsol International Finance, B.V.	jul-16	Euros	100	0.125%	jul-19	LuxSE
XS1613140489 ⁽¹⁾	Repsol International Finance, B.V.	may-17	Euros	500	0.500%	may-22	LuxSE

Note: Does not include the perpetual subordinated bond issued by RIF on March 25, 2015 in the amount of €1,000 million, which qualifies as an equity instrument.

⁽¹⁾ Issues made under EMTN Program, which is guaranteed by Repsol, S.A., as renewed in October 2018.

⁽²⁾ Subordinated bond issued by Repsol International Finance B.V. and guaranteed by Repsol, S.A. This issue does not correspond to any open-ended or shelf program.

⁽³⁾ Repsol Oil & Gas Canada, Inc. issues guaranteed by Repsol, S.A.

⁽⁴⁾ Coupon scheduled for reset on March 25, 2025 and March 25, 2045.

⁽⁵⁾ LuxSE (Luxembourg Stock Exchange). Multilateral trading systems or other trading centers or non-official over-the-counter markets are not considered.

RIF also runs a Euro Commercial Paper (ECP) Program, arranged on May 16, 2013 and guaranteed by Repsol, S.A., with a limit up to € 2,000 Million. Under this program, several issues and cancellations took place in 2018, with the nominal contracted at December 31, 2018 being €1,635 million (€1,710 million at December 31, 2017).

Financial conditions and debt obligations

In general, the financial debt agreements include the early termination clauses customary in agreements of this nature.

The ordinary bonds issued by RIF and guaranteed by Repsol, S.A. - with an aggregate face value at year-end of €5,000 Million - contain certain early termination clauses (including *cross-acceleration* or *cross-default* - applicable to the issuer and the guarantor) and negative pledge covenants in relation to future bond issues. In the event of breach of any of these covenants, the *trustee*, at its sole discretion or at the behest of the holders of at least one-fifth of the bonds or on the basis of an extraordinary bondholder resolution, is entitled to declare the call of the bonds immediately. In addition, the holders of the bonds issued in 2012, 2013, 2014, 2015, 2016 and 2017 can elect to have their bonds called in the event of a change of control at Repsol or if, as a result of such change of control, Repsol's credit ratings are downgraded to below investment grade status.

Additionally, the €1,000 million subordinated bonds issued on March 25, 2015 by RIF and guaranteed by Repsol, S.A. do not have early redemption covenants other than in the event of dissolution or liquidation. The same conditions apply to the subordinated bond of €1,000 million described in Note 7.4.¹

At the date of preparation, the accompanying Consolidated Financial Statements, the Repsol Group was not in breach of any of its financial obligations or of any other obligation that could trigger the early repayment of any of its financial commitments.

At December 31, 2018 and 2017 there are no amounts secured by the Group companies in issuances, repurchases or redemptions made by associates, joint arrangements or companies that are not part of the Group.

¹ This bond does not involve a contractual obligation to make payment in cash or other financial assets or an obligation to exchange financial assets or liabilities.

Loans

Includes loans granted to Group companies or entities which are not eliminated in the consolidation process, corresponding mainly to those granted by companies consolidated using the equity method. Worth particular note is the loan granted by Repsol Sinopec Brasil S.A., for the sum of €3,449 million and €2,858 million in 2018 and 2017, respectively, via its subsidiary Repsol Sinopec Brasil B.V. to its shareholders (including the Repsol Group) in proportion to their respective shareholdings (see Note 13), which at December 31, 2018 and 2017 showed a balance for the Group of €2,788 Million and €2,624 Million, respectively.

8.3) Fair value

The classification of the financial assets and liabilities recognized in the financial statements at fair value, by fair value calculation method, is as follows:

€ Million	Level 1		Level 2		Level 3 ⁽¹⁾		Total	
	2018	2017	2018	2017	2018	2017	2018	2017
Financial assets								
Financial assets at FV with changes through P&L	204	68	202	73	24	-	430	141
Financial assets at FV with changes through Other income	-	1	10	-	105	-	115	1
TOTAL	204	69	212	73	129	-	545	142
Financial liabilities								
Financial liabilities at FV with changes through P&L	223	139	151	172	-	-	374	311
TOTAL	223	139	151	172	-	-	374	311

Level 1: Valuations based on a quoted price in an active market for an identical instrument and relate mainly to derivatives held for trading and investments funds.

Level 2: Valuations based on a quoted price in an active market for similar financial assets or based on other valuation techniques that rely on observable market inputs.

Level 3: Valuations based on inputs that are not directly observable in the market.

⁽¹⁾ Does not include €117 Million in 2017 related to investments in shares of companies that are recognized at acquisition cost in accordance with IAS 39.

The valuation techniques used for financial instruments classified under level 2, in accordance with accounting regulations, are based on the income approach, which entail the discounting to present value of future cash flows, either known or estimated, using discount curves from the market reference interest rates (in the case of derivative instruments, estimated using implicit forward curves offered in the market), including adjustments for credit risk based on the life of the instruments. In the case of options, price-setting models based on the Black & Scholes formula are used.

The most significant variables for valuing financial instruments vary depending on the type of instrument, but fundamentally include: exchange rates (*spot and forward*), interest rate curves, counterparty risk curves, prices of equity securities and the volatilities of all the aforementioned factors. In all cases, market data is obtained from reputed information agencies or correspond to quotes issued by official bodies.

(9) DERIVATIVE AND HEDGING TRANSACTIONS

9.1) Accounting hedges

The instruments designated as accounting hedges¹ at December 31, 2018 and 2017 are detailed below:

€ Million	Nominal hedging instruments ⁽¹⁾		Book value of hedging instrument										Changes in FV	
			Non-Current Assets		Current Assets		Non-Current Liabilities		Current Liabilities		Total FV			
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Cash flows	407	297	-	-	10	-	(56)	(68)	(1)	(2)	(47)	(70)	23	18
Interest rate	298	297	-	-	-	-	(56)	(68)	(1)	(2)	(57)	(70)	13	18
Product price	109	-	-	-	10	-	-	-	-	-	10	-	10	-
Net investment	(2,714)	(2,568)	-	-	-	-	(2,714)	(2,568)	-	-	(2,714)	(2,568)	(126)	354
Exchange rate	(2,714)	(2,568)	-	-	-	0	(2,714)	(2,568)	-	-	(2,714)	(2,568)	(126)	354
TOTAL ⁽²⁾⁽³⁾	(2,307)	(2,271)	-	-	10	-	(2,770)	(2,636)	(1)	(2)	(2,761)	(2,638)	(103)	372

⁽¹⁾ Instruments in United States dollars translated into euros at year-end rates.

⁽²⁾ Fair value measurement methods are described in Notes 8.3.

⁽³⁾ The information relating to hedged items is broken down as follows:

€ Million	Changes in FV	
	2018	2017
C. Cash flows: Interest rate	(13)	(21)
C. Cash flows: Product price	(10)	0
C. Net investment: Exchange rate	126	(354)

The changes in reserves relating to hedging instruments at December 31, 2018 and 2017 recognized under "Accumulated Other Comprehensive Income" in the balance sheet are detailed below:

€ Million	2018		2017	
	Cash flow hedge	Net investment hedging ⁽¹⁾	Cash flow hedge	Net investment hedging
Opening balance at December 31	(163)	54	(171)	(212)
Gains/(Losses) for measurement allocated to Other Comprehensive Income	3	(126)	(5)	354
Amounts transferred to the income statement	36	-	27	-
Translation differences	(3)	-	10	-
Share of investments in joint ventures and associates	11	-	(21)	-
Effective tax rate	10	31	(3)	(88)
Closing balance at December 31	(106)	(41)	(163)	54

⁽¹⁾ The cumulative amount of translation differences from discontinued hedges amounts to -€77 million.)

⁽¹⁾ In cash flow hedges, the effective portion of changes in fair value is recognized under "Hedging Transactions" in equity and the gain or loss relating to the ineffective portion (absolute excess of the cumulative change in fair value of the hedging instrument over the hedged item) is recognized in profit or loss account. Accumulated amounts in equity are transferred to the income statement in periods in which the hedged items affect the income statement or, in the case of a hedge of a transaction that results in the recognition of a non-financial asset or liability, are included in the cost of the asset or liability when the asset or liability is recognized in the balance sheet. Net investment hedges are accounted for in the same way as cash flow hedges, although changes in the valuation of these transactions are recognized in equity under "Translation differences" until the hedged foreign operation is disposed of, at which time they are transferred to the income statement.

The cumulative balances by type of hedging instrument at December 31, 2018 and 2017 are as follows:

€Million	Cash flow hedging reserve and translation reserve	
	2018	2017
Cash flow hedges	(106)	(163)
Interest rate	(162)	(188)
Product price	10	-
Share of investments in joint ventures and associates	-	(11)
Tax effect	46	36
Net investment hedge	(41)	54
Exchange rate	(80)	46
Tax effect	39	8

The Group contracts derivatives to hedge exposure to changes in cash flows, most notably in 2018 and 2017:

- A cash flow hedge in dollars in the form of interest rate swaps associated with the facility funding the investment in the Canaport LNG project (Canada), written over a notional amount of €298 Million, maturing after 2019 and with a negative fair value of €57 Million at December 31, 2018.
- Cash flow hedges in the form of interest rate swaps arranged in 2014 for a notional amount of €1,500 Million to hedge future bond issues in late 2014 and early 2015. Under these arrangements, the Group paid a weighted average interest rate of 1.762% and received 6-month Euribor. The fair value recognized in equity pending to be recognized in results amounts to -€73 million after taxes at December 31, 2018 (-€83 Million after taxes at December 31, 2017). The impact recognized on the income statement in 2018, before tax, amounted to €13 million (€12 million in 2017).
- The hedges arranged in 2018 over product prices to cover the variability of gas prices, maturing in less than one year and with a positive fair value of €10 Million.

In addition, the Group maintains instruments to hedge its exposure to variations in foreign exchange rates relating to the stake in the net assets of foreign operations. Of note are the financial instruments designated as net investment hedges with respect to certain dollar assets in the Upstream segment, the notional value of which at December 31 amounted to \$3,108 million (€2,714 million).

9.2) Other derivative transactions

The breakdown of other derivative instruments is as follows:

€ Million	Non-Current Assets		Current Assets		Non-Current Liabilities		Current Liabilities		Total	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Exchange rate	-	-	77	17	-	-	(49)	(26)	28	(9)
Product price	33	2	231	60	(18)	-	(250)	(215)	(4)	(153)
TOTAL ⁽¹⁾	33	2	308	77	(18)	-	(299)	(241)	24	(162)

⁽¹⁾ In 2018, this heading includes derivatives whose measurement in respect of interest rates amounts to €9 Million.

Repsol has arranged a series of derivatives to manage its exposure to foreign exchange rate and price risk of crude oil and oil products (including CO₂) that are not recognized as accounting hedges under IAS 39. These derivatives include currency forward contracts which mature in less than a year, as part of the global strategy to manage the exposure to exchange-rate risk. Additionally, for the coverage of the product risk that derives from future physical transactions such as the selling and/or purchase of oil and other petroleum products, the Group has entered into futures and swap contracts.

The breakdown of these derivatives at December 31, 2018 and 2017 is provided below:

€ Million	Maturity fair values											
	2018						2017					
	2019	2020	2021	2022	Seq.	Total	2018	2019	2020	2021	Seq.	Total
Exchange rate	28	-	-	-	-	28	(9)	-	-	-	-	(9)
Product price	(19)	10	-	1	4	(4)	(155)	2	-	-	-	(153)
Purchase agreements	(454)	1	(1)	-	-	(454)	400	-	(2)	(1)	-	397
Sale agreements	365	(13)	-	-	2	354	(409)	2	2	1	-	(404)
Options	-	-	-	-	-	-	1	-	-	-	-	1
Forwards	(1)	-	-	-	-	(1)	13	-	-	-	-	13
Swaps	54	6	1	1	2	64	(156)	-	-	-	-	(156)
Others ⁽¹⁾	17	16	-	-	-	33	(4)	-	-	-	-	(4)
TOTAL	9	10	-	1	4	24	(164)	2	-	-	-	(162)

⁽¹⁾ Long-term oil and gas sale and purchase firm commitments are analyzed with the aim of determining whether they correspond to the supply or marketing needs of the normal business activities of the Group or whether, on the contrary, these should be considered as a derivative instrument and be recognized in accordance with the criteria set forth in IFRS 9.

In 2018 and 2017, short-term forward contracts and currency swaps were arranged that generated a pre-tax gain of €127 million and €16 million respectively, which are recognized under "Change in fair value of financial instruments" of the financial result.

In 2018 and 2017, the impact of the valuation of product derivatives and the price of CO₂ on the "operating result" was €134 million and -€61 million, respectively.

The physical units and the fair value of the product price derivatives are itemized below:

	31/12/2018		31/12/2017	
	Physical Units	Fair Value (€ Million)	Physical Units	Fair Value (€ Million)
Purchase agreements		(454)		397
IPE GO (Thousand Tons)	355	(12)	-	-
BRENT (Thousand barrels)	41,605	(399)	38,097	260
NYMEX HHO (Thousand gallons)	-	-	-	-
RBOB (Thousand gallons)	67,788	(16)	150,704	38
WTI (Thousand barrels)	2,625	(19)	7,488	38
NAT GAS (MMBTU)	67,288,570	(23)	33,457,468	(5)
GO (Thousand tons)	1,657	(130)	909	49
HO (Thousand gallons)	51,618	(12)	85,093	18
EUAs CO ₂ (Thousand tons)	33,334	158	-	-
Others	-	(1)	-	(1)
Sale agreements		354		(404)
IPE GO (Thousand Tons)	883	3	-	-
BRENT (Thousand barrels)	42,815	383	41,569	(247)
NYMEX HHO (Thousand gallons)	-	-	-	-
RBOB (Thousand gallons)	131,292	21	225,339	(35)
WTI (Thousand barrels)	485	12	6,712	(32)
Physical SoNat (Thousand gallons)	20,000	-	-	-
Physical Tenn 800 Leg (Thousand gallons)	12,486,800	-	-	-
Physical Tenn 500 Leg (Thousand gallons)	17,506,755	-	53,180,304	-
GO (Thousand tons)	2,020	173	1,166	(54)
Physical Dom South (MMBTU)	182,000	-	7,433,753	-
NAT GAS (MMBTU)	3,981,586	79	171,513,598	(16)
EUAs CO ₂ (Thousand tons)	35,829	(326)	-	-
HO (Thousand gallons)	28,938	18	105,378	(18)
Others	-	(9)	-	(2)
Swaps		64		(156)
NAT GAS (MMBTU)	199,684,794	10	104,600,000	(14)
Electricity (MWh)	3,460,408	36	3,301	1
Fuel Oil (Thousand Tons)	3,543	24	4,355	(73)
Crude (Thousands barrels)	23,094	5	22,123	(73)
NAPHTHA (Thousand tons)	1,826	2	1,489	(2)
Others	-	(13)	-	5
Forwards		(1)		13
NAT GAS (MMBTU)	756,577,500	(2)	478,062,500	13
Others	-	1	-	-
Options		-		1
Others	-	-	-	1
Other		33		(4)
TOTAL		(4)		(153)

(10) FINANCIAL RISKS

Group business is exposed to different kinds of financial risk, including: market risk, liquidity risk and credit risk. Repsol has a risk management structure and systems that enable it to identify, measure and control the risks to which the Group is exposed.

10.1) Market risk

Market risk is the potential loss faced due to adverse movements in market variables. The Group is exposed to several types of market risks: exchange rate risk, interest rate risk and "commodities" risk.

The Company monitors exposure to market risk through ongoing sensitivity analysis. These strategies are complemented with other risk management measures when required by the nature of the risk exposure. For example, commodity risk, exchange rate and interest rate risk that affect the financial results are subject to maximum risk levels, measured in terms of *Value at Risk* (VaR), defined by the Corporate Executive Committee in line with the different authorization levels and supervised on a daily basis by a separate area to the area responsible for management.

A sensitivity analysis of the main risks inherent in financial instruments is included for each of the market risks described below, showing how income and equity could be affected (under the "Other Comprehensive Income" heading). Sensitivity analysis uses changes in variables representative of their historical behavior. Estimates are based on both favorable and unfavorable scenarios. The impact on results and/or equity is estimated on the basis of the financial instruments held by the Group at year-end.

a) Exchange rate risk

The Group's profit and equity are exposed to fluctuations in the exchange rates of the currencies in which it transacts, with the US dollar generating the greatest level of exposure.

Exposure to exchange-rate risk can be traced, on the one hand, to financial assets and investments and monetary flows and liabilities in currencies other than the functional currency of the Group's parent company (in this connection, Repsol hedges assets in foreign currency, often regarding decisions to proceed with divestments or the sale of assets, which are normally designated as net investment hedges, structured through derivative instruments or loans in the corresponding currencies, primarily US dollars) and, on the other hand, exchange-rate risk extends to Group companies whose assets, liabilities and monetary flows are denominated in a currency other than the functional currency of said companies, with the following of particular importance in this connection: (i) cash flows from international trade operations involving crude oil, natural gas and refined products are carried out, generally speaking, in US dollars; and (ii) local operations carried out in the countries in which Repsol operates are exposed to fluctuations in the exchange rates of the corresponding local currencies compared to currencies in which commodities are traded.

Repsol permanently monitors the Company's exposure to fluctuations in the exchange rate of currencies in which it undertakes significant operations and actively manages exchange-rate risk positions that affect the financial result of the income statement. To this end, it contracts derivative financial instruments that seek to provide a consolidated economic hedge of currencies for which there is a liquid market.

Furthermore, cash flows are subject to accounting hedges with a view to protecting the economic value of the flows corresponding to investment and divestment operations, corporate operations or project execution or one-off contracts for which the monetary flow is distributed over a period of time.

For exchange rate derivatives, see Note 9.

The sensitivity of net income and equity to exchange rate risk, as a result of the appreciation or depreciation of the euro against the dollar, on the financial instruments held by the Group at December 31, is illustrated below:

	Appreciation (+) / depreciation (-) in exchange rates	€ Million
Effect on profit after tax	5%	(30)
	-5%	33
Effect on equity	5%	17
	-5%	(19)

b) Interest rate risk

Fluctuations in interest rates can affect interest income and expense of financial assets and liabilities with variable interest rates; which may also impact the fair value of financial assets and liabilities with a fixed interest rate. Furthermore, these variations can affect the carrying value of assets and liabilities due to variations in the discount rates of applicable cash flows, the profitability of investments and the future cost of raising financial resources.

Repsol's debt is linked to the most competitive financial instruments at the time, both in terms of the capitals market and banking market and based on the market conditions considered most ideal accordingly. Furthermore, Repsol contracts interest rate derivatives to reduce the risk of variations in financial burdens and in the fair value of its debt, and to mitigate the interest-rate risk on future fixed-time debt issues, which are designated in general as hedging instruments (see Note 9).

At December 31, 2018 and 2017, the net debt balance at fixed rates amounted to €7,183 Million and €8,094 Million respectively. This is equivalent to 116% and 108%, respectively, of total net debt including interest rate derivatives.

The sensitivity of net income and equity, as a result of the effect of fluctuations in interest rates on the financial instruments held by the Group at December 31 is illustrated in the following table:

	Increase (+) / decrease (-) in interest rates (basic points)	€ Million
Effect on profit after tax	50 b.p.	4
	-50 b.p.	(4)
Effect on equity	50 b.p.	11
	-50 b.p.	(12)

c) Commodity price risk

As a result of its trade operations and activities, the Group's results are exposed to volatility in the prices of oil, natural gas and their derivative products.

Repsol enters into derivative transactions to mitigate its exposure to price risk. These derivatives provide an economic hedge of the Group's results, although they are not always designated as hedging instruments for accounting purposes (see Note 9).

At December 31, 2018 an increase or decrease of 10% in the prices of crude oil, natural gas and derivative products would have approximately led to the following changes in net income as a result of their effect on the financial instruments held by the Group at that date.

	Increase (+) / decrease (-) in crude oil and byproducts prices	€ Million
Effect on profit after tax	+10%	(39)
	-10%	39

10.2) Liquidity risk

The liquidity policy applied by Repsol is structured around guaranteeing the availability of the necessary funds to ensure compliance with obligations assumed and the evolution of the Group's business plans, whilst retaining the ideal amount of liquid resources and seeking the highest level of efficiency in the management of financial resources at all times. In line with this prudent financial policy, Repsol maintains cash resources and other liquid financial instruments¹ and undrawn credit lines sufficient to cover current debt maturities 2.0 times.

Repsol controls and monitors its financial needs ranging from the production of daily cash flow forecasts to the financial planning involved in the annual budgets and its strategic plan; it maintains diversified and stable sources of financing that facilitate efficient access to financial markets, all within the framework of a financing structure that is compatible with the corresponding credit rating in the investment grade category.

The Group had undrawn credit facilities amounting to €2,249 million and €2,503 million at December 31, 2018 and 2017, respectively.

The tables below contain an analysis on the maturities of the financial liabilities existing at December 31, 2018 and 2017:

December 31, 2018	Maturities (€ Million)							Maturities (€ Million)						
	2018							2017						
	2019	2020	2021	2022	2023	Seq.	Total	2018	2019	2020	2021	2022	Seq.	Total
Bonds and obligations ⁽¹⁾	2.953	1.966	1.122	586	83	4.606	11.316	3.511	1.314	1.966	1.121	585	4.702	13.199
Loans and other financial debts ⁽¹⁾	1.426	250	239	337	88	3.465	5.805	802	209	211	128	110	3.223	4.683
Derivatives ⁽²⁾	59	7	7	6	6	23	108	34	9	8	7	6	30	94
Suppliers	3.244	-	-	-	-	-	3.244	2.738	-	-	-	-	-	2.738
Other payables	4.506	-	-	-	-	-	4.506	4.280	-	-	-	-	-	4.280

NOTE: The amounts shown are the contractual undiscounted cash flows; therefore, they differ from the amounts included on the consolidated balance sheet. Obligations under finance leases are not included (See Note 15)

⁽¹⁾ Corresponds to future maturities of amounts registered under the "Non-current financial liabilities" and "Current financial liabilities" items, including interests or future dividends related to those financial liabilities. It does not include financial derivatives.

⁽²⁾ The contractual maturities of the derivatives included under this heading are outlined in Note 9. It does not include trade derivatives recognized under the "Other non-current liabilities" and "Other payables" items on the consolidated balance sheet.

¹ Includes immediately available time deposits recorded under "Other Current Financial Assets" amounting to € 1,455 million.

10.3) Credit risk¹

Credit risk is defined as the possibility of a third party not complying with their payment obligations, thus creating credit losses. The Group specifically evaluates all available information consistent with internal credit risk management for each financial instrument, including those of a commercial nature.

The Group's exposure to credit risk, according to the type of financial instrument together with the impairment recognized at December 31, 2018 for each of them, is broken down as follows:

	Credit risk (probability of default)	Gross balance	Impairment	Net balance
Other current financial assets and cash	< 2%	6,497	(1)	6,497
Non-current financial assets	< 2%	584	(1)	584
	> 8%	3,118	(2,119) ⁽²⁾	999
Other current and non-current assets	< 2% and < 8%	681	(1)	680
	> 8%	906	(590) ⁽³⁾	316
Trade and other receivables	< 2% and < 8%	5,833	(14)	5,869
	> 8%	411	(175) ⁽⁴⁾	236

(1) Impairments of less than one million euros due to the high credit quality of the counterparties (banks and financial institutions with ratings equal to or greater than BB).

(2) Includes assets impaired in Phase III of the debtor's credit risk statement (see following section, "Expected loss"); impairment in Phase II are not material. Impairment at December 31, 2017 amounted to €1,714 million, relating to situations pending litigation and insolvency proceedings. In 2018, €405 million was provisioned, the majority of which relating to loans and credit lines to joint ventures in Venezuela (see Note 8 and 20.3).

(3) Includes assets impaired in Phase III of the debtor's credit risk statement; the impairment in Phase II is not material. Impaired amounts at December 31, 2018 mainly relate to receivables related to business in Venezuela.

(4) Includes assets impaired in Phase III of the debtor's credit risk statement; impairment in Phase II is not material. The impaired balance at December 31, 2017 amounted to €173 million.

Trade and other receivables

The trade debts are shown on the balance sheet at December 31, 2018 and 2017 net of allowances for impairment provisions for an amount of €6,105 million and €5,912 million, respectively. The following table shows the age of trade receivables net of impairment provisions:

Maturities	€ Million	
	2018	2017
Unmatured debt	5,667	5,527
Unmatured debt 0-30 days	257	240
Unmatured debt 31-180 days	116	94
Unmatured debt over 180 days	65	51
TOTAL	6,105	5,912

The Group's credit risk on trade receivables is not significantly concentrated as it is spread out among a large number of customers and other counterparties. The maximum net exposure to a third party, including official bodies and public sector entities, does not exceed 2.6%.

As a general rule, the Group establishes a bank guarantee issued by the financial entities as the most suitable instrument of protection from credit risk. In some cases, the Group has contracted insurance credit policies whereby this transfers partially to third parties the credit risk related to the business activity of some of their businesses.

As part of its business activities, the Group has guarantees extended by third parties in an aggregate amount of €3,584 million at December 31, 2018 and €3,402 million at December 31, 2017. Of this balance, the amount of trade

¹ The credit risk information included in this section does not include the credit risk of investees or joint ventures, the impact of which is recognized under "Profit from Investments Accounted for Using the Equity Method. Expected credit losses are an estimate, weighted by probability, of credit losses (i.e. the present value of all cash deficits) over the expected life of the financial instrument. A cash deficit is defined as the difference between the cash flows due to the entity under the contract and the cash flows it expects to receive. Because expected credit losses take into account both the amount and timing of payments, there is a credit loss if the entity expects to collect in full, but later than contractually agreed.

receivables secured by guarantees stood at €531 million and €537 million at December 31, 2018 and December 31, 2017, respectively.

EXPECTED LOSS:

The Group calculates the expected credit loss on its **trade accounts receivable** using its own risk assessment models for its customers, taking into account the probability of non-payment, the balance at risk and the estimated LGD, taking into account all the information available for each customer. As a general criterion, the Group applies a threshold of more than 180 days in default for the consideration that objective evidence of default/deterioration has been incurred. These criteria are applied in the absence of other objective evidence of non-compliance, such as bankruptcy situations, etc.

In the remaining **financial instruments**, mainly certain loans and financial guarantees granted to joint ventures are individually monitored for the purposes of determining when, if any, there may have been a significant impairment in credit risk or default.

The expected loss on financial instruments is calculated based on the stage of the debtor's credit risk statement:

- **Phase 1:** At the time of initial recognition, the expected credit loss is calculated with the probability of default in the first 12 months. In the case of trade receivables, the calculation is spread over the life of the instrument, in accordance with the accounting standard.
- **Phase 2:** When the instrument undergoes a significant increase in risk, the expected loss is calculated with the probability of default for the entire life of the instrument.
- **Phase 3:** When the instrument is already impaired, the expected loss for the entire life of the instrument is calculated and, in the event that interest accrues, it is calculated on the net balance of the provision for credit losses.

The assessment of the impairment of the value of the **financial assets**, to which the expected credit loss model is applicable, is calculated according to the following formula:

$$\text{Expected credit loss} = \text{Probability of default} \times \text{Exposure} \times \text{Severity}$$

- **Probability of default:** is calculated individually for each trade debtor according to the solvency models approved by the Repsol Group, except for individuals, for whom an average default rate is used. The models take into account quantitative information (economic-financial variables of the customer, external and internal payment behavior, etc.), qualitative information (sector of activity, macroeconomic data on the country, etc.) and market sensitivity variables (e.g. price evolution). An internal rating and an associated probability of default are obtained for each debtor, according to the models. The probability of default determined according to the Group's internal rating model can be grouped into three categories: (i) less than 2% probability of default, (ii) greater than 2% and less than 8% probability, and (iii), greater than 8% probability.
- **Exposure:** this is calculated taking into account the total amount of outstanding credit and a potential future exposure according to the available risk limit.
- **Severity:** reflects the percentage of unrecovered exposure in the event of default, also taking into account whether or not such exposure is guaranteed, and is based on the historical behavior of customers.

With respect to financial instruments relating to operations in **Venezuela**, the expected loss estimation model has been carried out by estimating the cash flow scenarios foreseen for the business, weighted by their estimated probability. Since the financial assets are impaired (phase 3 of the credit risk statement), to quantify the loss three severity scenarios (moderate, significant and severe) are applied with different assumptions and economic impacts on the estimated cash flows. The probability of occurrence of these scenarios is weighted according to the historical information of sovereign defaults (Report Moody's: "Sovereign Default and recovery rates 1983-2017") and the Management's expectations. The estimation of the cash flow scenarios is consistent with those used for the purpose of calculating the impairment of property, plant and equipment. The assessment of credit risk impairment in Venezuela required estimates of the implications and evolution of a highly uncertain environment, which made it advisable to have an independent expert to validate Management's judgments.

NON CURRENT ASSETS AND LIABILITIES

(11) INTANGIBLE ASSETS

The breakdown of the intangible assets and of the related accumulated depreciation and impairment losses at December 31, 2018 and 2017 is as follows:

	€ Million									Total
	Upstream				Downstream			Corporate		
	Goodwill	Exploration permits	Computer software	Other assets	Gas station association rights and other rights ⁽²⁾	Computer software	CO ₂ emission allowances ⁽³⁾	Concessions and others ⁽⁴⁾	Computer software and others	
GROSS COST										
Balance at January 1, 2017	3,295	2,329	186	110	768	266	84	198	291	7,527
Investments ⁽¹⁾	-	170	16	-	17	41	19	1	21	285
Retirements or removals	-	(16)	(11)	-	(58)	-	-	(8)	2	(91)
Translation differences	(330)	(266)	(18)	(2)	(12)	(5)	-	(2)	-	(635)
Change in scope of consolidation	(9)	(44)	-	-	-	-	-	-	-	(53)
Reclassifications and other movements	(9)	48	3	(28)	31	(2)	(34)	(7)	(7)	(5)
Balance at December 31, 2017	2,947	2,221	176	80	746	300	69	182	307	7,028
Balance at January 1, 2018	2,947	2,221	176	80	746	300	69	182	307	7,028
Investments ⁽¹⁾	84	192	12	4	56	48	50	9	33	488
Retirements or removals	(2)	(12)	(8)	(6)	(70)	(16)	-	-	(5)	(219)
Translation differences	110	97	9	5	8	2	-	1	-	232
Change in scope of consolidation	64	-	-	-	3	18	-	136	-	221
Reclassifications and other movements	-	22	9	-	63	13	(7)	6	(2)	104
Balance at December 31, 2018	3,203	2,420	198	83	806	365	112	334	333	7,854
ACCUMULATED AMORTIZATION AND IMPAIRMENT LOSSES										
Balance at January 1, 2017	(180)	(1,061)	(96)	(36)	(491)	(156)	(13)	(165)	(220)	(2,418)
Amortization/Depreciation	-	(48)	(26)	(1)	(40)	(20)	-	(1)	(24)	(160)
Retirements or removals	-	9	10	-	57	-	-	1	(2)	75
Provision/(reversal) impairment losses	(4)	(70)	-	(66)	(1)	-	-	(2)	-	(143)
Translation differences	-	115	10	-	9	1	-	1	2	138
Change in scope of consolidation	-	20	-	-	-	-	-	-	-	20
Reclassifications and other movements	-	(17)	-	37	(2)	-	13	7	6	44
Balance at December 31, 2017	(184)	(1,052)	(102)	(66)	(468)	(175)	-	(159)	(238)	(2,444)
Balance at January 1, 2018	(184)	(1,052)	(102)	(66)	(468)	(175)	-	(159)	(238)	(2,444)
Amortization/Depreciation	-	(122)	(21)	(1)	(40)	(21)	-	(6)	(24)	(235)
Retirements or removals	-	113	8	-	69	8	-	-	5	203
(Provision)/Reversal impairment losses	(8)	(210)	-	(1)	-	-	-	1	(4)	(222)
Translation differences	-	(49)	(6)	(5)	(3)	(1)	-	(1)	-	(65)
Change in scope of consolidation	-	-	-	-	-	-	-	-	-	-
Reclassifications and other movements	-	12	-	-	-	-	-	(7)	-	5
Balance at December 31, 2018	(192)	(1,308)	(121)	(73)	(442)	(189)	-	(172)	(261)	(2,758)
Net balance at December 31, 2017⁽⁵⁾	2,763	1,169	74	13	278	125	69	23	69	4,584
Net balance at December 31, 2018⁽⁵⁾	3,011	1,112	77	10	364	176	112	162	72	5,096

(1) Investments in 2018 and 2017 come from the direct acquisition of assets. Investments in "Exploration permits" mainly refer to acquisition of acreage and to activating geology and geophysics costs in the amount of €192 million and €170 million in 2018 and 2017 respectively.

(2) It includes both the service/gas stations association rights and whose ownership is conditioned by the term of the contracts giving rise to them. At December 31, 2018, the capitalized costs of obtaining contracts amounted to € 51 million.

(3) In 2018, it includes €63 million corresponding to the carbon emission rights assigned free of charge for 2018 in accordance with the National Allocation Plan (€51 million in 2017) and the reduction of the rights consumed by the emissions made in 2018 amounting to €70 million (€72 million in 2017). For additional information on CO₂ allowance, see Note 31.2.

(4) In 2018 it includes the customer portfolio acquired from Viesgo (see Note 4), as well as the right to use the Punta Langosteira marine terminal (A Coruña Refinery).

(5) In 2018 and 2017 includes assets acquired under finance leases amounting to €285 million and €203 million.

Goodwill

The breakdown of goodwill, by segment and company, at December 31, 2018 and 2017 is as follows:

Goodwill	€ Million	
	2018	2017
Upstream ⁽¹⁾:		
Repsol Oil & Gas Canada, Inc.	2,441	2,333
Other companies	89	14
Downstream ⁽²⁾:		
Repsol Portuguesa, S.A.	154	154
Repsol Gas Portugal, S.A.	106	106
Repsol Comercial de Productos Petrolíferos, S.A.	104	104
Viesgo Generación, S.L.	49	-
Other companies	68	52
TOTAL ⁽³⁾	3,011	2,763

⁽¹⁾ Almost the entirety of this item reflects the goodwill arising from the acquisition of ROGCI in 2015 and allocated for the purpose of evaluating its recoverability in the *Upstream* segment.

⁽²⁾ Corresponds to 11 CGU being the most significant individual amount not exceeding to 27% of the total of segment. Of the total, €443 million and €389 million in 2018 and 2017, respectively, correspond to companies whose main activities are undertaken in Europe.

⁽³⁾ Includes €191 million and €184 million of impairment losses in 2018 and 2017 respectively.

For CGUs with goodwill and/or assets with indefinite useful lives allocated, the Group performs sensitivity analysis in order to quantify if changes in the recoverable amounts, calculated according to the method described in Note 3, of these CGUs would have a significant impact in the financial statements. Specifically, in performing the most significant sensitivity analysis, the following inputs have been taken into consideration.

Sensitivity analysis	
Decrease in the price of hydrocarbons (Brent and HH)	10%
Decrease in sales volume	5%
Increase in operating and investment costs	5%
Decrease in the unit contribution margin	5%
Increases in the discount rate	100 b.p.

Repsol considers, based on its current knowledge, that the reasonably predictable changes in the key inputs for determining the fair value of CGUs to which goodwill has been allocated would not have a material impact on the Group's financial statements at December 31, 2018 as a result of the recoverable value of its goodwill.

(12) PROPERTY, PLANT AND EQUIPMENT

The breakdown of "Property, plant and equipment" and of the related accumulated depreciation and impairment losses at December 31, 2018 and 2017 is as follows:

	Property, plant and equipment								Total
	Upstream			Downstream			Corporate		
	Investments in areas with reserves	Operating investments	Other property, plant and equipment	Land, buildings and other constructions	Machinery and fixtures	Other property, plant and equipment	Non-current assets in progress	Land, constructions and others ⁽⁵⁾	
GROSS COST ⁽¹⁾									
Balance at January 1, 2017	25,998	4,279	480	2,002	19,125	1,214	689	1,023	54,810
Investments	922	274	33	1	11	27	670	14	1,952
Retirement or removals	(157)	(19)	(20)	(22)	(171)	(7)	(3)	(1)	(400)
Translation differences	(3,208)	(456)	(55)	(66)	(350)	(39)	(21)	-	(4,195)
Change in scope of consolidation ⁽²⁾	(5)	(116)	(2)	-	-	-	-	-	(123)
Reclassifications and other movements ⁽³⁾	558	(427)	1	26	419	23	(491)	1	110
Balance at December 31, 2017	24,108	3,535	437	1,941	19,034	1,218	844	1,037	52,154
Balance at January 1, 2018	24,108	3,535	437	1,941	19,034	1,218	844	1,037	52,154
Investments	1,188	266	92	6	16	22	788	25	2,403
Retirement or removals	(1,431)	(203)	(18)	(22)	(167)	(16)	(7)	(2)	(1,866)
Translation differences	1,082	147	23	24	125	15	7	-	1,423
Change in scope of consolidation ⁽²⁾	-	-	-	5	345	-	7	-	357
Reclassifications and other movements ⁽³⁾	(40)	(125)	49	53	643	91	(801)	-	(130)
Balance at December 31, 2018	24,907	3,620	583	2,007	19,996	1,330	838	1,060	54,341
ACCUMULATED AMORTIZATION AND IMPAIRMENT LOSSES ⁽¹⁾									
Balance at January 1, 2017	(10,743)	(2,381)	(194)	(1,017)	(11,900)	(853)	-	(425)	(27,513)
Amortization/Depreciation	(1,371)	(135)	(21)	(35)	(602)	(38)	-	(37)	(2,239)
Retirement or removals	121	8	11	21	168	6	-	-	335
Provision/(reversal) impairment losses	170	(247)	-	4	5	(1)	-	-	(69)
Translation differences	1,351	270	21	51	241	15	-	-	1,949
Change in scope of consolidation	10	10	1	-	-	-	-	-	21
Reclassifications and other movements ⁽³⁾	(14)	(23)	(6)	(6)	(33)	44	-	-	(38)
Balance at December 31, 2017	(10,476)	(2,498)	(188)	(982)	(12,121)	(827)	-	(462)	(27,554)
Balance at January 1, 2018	(10,476)	(2,498)	(188)	(982)	(12,121)	(827)	-	(462)	(27,554)
Amortization/Depreciation	(1,028)	(115)	(14)	(35)	(635)	(41)	-	(37)	(1,905)
Retirement or removals	1,385	179	15	18	162	15	-	2	1,776
Provision/(reversal) impairment losses	(438)	(29)	(34)	1	14	(60)	-	-	(546)
Translation differences	(470)	(100)	(9)	(18)	(86)	(6)	-	-	(689)
Change in scope of consolidation	-	-	-	(1)	-	-	-	-	(1)
Reclassifications and other movements ⁽³⁾	19	(15)	3	-	(2)	4	-	-	9
Balance at December 31, 2018	(11,008)	(2,578)	(227)	(1,017)	(12,668)	(915)	-	(497)	(28,910)
Net balance at December 31, 2017 ⁽⁴⁾	13,632	1,037	249	959	6,913	391	844	575	24,600
Net balance at December 31, 2018 ⁽⁴⁾	13,899	1,042	356	990	7,328	415	838	563	25,431

⁽¹⁾ The Repsol Group uses the cost model by which items of property, plant and equipment are measured initially at acquisition cost. With the exception of *Upstream* activities (see Note 2), amortization is carried out on a straight-line basis, in line with its estimated useful life, once in ideal conditions of use. The estimated useful life of the main assets of *Downstream* and Corporation is broken down below:

Estimated useful life	Years
Buildings and other constructions	20-50
Machinery and plant:	
Machinery, plant and tooling	8-25
Specialized complex installations (Refining and Chemical industrial complexes):	
- Units	8-25
- Storage tanks	20-40
- Cabling and networks	12-25
Specialized complex installations (electricity and Gas):	
- Electricity generation plants	18-40
- Gas and electricity infrastructure and distribution	12-40
Transport elements	5-20
Other property, plant and equipment:	
- Furniture and fixtures	9-15

⁽²⁾ See Note 4.

⁽³⁾ In 2018 y 2017 this item includes reclassifications from "Assets under construction" mainly to "Machinery and plant", as a result of several upgrade, repair and remodeling projects of the Group.

⁽⁴⁾ At December 31, 2018 and 2017, the value of accumulated inventory impairment came to €3,532 Million and €4,023 Million, respectively.

⁽⁵⁾ Includes, in 2018 and 2017, property, plant and equipment in progress correspond to investments in the industrial complexes of the Refining and Chemicals businesses, mainly in Spain and, to a lesser extent, in Peru and Portugal.

⁽⁶⁾ Includes mainly "Land and buildings" amounting to €460 Million and €468 Million in 2018 and 2017, respectively. The section "Other" mainly includes, "Machinery and plant" and "Other property" for the amount of €103 Million and €106 Million in 2018 and 2017, respectively.

The breakdown by geography of the Group's most significant investments is detailed in Note 5.2 "Disclosures by geography and segment", which is presented using the Group's reporting model.

"Property, plant and equipment" includes €471 million and €517 million in 2018 and 2017, respectively, corresponding to the carrying value of assets acquired under finance leases. Worth particular mention among the assets acquired under finance leases at year-end 2018, are the gas pipelines and other assets for the transportation of gas in the USA and Canada, in the carrying amount of €423 million and €489 million at December 31, 2018 and 2017, respectively (see Note 15).

This heading also includes investments made by the Group in service concession arrangements in the amount of €256 million and €269 million at December 31, 2018 and 2017, respectively. These concessions revert to the State over a period of time ranging from 2019 to 2066.

Repsol capitalizes qualifying borrowing costs. In 2018 and 2017, the average activation cost was 2.69% and 2.77% and the activated expense for this item amounted to €54 million and €98 million, respectively, recorded under "Financial result" in the income statement.

The figures corresponding to non-depreciable assets, that is, land and assets under construction, amount, respectively, to €584 million and €974 million at December 31, 2018, respectively and €577 million and €929 million at December 31, 2017, respectively.

"Property, plant and equipment" includes fully depreciated items with an original carrying amount of €9,303 million and €8,898 million at December 31, 2018 and 2017, respectively.

In accordance with industry practices, Repsol insures its assets and operations worldwide. Among the risks insured are damage to property, plant and equipment, together with the subsequent interruptions in its business that such damage may cause. The Group believes that the current coverage level is, in general, appropriate for the risks inherent to its business.

(13) INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD

Movement in this consolidated balance sheet heading during 2018 and 2017 was as follows:

	€ Million	
	2018	2017
Opening balance for the year	9,268	10,176
Net investments ⁽¹⁾	5	313
Changes in scope of consolidation ⁽²⁾	(3,235)	81
Income investments accounted for using the equity method ⁽³⁾	1,053	630
Profit from discontinued operations	68	274
Dividends paid out	(597)	(676)
Translation differences	209	(913)
Reclassifications and other movements ⁽⁴⁾	423	(617)
Balance at year end	7,194	9,268

⁽¹⁾ In 2017 it mainly included capital contributions in BPRY Caribbean Ventures, LLC. and Repsol Sinopec Resources UK, Ltd.

⁽²⁾ Mainly includes the write down of the investment in Naturgy (see Note 4).

⁽³⁾ See Note 22.

⁽⁴⁾ Includes mainly the reclassification of the negative value of the equity of Petroquiriquire and Cardón (see "Value of interest in joint ventures" below).

The breakdown of the investments accounted for using the equity method is as follows:

	€ Million	
	Carrying amount of the investment ⁽²⁾	
	2018	2017
Joint ventures	7,037	5,969
Associates ⁽¹⁾	157	3,299
TOTAL	7,194	9,268

⁽¹⁾ This mainly includes the stake in Petrocarabobo, S.A. together with Oleoducto de Crudos Pesados (OCP) Ltd in 2018 and Naturgy's stake in 2017. (Naturgy's summarized financial information for 2017 is available in the 2017 Annual Accounts).

⁽²⁾ In 2018 €6,812 million correspond to *Upstream* (€5,753 million in 2017), mainly relating to joint ventures.

Joint ventures are considered those that are based on the shareholder agreements signed with each of the shareholders in each company, by virtue of which strategic operational and financial decisions require the unanimous consent of the parties sharing control. The most significant joint ventures are:

Repsol Sinopec Brasil (RSB)

Repsol, S.A. holds a 60% interest in the Repsol Sinopec Brasil (RSB) group, which comprises Repsol Sinopec Brasil, S.A. and its subsidiaries. Repsol's stake is implemented by holding 60% interest in Sinopec Brasil, S.A.

This entity's main businesses are oil and gas exploration and production, the import and export of crude oil and gas and derivative products, the storage, distribution and sale of crude oil, oil derivatives and natural gas, as well as the provision of services related to these activities. It operates mainly in Brazil.

For loans granted to the Repsol Group by RSB, see Note 8.2. For the guarantees granted by the Group to RSB, see Note 27.

YPFB Andina, S.A.

Repsol holds 48.33% of YPFB Andina, S.A., through Repsol Bolivia, S.A., which chiefly engages in oil and gas exploration, operation and marketing. It operates mainly in Bolivia.

BPRY Caribbean Ventures, LLC. (BPRY)

Repsol holds a 30% interest in BPRY Caribbean Ventures LLC (through Repsol Exploración, S.A.), which, together with its subsidiaries, engages in oil and gas exploration, operation and marketing and related activities, such as construction and operation of oil rigs, pipelines and other facilities in Trinidad and Tobago.

Petroquiriquire, S.A.

Repsol has a 40% stake in Petroquiriquire, S.A. through Repsol Exploración, S.A. Petroquiriquire is a public-private venture, partly held by Corporación Venezolana de Petróleo, S.A. (CPV) with 56% and PDVSA Social, S.A. with 4%. Its core activity is the production and sale of oil and gas in Venezuela. For information on the Group's risks and exposure in Venezuela, see Note 20.3.

Cardón IV, S.A.

Repsol has a 50% stake in Cardón IV, S.A. through Repsol Exploración, S.A. The other 50% is owned by the ENI group. Cardón IV is a gas licensee whose core activity is the production and sale of gas in Venezuela. For information on the Group's risks and exposure in Venezuela, see Note 20.3.

Repsol Sinopec Resources UK Ltd. (RSRUK)

Company held by Talisman Colombia Holdco, Ltd, and Addax Petroleum UK Limited ("Addax"), a subsidiary of the Sinopec Group, with a 51% and 49% stake, respectively, and whose core business is the exploration and exploitation of oil and gas in the North Sea. This joint venture is governed by a shareholder agreement that requires the unanimous consent of both shareholders for all significant financial and operating decisions. For information on the arbitration procedure concerning the purchase by Addax of its 49% stake in RSRUK, see Note 14.

Equion Energía Ltd.

Equion is a company held 51% and 49% by Ecopetrol, S.A. and Talisman Colombia Holdco, Ltd, respectively. Equion mainly explores for, researches, exploits, develops and sells oil and gas and derivative products in Colombia. Based on a shareholder agreement with Ecopetrol, S.A., Repsol treats Energía Ltd. as one of its joint ventures.

The tables below provide summarized financial information for these investments, prepared in keeping with IFRS-EU accounting policies, as detailed in Note 2 and reconcile these disclosures with the amounts at which these investments are carried in the Group's consolidated financial statements:

Income from joint ventures:

€Million	RSB		YPFB Andina		BPRY		Petroquiriquire		Cardon IV		RSRUK ⁽⁵⁾	Equion	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2018	2017
Operating income	1,560	1,353	217	230	2,162	1,504	277	342	570	725	1,253	399	403
Amortization and impairment provisions ⁽¹⁾	(253)	(399)	(96)	(151)	(990)	(739)	(122)	(1,068)	(650)	(731)	(336)	(169)	(142)
Other operating expenses ⁽²⁾	(782)	(632)	(139)	(84)	(1,037)	(952)	(77)	(130)	189	(231)	186	(34)	(49)
Operating income	525	322	(18)	(5)	135	(187)	78	(856)	109	(237)	1,103	196	212
Net interest	128	98	7	5	(95)	(103)	(37)	(29)	(189)	(173)	-	3	(1)
Other finances	15	(16)	(10)	(10)	(10)	(18)	(5)	4	(5)	(83)	(146)	2	(5)
Income from investments accounted for using the equity method - net of taxes	23	19	13	12	-	-	-	-	-	-	-	-	-
Net income before tax	691	423	(8)	2	30	(308)	36	(881)	(85)	(493)	957	201	206
Tax expense ⁽³⁾	(238)	(80)	6	7	(93)	(24)	193	338	(282)	51	373	(84)	32
Net income attributable to the parent	453	343	(2)	9	(63)	(332)	229	(543)	(367)	(442)	1,330	117	238
Repsol stakeholding	60%	60%	48%	48%	30%	30%	40%	40%	50%	50%	51%	49%	49%
Consolidation income	272	206	(1)	4	(19)	(100)	92	(217)	(184)	(221)	678	57	117
Dividends	283	132	1	-	-	5	247	140	-	-	-	-	64
Other comprehensive income ⁽⁴⁾	193	(574)	21	(61)	29	(75)	(22)	(5)	(18)	14	(5)	11	(23)

Note: The itemized amounts below feature the percentage stake of the Group in each of the companies:

- (1) In 2018 Petroquiriquire and Cardón IV include the impairment of property, plant and equipment and accounts receivable from PDVSA amounting to €324 million (€734 million in 2017).
- (2) In 2018 and 2017 RSB includes operating lease expenses for the year amounting to €126 million and €123 million, respectively, arising mainly from the floating production platforms (FPSO) lease commitments secured by the Group (see Note 27).
- (3) Venezuela includes the impact of the cancellation of deferred tax assets as a consequence of Presidential Decree No. 35 (see Note 20.3), compensated by the positive tax impacts arising from translation differences.
- (4) Relates to "Income and expenses recognized directly in equity" and "Amounts transferred to the consolidated income statement" in the consolidated statement of recognized income and expenses.
- (5) The value of the investment in 2017 was nil.

Value of interest in joint ventures:

€Million	RSB		YPFB Andina		BPRY		Petroquiriquire		Cardón IV		RSRUK ⁽⁵⁾	Equion	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2018	2017
Assets													
Non-current assets	7,951	7,781	867	876	7,660	8,055	210	491	1,009	1,409	3,543	252	537
Current assets	473	402	445	324	797	865	3,926	3,417	222	899	1016	541	88
Cash and cash equivalents	35	46	53	124	64	73	13	12	41	60	26	50	48
Other current assets	438	356	392	200	733	792	3,913	3,405	181	839	990	491	40
Total Assets	8,424	8,183	1,312	1,200	8,457	8,920	4,136	3,908	1,231	2,308	4,559	793	625
Liabilities													
Non-current liabilities	648	662	235	205	5,910	6,051	852	789	1,803	2,112	2,857	124	145
Financial liabilities	-	229	-	-	1810	1839	698	482	1,410	2,057	-	-	-
Other non-current liabilities ⁽¹⁾	648	433	235	205	4,100	4,212	154	307	393	55	2,857	124	145
Current liabilities	528	609	121	77	345	702	4,284	3,635	388	623	283	134	89
Financial liabilities	213	229	-	-	-	-	-	-	-	-	-	-	-
Other current liabilities	315	380	121	77	345	702	4,284	3,635	388	623	283	134	89
Total Liabilities	1,176	1,271	356	282	6,255	6,753	5,136	4,424	2,191	2,735	3,140	258	234
NET ASSETS	7,248	6,912	956	918	2,202	2,167	(1,000)	(517)	(960)	(427)	1,419	535	391
Repsol stakeholding	60%	60%	48%	48%	30%	30%	40%	40%	50%	51%	51%	49%	49%
Share in net assets ⁽²⁾	4,349	4,147	459	441	661	650	(400)	(207)	(480)	(214)	724	262	192
Capital gains / (losses)	-	-	-	-	-	-	-	-	-	-	-	-	-
Carrying amount of the investment	4,349	4,147	459	441	661	650	-	-	-	-	724	262	192

Note: The itemized amounts below feature the percentage stake of the Group in each of the companies:

- (1) In 2018 and 2017, RSB includes non-current provisions for dismantling obligations for the amount of €101 million and €102 million.
- (2) Petroquiriquire: In 2018 and 2017 a provision was recorded for contingencies and expenses rose to €400 million and €207 million at December 31, respectively, corresponding to the negative value of Petroquiriquire's equity (See Note 14).
Cardón IV: The value of the investment is made equal to zero by deducting the carrying amount from the loan granted to Cardón IV which is considered a net investment (see Note 8.1).
- (3) The value of the investment in 2017 was nil.

Lastly, and regarding joint arrangements and associates that are material or of significant relative importance: (i) there are no legal restrictions on the capacity to transfer funds; (ii) the financial statements that have been used refer to the same date as the financial statements of Repsol, S.A.; and (iii) there are no unrecognized losses.

(14) CURRENT AND NON-CURRENT PROVISIONS

14.1) Provisions

At December 31, 2018 and 2017, the balance and changes in these items during 2018 and 2017 are as follows:

	€ Million				
	Provisions for risks and current/non-current expenses				
	Field decommissioning	Onerous contracts	Judiciary and Tax ⁽⁴⁾	Other provisions	Total
Balance at January 1, 2017	2,335	1,159	1,501	2,004	6,999
Contributions charged to results ⁽¹⁾	91	60	340	220	711
Applications with credits to income ⁽²⁾	(85)	(128)	(144)	(86)	(443)
Cancellation due to payment ⁽³⁾	(89)	(105)	(43)	(144)	(381)
Changes in scope of consolidation	(1)	-	-	-	(1)
Translation differences	(242)	(112)	(149)	(119)	(622)
Reclassifications and other ⁽⁵⁾	166	(62)	8	(1,028)	(916)
Balance at December 31, 2017	2,175	812	1,513	847	5,347
Contributions charged to results ⁽¹⁾	85	55	677	244	1,061
Applications with credits to income ⁽²⁾	(93)	(54)	(397)	(64)	(608)
Cancellation due to payment ⁽³⁾	(67)	(85)	(132)	(162)	(446)
Changes in scope of consolidation	16	-	7	36	59
Translation differences	50	34	52	12	148
Reclassifications and other ⁽⁵⁾	(204)	(31)	(224)	136	(323)
Balance at December 31, 2018	1,962	731	1,496	1,049	5,238

⁽¹⁾ Includes €186 million and €155 million reflecting the discounting to present value of provisions in 2018 and 2017. In 2018, a change in the discount rate of +/-50bp would have the effect of decreasing/increasing provisions for dismantling costs by -€98 million and €110 million, respectively. In 2018 the endowments of a fiscal nature and in "Other provisions" associated to consumption of CO₂ allowances are worthy of note (See Note 31).

⁽²⁾ In 2018 it includes mainly the reversals of provisions of a fiscal nature, among others those of Ecuador, after the end of the existing disputes in fiscal matters (see Note 23). In 2017 it included the reversal of the provision for *Ship or Pay* in Ecuador.

⁽³⁾ In 2018 it mainly includes, the payment derived from the transactional agreement that has put an end to the "Galley" pipeline lawsuit (see section 2 of this Note) and in "Other provisions" for the payments that cancel the provisions for workforce restructuring. In 2017, this heading mainly reflects, under "Onerous contracts" payments for drilling platform leases and other long-term onerous contracts, and, under "Other provisions", personnel restructuring payments.

⁽⁴⁾ See section 14.2 and Note 23.

⁽⁵⁾ In 2018 "Other provisions" includes the update of the negative value of the investment in Petroquiriquire (see Note 13) and in 2017 included the reversal by €911 million under the heading "Investments accounted for using the equity method" (see Note 13) of the provision for obligations associated with the net disbursements foreseen in the stake in RSRUK for the operational improvements and efficiencies obtained in the operation of this asset since its acquisition in 2015.

The item "Other provisions" includes mainly the provisions recognized to cover obligations deriving from environmental risks (see Note 31), pension commitments (see Note 29), consumption of CO₂ allowances (Note 31), employee incentive schemes (Notes 29), provisions for workforce restructuring¹ and other provisions to cover obligations arising from the Group's interests in companies.

The following table provides an estimation of maturities of provisions at year-end 2018.

	€ Million			
	Less than one year	From 1 to 5 years	> 5 years and/or	Total
Provisions for decommissioning fields	136	579	1,247	1,962
Provision for onerous contracts	69	328	334	731
Provision for legal and tax risks	34	1,134	328	1,496
Other provisions	261	657	131	1,049
TOTAL⁽¹⁾	500	2,698	2,040	5,238

⁽¹⁾ Due to the nature of the risks provisioned, these timing assessments are subject to uncertainty and changes that are beyond the Group's control. As a result, this schedule could change in the future according to the circumstances underpinning the estimates.

¹ In 2017 it includes a provision for workforce restructuring calculated under the conditions agreed in the framework of the Collective Dismissal in Spain for the amount of €111 million, for the current value of the estimated future disbursements to be made to the Public Treasury. In 2017, payments under this item amounted to €55 Million. As recorded in the minutes of proceedings of the Oversight Committee for the Seventh Framework Agreement signed on June 8, 2016 between union representatives and Repsol's management, it was decided that the most suitable mechanism to implement the workforce downsizing in Spain was to set in motion a collective dismissal process.

14.2) Disputes

The Group's general criterion is to recognize provisions for proceedings that it deems it is likely to lose and does not recognize provisions when the risk of losing the case is considered possible or remote. The amounts to be provisioned are calculated on the basis of the best estimate of the amount needed to settle the lawsuit in question, underpinned, among others, by a case-by-case analysis of the facts, the legal opinions of its in-house and external advisors and prior experience in these matters.

As of December 31, 2018, Repsol's consolidated balance sheet includes provisions for proceedings in the ordinary course of its activities totaling €106 Million (€98 Million as of December 31, 2017). The most significant legal or arbitration proceedings and their status on the date these Consolidated Financial Statements were drawn up are summarized below.

United Kingdom

Addax arbitration in relation to the purchase of Talisman Energy (UK) Limited (TSEUK)

On July 13, 2015, Addax Petroleum UK Limited ("*Addax*") and Sinopec International Petroleum Exploration and Production Corporation ("*Sinopec*") filed a "*Notice of Arbitration*" against Talisman Energy Inc. (now known as "*ROGCI*") and Talisman Colombia Holdco Limited ("*TCHL*") in connection with the purchase of 49% of the shares in TSEUK (now known as "*RSRUK*", see Note 13). ROGCI and TCHL filed their response to the *Notice of Arbitration* on October 1. On May 25, 2016, Addax and Sinopec filed the Statement of Claim, in which they seek, in the event that their claims were confirmed in their entirety, repayment of their initial investment in RSRUK, which was executed in 2012 through the purchase of 49% of RSRUK from TCHL, a wholly-owned subsidiary of ROGCI, together with any additional investment, past or future, in such company, and further for any loss of opportunity, and which they estimate in a total approximate amount of \$5,500 million. The Court of Arbitration has decided, among other procedural matters, to split the proceedings into two phases. The oral hearing on liability issues took place between January 29 and February 22, 2018 and between June 18 and 29, 2018, the latter being limited to the questioning of the experts of each party. The hearing on the oral findings was held from July 9 to 11, 2018 and the written findings were presented on September 29. The procedure is now ready for the Court to issue its ruling. Repsol maintains its opinion that the claims included in the Statement of Claim are without merit.

"Galley" pipeline lawsuit

In August 2012 there was damage and a leak in the *Galley* pipeline, in which RSRUK at that time had a 67.41% stake. In September 2012, RSRUK filed a claim seeking coverage of the damages and losses sustained as a result of the incident from the insurance company Oleum Insurance Company ("*Oleum*"), a wholly-owned subsidiary of ROGCI, which in turn owns 51% of RSRUK. In July 2014, RSRUK presented Oleum with a \$351 Million claim for property damage and business disruption.

On August 8, 2016, RSRUK filed a request for arbitration in London, and in June 2017 the Court split the proceeding into in two stages (liability and, as appropriate, *quantum*). By decision dated May 10, 2018, the Court concluded that the policy did not exclude coverage for material damage arising from the incident. In September 2018, the claimant revised the amount claimed to \$311 Million. On November 8, 2018, the parties signed a settlement agreement which put an end to the dispute and under which *Oleum* paid RSRUK \$125 Million, with no significant impact on the Group's results as this litigation had been previously provisioned.

United States of America

The Passaic River / Newark Bay lawsuit

The events underlying this litigation related to the sale by Maxus Energy Corporation ("*Maxus*") of its former chemicals subsidiary, Diamond Shamrock Chemical Company ("*Chemicals*") to Occidental Chemical Corporation ("*OCC*"). Maxus agreed to indemnify Occidental for certain environmental contingencies relating to the business and activities of Chemicals prior to September 4, 1986. After that (1995), Maxus was acquired by YPF S.A. ("*YPF*") and subsequently (in 1999) Repsol S.A. acquired YPF.

In December 2005, the New Jersey Department of Environmental Protection (“DEP”) and the New Jersey Spill Compensation Fund (together, the “State of New Jersey”) sued Repsol YPF S.A. (today called Repsol, S.A., hereinafter, “Repsol”), YPF, YPF Holdings Inc. (“YPFH”), CLH Holdings (“CLHH”), Tierra Solutions, Inc. (“Tierra”), Maxus and OCC for the alleged contamination caused by the former Chemicals old plant which allegedly contaminated the Passaic River, Newark Bay and other bodies of water and properties in the vicinity.

On September 26, 2012 OCC lodged a Second Amended Cross Claim (the “Cross Claim”) against Repsol, YPF, Maxus, Tierra and CLHH (all of which together “the Defendants”). Between June 2013 and August 2014, the Defendants signed different agreements with the State of New Jersey, in which they do not acknowledge liability and through certain payments in exchange for the withdrawal by the State of New Jersey of its proceedings against them.

On April 5, 2016 the Presiding Judge decided to dismiss OCC’s suit against Repsol in full. The decision can be appealed. On June 16, 2016, the Special Master allowed the Motion for Summary Judgment presented by Repsol with regard to its claim against OCC for the \$65 million paid as part of the settlement reached with the State of New Jersey. On January 30, 2017, OCC appealed the Special Master’s recommendation. On June 17, 2016, Maxus filed for bankruptcy protection before the United States Bankruptcy Court for the District of Delaware, also seeking release from its main litigation liability, a petition the Court must rule on. On October 19, 2017, the presiding Judge decided to uphold all of the recommendations issued by the Special Master, thereby upholding the Motion for Summary Judgment presented by Repsol in full with regard to its claim against OCC for the \$65 million. On November 22, 2017, OCC was formally condemned to pay the \$65 million plus interest and expenses. On September 14, 2018, Maxus (assuming right of ownership of the claim on behalf of OCC) and OCC formalized an appeal against these rulings. On June 14, 2018, the Maxus Bankruptcy Administration filed a lawsuit (“New Claim”) in the Federal Bankruptcy Court of the State of Delaware against YPF, Repsol and certain subsidiaries of both companies for the same claims as those contained in the Cross Claim. On October 19, 2018, Repsol filed the Motion to Dismiss. On February 15, 2019, the Federal Bankruptcy Court rejected the Motion to Dismiss. Repsol maintains the view, as has been shown in the Cross Claim, that the claims made in the New Claim are unfounded.

(15) OTHER NON-CURRENT LIABILITIES

A breakdown of “Other non-current liabilities” can be found below:

	€ Million	
	2018	2017
Obligations under finance leases	1,427	1,346
Guarantees and deposits ⁽¹⁾	121	120
Deferred income ⁽²⁾	44	47
Others ⁽³⁾	304	286
TOTAL	1,896	1,799

⁽¹⁾ This item includes, among others, deposits received by Repsol Butano, S.A. from the users of gas bottles in accordance with applicable legal regulations. These amounts are refundable when the corresponding contracts are cancelled.

⁽²⁾ Includes the amounts associated to the CO₂ emission allowances granted free of charge (see Note 11).

⁽³⁾ In 2018 and 2017 this includes €4 Million in capital grants.

The breakdown of the amounts payable under finance leases at December 31, 2018 and 2017 is as follows:

	€ Million			
	Lease payments		Value minimum lease payments	
	2018	2017	2018	2017
During following year	201	202	197	195
From 2nd to 5th year, included	797	732	613	553
After 6th year	2,081	2,112	814	793
	3,079	3,046	1,624	1,541
Less:				
Future finance costs	(1,455)	(1,505)		
Total debt on financial leases	1,624	1,541		
Non-current	1,427	1,346		
Current	197	195		

The effective average interest rate on obligations under finance leases at December 31, 2018 was 8.84% (8.93% at December 31, 2017).

The main liabilities related to finance leases shown in this heading at December 31 are as follows:

- On May 15, 2006 the Group signed an agreement with Emera Brunswick Pipeline Company, Ltd. for the transportation of natural gas through a pipeline that connects the Canaport plant with the US border for a period of 25 years (renewable for up to an additional 30 years). It came into effect in July 2009. At December 31, 2018 and 2017, the amount recognized in this heading amounted to \$443 million (\$387 million) and \$454 million (\$379 million), respectively.
- In addition, on April 21, 2006 the Group signed an agreement with Maritimes & North East Pipeline for the transportation of Canadian natural gas from the Canadian border to Dracut for an initial term of 25 years (renewable for up to an additional 30 years). It initially came into effect in March 2009. At December 31, 2018 and 2017, the amount recognized in this heading was \$1,105 million (€965 million) and \$1,136 million (€947 million), respectively.

CURRENT ASSETS AND LIABILITIES

(16) INVENTORIES

The breakdown of "Inventories" at December 31, 2018 and 2017 is as follows:

	€ Million	
	2018	2017
Crude oil and natural gas	1,640	1,244
Finished and semi-finished products	2,426	2,252
Materials and other stocks ⁽¹⁾	324	300
TOTAL ⁽²⁾	4,390	3,797

⁽¹⁾ Includes CO₂ allowances or a total of 2,704 thousand tons valued at €79 million.

⁽²⁾ Includes provisions for inventory impairment losses of €74 million and €32 million at December 31, 2018 and 2017, respectively. The impairment provisions recognized and reversed amounted to €-55 million and €13 million, respectively (-€10 million recognized and €6 million reversed in 2017).

At December 31, 2018, the balance of *commodity* inventories, related to *trading* activity, at fair value less costs to sell amounted to €342 million, and the effect of their measurement at market value represented income of €7 million. Recoverable amounts are calculated using market information and benchmarks. Specifically, *forward* price/benchmark price curves provided by the market as well as a benchmark time horizon for pricing purposes. The main variables used are: prices taken from official publications (Platt's, Argus, OPIS, the brokerage community...) and historic or *mark-to-market* premiums, if available.

In the assessment of refinery products, production costs are allocated in proportion to the selling price of the related products (*iso margin* method) due to the existing difficulty to recognize the conversion costs of every product.

At December 31, 2018 and 2017, the Repsol Group complies with the legal requirements regarding minimum safety stocks established under prevailing legislation (see Appendix III) through its Spanish Group companies.

(17) TRADE RECEIVABLES AND OTHER RECEIVABLES

The breakdown of this heading at December 31, 2018 and 2017 is as follows:

	€ Million	
	2018	2017
Customer receivables for sales and services (gross amount)	3,947	4,152
Insolvency provisions	(189)	(173)
Customer receivables for sales and services	3,758	3,979
Receivables on traffic activities and other receivables	917	943
Receivables from operations with staff	41	41
Public administrations	303	198
Trade operation derivatives (Note 9)	241	60
Other receivables	1,502	1,242
Current tax assets	845	691
Trade receivables and other receivables	6,105	5,912

The changes in the provision for doubtful accounts in 2018 and 2017 were as follows:

	€ Million	
	2018	2017
Opening balance for the year	173	131
Impact of new standards (Note 2.2.2)	71	-
Adjusted opening balance	244	131
Provision/(reversal) impairment losses ⁽¹⁾	(21)	57
Changes in scope of consolidation	28	—
Translation differences	5	(9)
Reclassifications and other movements	(67)	(6)
Balance at year end	189	173

⁽¹⁾ It is recognized under "Provisions for Impairment and Losses on Disposal of Assets" in the balance sheet.

(18) TRADE PAYABLES AND OTHER PAYABLES

Repsol had the following accounts payable classified under "Trade payables and other payables":

	€ Million	
	2018	2017
Suppliers	3,244	2,738
Obligations under finance leases (Note 15)	197	195
Payables to public administrations	538	656
Derivative financial instruments (Note 8)	250	215
Others	3,521	3,214
Other receivables	4,506	4,280
Current tax liabilities	271	292
TOTAL	8,021	7,310

Information regarding deferrals of payments settled with suppliers in Spain

The disclosures made in respect of the average payment term for trade payables are presented in keeping with the stipulations of additional provision three of Spanish Law 15/2010 of July 5 (as amended by means of final provision two of Law 31/2014, of December 3) and prepared in keeping with the related resolution issued by the ICAC (acronym in Spanish for the Audit and Accounting Institute) in January 2016.

The information regarding the average term of payment to the suppliers of the Group's Spanish companies in 2018 pursuant to the sole additional provision of the above-mentioned resolution is as follows:

	Days	
	2018	2017
Average payment period to suppliers ⁽¹⁾	23	25
Ratio of paid operations ⁽²⁾	24	25
Ratio of operations pending payment ⁽³⁾	26	28
	Amount (€ Million)	
Tax payments made	10,757	10,995
Total pending payments	563	521

⁽¹⁾ $((\text{Ratio of paid transactions} * \text{total amount of payments made}) + (\text{Ratio of outstanding payment transactions} * \text{total outstanding payments})) / (\text{Total payments} + \text{total outstanding payments})$.

⁽²⁾ $\Sigma (\text{number of days of payment} * \text{amount of the transaction paid}) / \text{Total payments}$.

⁽³⁾ $\Sigma (\text{number of days outstanding payment} * \text{amount of the transaction outstanding payment}) / \text{Total outstanding payments}$.

According to the transitional provision of Law 15/2010, the maximum legal payment deadline is 60 days.

INCOME

(19) OPERATING INCOME

19.1) Sales and services rendered and other income

The distribution of revenue¹ from ordinary activities ("Sales" and "Services rendered and other income") per country in 2018 is shown below:

	€ Million	
	2018	2017
Spain	25,332	20,727
United States	3,095	2,898
Peru	2,941	2,572
Portugal	2,673	2,403
Other	15,832	13,068
Total ⁽¹⁾⁽²⁾	49,873	41,668

⁽¹⁾ The distribution by geography has been drawn up depending on the markets to which the sales or income are destined.

⁽²⁾ The distribution of the target markets are: i) E.U. euro zone: €33,514 million (€29,351 million in 2017), (ii) EU non-euro zone: €1,066 million (€4,660 million in 2017), and (iii) Other countries: €15,293 million (€7,657 million in 2017).

In 2018, ordinary income from Upstream activities amounted to €5,182 million, while that of the Downstream segment totaled €46,712 million (€4,093 million and €39,211 million, respectively, in 2017).² In *Upstream*, income was generated, either from the sale of crude oil, condensed oil and LPG and natural gas, or from the provision of a service for the operation of resources, depending on the contracts in force in each of the countries in which the Group operates. In *Downstream*, income is generated mainly from the marketing of oil products (petrol, fuel oil, LPG, asphalt, lubricants, etc.), petrochemicals (ethylene, propylene, polyolefins and interim products), gas (natural gas and LNG) and electricity.

This heading includes excise tax and similar taxes levied on the production and/or sale of oil and gas products amounting to €6,295 million in 2018 and €6,310 million in 2017.

In sales in which the Group acts as an agent, the Group does not recognize all the income and expenses associated with the transaction, recognizing as revenue only the margin received or pending to receive.

19.2) Income from reversal of impairment provisions and on disposal of assets

These headings include the following items:

	€ Million	
	2018	2017
Income from reversal of impairment provisions (Note 14 and 20)	175	802
Earnings arising from the disposal of assets	102	62
TOTAL	277	864

19.3) Other operating income

This item reflects, inter alia, income recognized on the remeasurement of trade derivatives (see Note 9) and the reversal of provisions, taken to the income statement (see Note 14).

This also includes grants released to income for the amount of €20 million and €23 million in 2018 and 2017, respectively.

¹⁾ Income is recognized based on compliance with performance obligations to customers. Income from ordinary activities represents the transfer of committed goods or services to customers for an amount that reflects the consideration to which the entity expects to be entitled to a right to exchange those goods and services. Five steps are differentiated in income recognition: i) Identify the customer's contract(s), ii) Identify performance obligations, iii) Determine the transaction price, iv) Assign the transaction price to the different performance obligations and v) Income recognition according to the fulfillment of each obligation.

²⁾ For additional information see Appendix II

19.4) Supplies

“Supplies” includes the following items:

	€ Million	
	2018	2017
Purchases	38,481	30,420
Variation in the inventories	(425)	(169)
TOTAL	38,056	30,251

“Supplies” includes excise tax and similar taxes levied on the production and/or sale of oil and gas products disclosed in section “Sales and Services rendered and other income” of this note.

19.5) Personnel expenses

“Personnel expenses” includes the following items:

	€ Million	
	2018	2017 ⁽¹⁾
Remuneration and other	1,456	1,481
Social Security costs	418	411
TOTAL	1,874	1,892

⁽¹⁾ In 2017 the heading “Salaries and others” included the workforce restructuring charges deriving mainly from the collective redundancy program in Spain (see Note 14), the adjustments for workforce restructuring in other countries and the changes made to the management team.

19.6) Exploration expenses

The geographic distribution of costs taken to the income statement in respect of exploration activities (see Note 2) is as follows:

	€ Million	
	2018	2017
Europe	213	136
America	143	236
Africa	146	54
Asia	108	34
Oceania	17	87
TOTAL	627	547

Exploration costs amounted to €627million and €547 million in 2018 and 2017, of which €227 million and €177 million, respectively, are recognized under “Depreciation and amortization of non-current assets” and €298 Million and €478 Million under “Impairment losses recognized and losses on disposal of non-current assets” in 2018 and 2017, respectively. In addition, in 2017 reversals of impairment were recognized for an amount of €147 million under “Reversal of impairment losses and gains on disposal of non-current assets”.

For more information, see the Information on oil and gas exploration and production activities (non-audited information) at (www.repsol.com).

19.7) Impairment losses recognized and losses on disposal of non-current assets

These headings include the following items:

	€ Million	
	2018	2017
Impairment provisions (Notes 10.3, 17 and 20) ⁽¹⁾	1,241	901
Losses arising from the disposal of assets	40	21
TOTAL	1,281	922

⁽¹⁾ Includes the provision for credit risk impairment of trade and other receivables and other non-current assets (€300 million in 2018 mainly for Venezuela, see Notes 10.3 and 20.3).

19.8) Other operating expenses

“Other operating expenses” includes the following items:

	€ Million	
	2018	2017
Operator expenses ⁽¹⁾	605	538
Freelance Services	506	448
Operating leases	307	313
Taxes	423	367
Repair and conservation	271	300
Remeasurement of trade derivatives	126	112
Consumption of CO ₂ ⁽²⁾ emission allowances	116	69
Others ⁽³⁾	1,342	1,134
TOTAL	3,696	3,281

⁽¹⁾ Includes, among other items, the cost of agency services at the facilities of Compañía logística de Hidrocarburos CLH, S.A., product bottling, storage, loading, transportation and dispatch services.

⁽²⁾ See Note 31.2.

⁽³⁾ This includes, among others, the provisions (see Note 14).

Operating lease expenses correspond to a large number of contracts, none of which are individually considered significant, although the lease contracts for service stations (Spain, Portugal, Italy, Mexico and Peru), as well as land and real estate leases, transport vessels and operating platforms in Upstream. See Note 2.3 for the new regulation for leases applicable in 2019.

The future minimum payments due to the lease portfolio with a term of more than one year in force at December 31, 2018 amounted to €1,576 million (2019: €205 million, 2020: €203 million, 2021: €180 million, 2022: €156 million, 2023: €134 million and subsequent years: €698 million).

(20) ASSET IMPAIRMENT

20.1) Asset impairment test

The Group has assessed the recoverable amount of cash-generating units as per the methodology described in Note 3 and the predictable economic scenarios of its business plans. The main hypotheses are described below:

a) Price trend:

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Subsequent
Brent (\$/ barrel)	65	70	75	81	86	89	92	94	97	100	103	106	+2%
WTI	60	65	70	76	81	84	87	89	92	95	98	101	+Brent - \$5/bbl
HH (\$/ Mbtu)	3.3	3.5	3.5	3.6	4.0	4.3	4.7	5.0	5.3	5.4	5.6	5.9	+2%

b) Discount rates:¹

	2018	2017
UPSTREAM ⁽¹⁾		
Latin America-Caribbean	7.7% - 37.6%	7.8% - 30%
Europe, Africa and Brazil	6.9% - 11.8%	7.1% - 12%
North America	8.2% - 8.3%	8.3% - 8.4%
Asia and Russia	8.2% - 10.7%	8.3% - 11.2%
DOWNSTREAM ⁽²⁾	3.7% - 8.7%	4.2% - 9.3%

⁽¹⁾ Discount rates in US dollars.

⁽²⁾ Discount rates in euros and US dollars.

In 2018, provisions have been recognized, net of reversals, for the impairment of value of assets amounting to -€827 million² (-€296 million in 2017³), which correspond mainly to (i) intangible assets (-€96 million, see Note 11); (ii) items of property, plant and equipment and provisions for onerous contracts (-€490 million, see Notes 12 and 14), and (iii) impairment losses on investments accounted for using the equity method (-€241 million, see Note 13).

Upstream Assets

The Group has written its *Upstream* assets down for net impairment by €793 million. These charges mainly affect:

- North America (-€479 million): Impairment of value in North American assets mainly as a result of lower volumes due to lower activity and lower expected gas prices.
- Latin America (-€146 million): impairment losses on Venezuelan assets (-€205 million) due to the increase in risk and the discount rate (37.6% versus 30% in 2017), and the review of the business plans for the assets; partially offset by the reversal of impairment losses on Colombian assets (€107 million) due to the improvement in volumes and the favorable evolution of the business plans.
- Asia and Russia (-€128 million): mainly impairment of assets in South East Asia (-€82 million) due to delays in exploratory block development projects.

The recoverable value of the above assets came to €11,476 million.

In 2017, net impairment losses of -€293 million were recorded, mainly in North America +€127 million (due to the increase in expected production volumes in Canada and the US, and Latin America -€297 Million (due to the increase in discount rates in Venezuela as a result of the evolution of country risk indicators).

Downstream Assets

Despite the increase in the assumptions for raw material prices, energy and CO₂ allowances, no significant impairment has been recorded in the segment in 2018, just as in 2017.

¹ The main components of the discount rate are as follows:

- The risk-free interest rate for dollar flows matches that for 10-year U.S. Treasuries; for euro flows, the risk-free interest rate matches the 10-year German sovereign bond;
 - The country risk uses i) the spread between the sovereign bonds in euros or U.S. dollars and the debt issued by Germany (euros) and the U.S. (U.S. dollars), respectively, ii) the EMBI (Emerging Markets Bond Index) published by JP Morgan and iii) the country risk information published by three external providers (Country Risk Rating (IHS Global Insight), International Country Risk Guide (PRS Group) and Business Monitor (Fitch Group), all adjusted by specific business risks;
 - A different credit risk premium is used depending on the currency (EUR and USD); and
 - With respect to betas or business risk premiums, they are calculated specifically from 5-year historical series of comparable companies, for the Upstream, Refining and Marketing, Chemical, LPG and Gas & Power businesses.
- In 2018, in comparison to 2017, there were no material changes in country risk year-on-year or in inherent business risk, except in the case of Venezuela.

² In addition, "Provisions for Impairment and Disposal of Assets" includes provisions for bonds, G&G and exploratory surveys amounting to €164 million in 2018 (€167 million in 2017), associated with contracts for which no technically or economically viable project exists at this date.

³ In 2017 it corresponds mainly to intangible fixed assets (-€73 million), property, plant and equipment and provision for onerous contracts (+€134 million) and investments accounted for using the equity method (-€357 million).

20.2) Sensitivities

A change in the estimated future price curves and used discount rates would affect the amount of the impairment of the Repsol Group assets. The principal sensitivities to these variations without bearing in mind the rebalancing of other related variables or the possible adjustments of the operative plans, which would allow the negative impact of the above mentioned variations to be mitigated, are indicated in the table below:

	Increase (+) / decrease (-)	€ Million	
		Operating income	Net income
Change in oil and gas prices	+10%	639	610
	-10%	(1,049)	(949)
Change in discount rate	+100 p.b.	(310)	(269)
	-100 b.p.	332	276

20.3) Geopolitical risks¹

Repsol is exposed to risks arising in countries that may present specific economic, social and political circumstances that may have a negative impact on its businesses (unexpected regulatory changes; highly volatile exchange rate; high inflation; possibility of economic and financial crises or political instability or social tensions and public unrest, etc.).

According to the ratings in the *Country Risk Rating of IHS Global Insight* and the *Country Risk Score of the Economist Group*, the Repsol Group is exposed to a particular geopolitical risk in Venezuela, Libya and Algeria. On the other hand, in 2018, Vietnam has been added because the activities have been affected by the territorial conflict in the South China Seas.

Venezuela

Repsol's total equity exposure² to Venezuela at December 31, 2018 amounts to approximately €456 million and mainly comprises the financing extended to the Venezuelan subsidiary companies^{3,4} (see Note 8). Exposure was significantly lower than at December 31, 2017 (€1,480 million), due to the write-downs recognized during 2018 on the assets held by the Repsol Group in the country.

Repsol has had a presence in Venezuela since 1993 and currently has a presence in the country through its stake in the following companies: (i) Mixed crude oil companies (E.M.): 40% in E.M. Petroquiriquire, S.A. (Quiriquire, Menegrande, Barúa Motatán blocks, all until 2031) and 11% in E.M. Petrocarabobo, S.A. Carabobo block, until 2035⁵) and (ii) gas licensee companies: 60% in Quiriquire Gas (until 2027) and 50% in Cardón IV, S.A. (until 2036). All these investments are accounted for using the equity method (see Note 13), the US dollar being the functional currency, except in the case of Quiriquire Gas, where the bolivar is the reference currency for its operating income and expenses.⁶ In 2018, Repsol's average production in Venezuela reached 62 thousand barrels of oil equivalent/day and its proved reserves at December 31, amounted to 514 million barrels of oil equivalent.

¹ When assessing its assets for the impairment test, Repsol considers the geopolitical risks it is exposed to by estimating cash flows or calculating its discount rates.

² Equity exposure relates to net consolidated assets exposed to own risks of the countries reported.

³ Repsol holds a loan with Cardón IV, which matures annually and that can be extended by the shareholders (Repsol and Eni), which has therefore been considered as part of the net investment of this company.

⁴ In October 2016 Petroquiriquire, S.A., Repsol and PDVSA signed a range of agreements to shore up the financial structure of the mixed-ownership company and enable it to implement its Business Plan. The agreements involved (i) provision by Repsol of a credit facility for up to \$1,200 million, backed by a guarantee given by PDVSA, to be used to pay past dividends owed to Repsol and for Petroquiriquire's capital and operating expenditures; and (ii) a commitment given by PDVSA to pay for oil & gas production of the mixed-ownership company via transfer to Petroquiriquire, S.A. of payments arising from crude oil sale contracts to *offtakers* or through outright cash payments in an amount sufficient for the mixed-ownership to meet its capital and operating expenditures to the extent not covered by the financing from Repsol, and to pay Repsol's dividends generated in each financial year and its debt service obligations with Repsol. The financing granted by Repsol and the commitments assumed by PDVSA are governed by the Laws of the State of New York, and any disputes that should arise shall be submitted to arbitration in Paris in accordance with the rules of the International Chamber of Commerce. Drawdowns under the credit facility are subject to compliance by Petroquiriquire and PDVSA of certain conditions precedent, and the terms and conditions include the *covenants*, breach clauses and acceleration or early termination clauses that are customary in such transactions. Breach by PDVSA of its obligations under the guarantee, if there is a default by Petroquiriquire, could enable PDVSA's creditors and bondholders to declare *default and acceleration* of the rest of its financial debt. In addition, the agreement includes other elements such as a mechanism for offsetting of reciprocal debts between Petroquiriquire, S.A. and PDVSA. At December 31, 2018, drawdowns for this credit facility amounted to \$800 million.

⁵ Renewable for an additional 15 years.

⁶ The investment in Quiriquire Gas is nil, so any effect derived from the translation from Bolivar to euro is not significant.

The oil and gas industry is very important to the Venezuelan economy, accounting for 25% of GDP and 95% of exports.¹ Operations in this sector in Venezuela are carried out in a framework of collaboration between the public sector and foreign companies.

Venezuela has a regulated currency exchange system, an economy in recession with high levels of inflation, which has undergone strong devaluations during the last few years, and an oil sector with a high degree of public sector intervention and participation.

- Political and economic situation: the State of Economic Emergency has been extended during the period and the situation of political instability and economic recession continues (GDP² has dropped by 18% in 2018), together with inflation³ (1,698,488%⁴ in 2018 and 10,000,000% is anticipated for 2019²). Oil production has significantly decreased in recent years.

In December 2017, as a result of the country's failure to pay interest on certain bonds, *Standard & Poors* placed the Venezuelan and PDVSA bonds in *Selective Default*, a rating also granted by the other agencies throughout 2018. On the other hand, the International Swaps and Derivatives Association (ISDA) declared in November 2017 that Venezuela was in default, making it possible to file for payment of credit default swaps (CDS). The Government of Venezuela has stated its intention to refinance and restructure Venezuela's foreign debt in order to honor its payment obligations to creditors. Venezuela's main source of external financing throughout 2018 has been through bilateral agreements with third countries.

Certain Venezuelan government officials have been subject to international sanctions by the U.S., the European Union and Canada, which include freezing their assets as well as travel restrictions. In addition, the U.S. and Canada have issued financial sanctions against the Government of Venezuela, which may affect the financial and commercial capabilities of the public sector. On January 28, 2019, the U.S. extended sanctions against PDVSA, prohibiting "*US Persons*" from operating with PDVSA and/or any of its controlled companies ($\geq 50\%$) and ordering them to block those assets of PDVSA or its controlled companies that come into their hands and/or are in U.S. territory. Although the US has granted certain time limits to facilitate the orderly termination of operations through the granting of several general licenses, these new measures have aggravated the situation of instability.

Presidential elections were held in May 2018, in which Nicolás Maduro was re-elected for the period 2019-2025, which began on January 10, 2019. On January 23, 2019, the president of the National Assembly Juan Guaidó, was sworn in as interim president of Venezuela.

- Public regulation and stake in the oil & gas sector: Repsol operates through mixed-ownership companies, whose incorporation and conditions for carrying out primary activities needed to first be approved by the National Assembly. As for the other companies, such as Cardón IV and Quiriquire Gas, their Licenses are granted by the Ministry of Popular Power over Oil and Mining. See Appendix III for more information on the legal framework for mixed-ownership companies and the regulatory framework in force in Venezuela.
- Monetary system: during 2018, economic measures have been adopted that modify the exchange rate regime (see Annex III), including: (a) monetary reconversion (the new currency, called "bolívares soberanos", is equivalent to 100,000 of the previous "bolívares fuertes"); (b) partial liberalization of the exchange system to make the purchase and sale of currencies more flexible; and (c) launch of the "*Petro*" cryptocurrency, which is expected to function as an exchange currency and convertible currency.⁵ Despite these measures, during 2018 there was a very significant devaluation of the Venezuelan currency against the US dollar (2,182,304%)⁶. All these changes have not had a significant impact on the Group's financial statements.
- Tax regime: On January 7, 2019, Presidential Decree No. 35 was published, establishing that taxpayers who carry out operations in foreign currency must determine and pay their taxes in foreign currency (or cryptocurrency), pending regulatory development. The regulation enters into force on January 1, 2019 and would affect the determination and payment of all national taxes. The main impact in 2018 is the cancellation of deferred tax assets in companies

¹ Estimate. Source: Organization of the Petroleum Exporting Countries (www.opec.org/opec).

² Source: Estimate from the International Monetary Fund

³ The Central Bank of Venezuela has not officially released a cumulative inflation figure since 2016.

⁴ National Price Index of the National Assembly (INPCAN)

⁵ Petro = 38.290,8 BsS.

⁶ SIMECA exchange rate (previously DICOM) at December 31, 2018: 730 €/BsS.

accounted for using the equity method. Thereafter, the Decree could simplify the determination of income tax and eliminate the negative impact arising from future devaluations in this tax.

The Group has evaluated the recoverability of its investments, as well as the credit risk on PDVSA's accounts receivable. As a result, the Group or its investees recognized provisions for reversible risks or impairment of -€1,159 million. Of this amount, €316 million has been recorded in reserves as a result of the provision for credit risk arising from the first application of IFRS 9 (see Note 2.2.2). In addition, -€843 million were recorded in the income statement as the result of mainly:

- The evolution of the situation of the oil sector in Venezuela, the increase in the discount rate (37.6%; compared to 30% in 2017) and the changes in the operating plans of the assets, recognized over the productive assets of the entities in Venezuela (-€205 million)¹.
- The delay in the collection of sales and the increase in credit risk, affecting the value of financing instruments and accounts receivable from PDVSA (-€630 million)².

In 2017, impairment losses amounting to -€716 million were recorded.

Libya

Repsol's equity exposure in Libya as of December 31, 2018 amounts to about €348 million, (including primarily property, plant and equipment at that date).

Repsol operates in Libya since the 1970s when it started exploring in the Sirte Basin. As of December 31, 2018, Repsol has acreage on two contractual areas (with exploration, development and production activities) and proved reserves amount to 84 million barrels of oil equivalent.

As a consequence of the security conditions, during 2018 there have been intermittent shutdowns of our production in Libya, the most relevant being that produced during the month of December. Repsol's net crude oil production in 2018 amounted to 35.7 thousand barrels of oil per day (vs. 25.4 thousand barrels of oil per day during the same period in 2017).

Uncertainty about Libya's political future and the diminished security situation continue to affect the prospects of its oil industry. Currently, the country has recovered oil production and exports, but the proliferation of armed militias and the rivalry between the main actors in the Libyan political dialogue could lead to new confrontations and blockades of oilfields and export terminals.

Algeria

Equity exposure amounts to about €837 million, (including primarily property, plant and equipment at that date).

Repsol has an exploration block in Algeria (S.E. *Illizi*) and 3 production/development blocks (*Reggane Nord*, Block 405a (with the MLN, EMK and *Ourhoud* licences) and *Tin Fouyé Tabankort* (TFT)).

In 2018, net average production in Algeria came to 21.4 thousand barrels of oil equivalent/day (12.2 kboe in 2017) from blocks *Reggane Nord*, 405 a and *Tin Fouyé Tabankort* (TFT).

As of December 31, 2018, net proved reserves amount to 45.4 million barrels of oil equivalent. Around 34% of the net proved reserves refer to the gas production project in Reggane, which includes six fields (*Reggane*, *Kahlouche*, *Kahlouche Sud*, *Sali*, *Tiouililine* and *Azrafil Sudest*), located in the Algerian Sahara in the *Reggane* basin. Repsol holds a 29.25% stake in the consortium that is to develop the project, alongside the Algerian state-owned company Sonatrach (40%), Germany's RWE Dea AG (19.5%), and Italy's Edison (11.25%). The production of the *Reggane* project in 2018 amounted to 7.3 thousand barrels of oil equivalent per day.

There are still certain security risks due to the activity of Islamist groups in the south of the country, although they have

¹ Recognized under "Results of Investments Accounted for Using the Equity Method" in the income statement.

² Recognized under "Impairment loss provisions recognized and losses on disposal of assets" (see Note 19.7) and "Impairment of Financial Instruments" (see Note 21) in the income statement.

been gradually reduced due to the presence of security forces.

Vietnam

Repsol owns mining rights in Vietnam on thirteen blocks, distributed in six production-sharing contracts (PSC): one in production over a net area of 152 km², (*Thang Long JOC*), one under development over 1,236 km² (*Ca Rong Do*) and four in exploration, over a net surface area of 72,248 km² (among them Blocks 135-136/03). Net average production in 2018 came to 6,500 barrels of oil equivalent/day (5,200 barrels of oil equivalent/day in the first nine months of 2017). As of December 31, 2018, net proved reserves amount to 26.4 million barrels of oil equivalent. The carrying amount of assets at December 31, 2018 came to €990 million and there are additional commitments relating to the investment in these areas.

Over this period, Repsol has received instructions from *PetroVietnam* to refrain from performing the programmed activities as part of the *Ca Rong Do* development project in Block 07/03, located in the South China Sea. On the other hand, in July 2017, the *PetroVietnam* instructed Repsol to stop CKN-1X drilling activities in exploratory blocks 135-136/03, also located in the South China Sea. The scope of the suspension of activities has yet to be determined and the Group is working with *PetroVietnam* to find frameworks for action that satisfy the interests of both parties and to reach an amicable solution to this conflict. In any case, Repsol believes that it has a solid legal basis to claim compensation for the damages that may arise from these circumstances, in addition to strong perspectives of success, both in the claim and the recovery of damages.

BREXIT

In the referendum held on June 23, 2016, the United Kingdom supported its exit from the European Union. After the United Kingdom Parliament rejected the ratification of the exit agreement reached between its government and that of the European Union on January 15, 2019, both are currently immersed in a new negotiating process for the terms of this exit. The consequences derived from this, for any resulting scenario, are still uncertain both in the transition period and in the final exit, affecting, among other factors, the value of the pound against the euro and against the dollar, access to the European Single Market, both for the circulation of people and goods, as well as services and capital, or the valuation of investments made in the country. However, as to the extraction, transportation and marketing of oil and gas, no material change is expected, because the UK Government has maintained sovereignty and control over key aspects with an industry-wide impact, such as the licensing process of acreage and the tax framework within which oil companies do business in the country. In this sense, messages passed on to the sector from the beginning of the process include a commitment to regulatory stability.

The Group's exposure is limited to its stake in Repsol Sinopec Resources UK Limited (RSRUK), which operates a mature business and whose functional currency is the dollar. For more information, see Note 13.

(21) FINANCIAL RESULT

The breakdown of finance income and expenses in 2018 and 2017 is as follows:

	€ Million	
	2018	2017
Finance income ⁽¹⁾	177	159
Finance costs	(407)	(447)
Net interest	(230)	(288)
By interest rate	40	(14)
By exchange rate	87	30
Other positions	73	18
Change in fair value of financial instruments ⁽²⁾	200	34
Exchange gains (losses) ⁽³⁾	467	151
Impairment of financial instruments ⁽⁴⁾	(370)	(1)
Financial update of provisions	(94)	(126)
Interim interest ⁽⁵⁾	72	120
Finance leases	(133)	(141)
Gains (losses) on disposal of financial instruments ⁽⁶⁾	(10)	(13)
Others	(75)	(48)
Other finance income and expenses	(240)	(208)
FINANCIAL RESULT	(173)	(312)

⁽¹⁾ Includes interest income from financial instruments valued at amortized cost in the amount of €177 Million.

⁽²⁾ Includes results from the valuation and settlement of derivative financial instruments. (see Note 9). "Other positions" includes the results from the settlement of derivatives on treasury shares (see Note 7.2).

⁽³⁾ Includes the results from exchange differences generated by the valuation and settlement of monetary items in foreign currency. The improvement compared to 2017 is explained by exchange differences arising from the impact of the evolution of the exchange rate of the dollar in the period on financing instruments.

⁽⁴⁾ In 2018 this includes mainly impairment losses on financing granted to entities accounted for using the equity method in Venezuela and other related accounts receivable (see Note 20.3).

⁽⁵⁾ Capitalized interest is recognized in the consolidated income statement under "Finance expenses" and capitalized under assets (in 2018: 54 million in property, plant and equipment and 18 million euros in intangible assets).

⁽⁶⁾ In 2018 and 2017 the losses generated by the repurchase of ROGCI bonds amounting to -€10 million are included (see Note 8.2).

(22) INCOME INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD

The breakdown of the income investments accounted for using the equity method, net of taxes, is:

€ Million	Income ⁽¹⁾	
	2018	2017 ⁽²⁾
Joint ventures	985	693
Associates	68	(63)
TOTAL	1,053	630

⁽¹⁾ Corresponding to the results of the period of continued operations. It does not include "Other comprehensive income" of €234 million in 2018 (€230 million for joint ventures and €4 million for associates) and -€944 million in 2017 (-€753 million for joint ventures and -€191 million for associates), mainly due to translation differences.

⁽²⁾ Includes the necessary amendments to the 2017 consolidated annual accounts (see Note 2 "Basis of presentation") in relation to the sale of the shareholding in Naturgy.

In 2018, the joint ventures in the United Kingdom (Repsol Sinopec Resources UK Ltd) and Brazil (Repsol Sinopec Brazil), which contributed €678 million and €272 million, respectively, should be particularly mentioned. For further information see Note 13.

(23) TAXES

23.1) Income tax

In the area of taxation and, particularly, of profits taxation, Repsol Group is subject to the legislation of several tax jurisdictions due to the broad geographic mix and the relevant international nature of the business activities carried out by the Group companies it comprises.

For this reason, the Repsol Group's effective tax rate is shaped by the breakdown of earnings obtained in each of the countries where it operates and, on occasion, by the taxation of said profits in more than one country (double taxation).

a) In Spain

Most of the entities resident in Spain for tax purposes are subject to taxation in Spain under Spain's consolidated tax regime. Under this regime, the companies comprising the tax group jointly determine the Group's taxable profit and tax liability, which is then allocated to these companies following the criteria established by the ICAC (acronym in Spanish for the Audit and Accounting Institute) in relation to the recognition and determination of individual corporate tax liabilities.

Repsol, S.A. is the parent of Consolidated Tax Group 6/80, which comprises all of the companies resident in Spain that are at least 75%-owned, directly or indirectly, by the parent and that meet certain prerequisites. 56 companies make up the aforementioned Consolidated Tax Group in 2018, the most significant of which are: Repsol, S.A. itself, Repsol Petróleo, S.A., Repsol Trading, S.A., Repsol Química, S.A., Repsol Butano, S.A., Repsol Exploración, S.A. and Repsol Comercial de Productos Petrolíferos, S.A.

Following the acquisition of the non-regulated businesses of Viesgo and Valdesolar Hive, S.L., 4 new companies are incorporated to the Repsol Group, which will be included in the Tax Group with effect from 1 January 2019.

Elsewhere, Petróleos del Norte, S.A. (Petronor) is the parent of Consolidated Tax Group 02/01/B, to which the special regional tax regulations of Vizcaya for corporate income tax purposes is applied.

Finally, the rest of the companies resident in Spain for tax purposes that are not included in either of the above tax groups determine their income tax individually.

The Spanish companies are taxed at the general rate of 25% in 2018, regardless of whether they pay tax as part of a tax group or individually. Exceptionally, Repsol Investigaciones Petrolíferas, S.A., which files its taxes on an individual basis under the Special Hydrocarbon Regime, is taxed at 30%, and the Petronor group, which applies the special regional regime of Vizcaya, is taxed at 28%.

b) Other countries

The rest of the Group companies are subject to taxation in each of the countries in which they do business, applying the prevailing income tax rate under applicable local tax regulations. Group companies in some countries are also subject to a levy on minimum presumptive income in addition to income tax.

In turn, the Group companies resident in Spain that conduct some of their business in other countries are also subject to prevailing income tax in those countries in respect of the profits generated outside Spain. This is the case, for example, of the permanent establishments of the Spanish companies that carry out oil and gas exploration and production activities in other countries (including Libya, Algeria, Peru and Ecuador).

Below is a list of the statutory income tax rates applicable in the Group's main tax jurisdictions:

Country	Tax Rate
Algeria ⁽¹⁾	38%
Australia	30%
Bolivia	25%
Canada ⁽²⁾	27%
Colombia	37%
Ecuador	22%
United States ⁽³⁾	21%
Indonesia	32,5% - 48%
Libya	65%
Malaysia	38%
Norway	78%
The Netherlands	25%
Papua New Guinea	30%
Peru	29,5%
Portugal	22,5% - 31,5%
United Kingdom	40%
Singapore	17%
Trinidad and Tobago	55% - 57,2%
Venezuela	34% (Gas) and 50% (Oil)
Vietnam	32% - 50%

⁽¹⁾ Plus tax on exceptional profits (TPE) by its acronym in Spanish.

⁽²⁾ Federal and provincial rate.

⁽³⁾ The federal rate applicable for 2018 (does not include state taxes).

In December 2017, a significant income tax reform was approved in the US, and enters into effect on January 1, 2018, in which the federal tax rate was reduced from 35% to 21%. The reform has had a positive net impact on the Group, improving the value of its assets. However, it meant the revaluation at the end of 2017 of the tax credits and net deferred tax assets according to the new tax rate (negative impact of €406 million).

During 2018, Colombia has approved a tax reform that foresees a progressive reduction of IS tax rates (to 37% in 2018 and 33% in 2019). The positive impact of the revaluation of tax credits and net deferred tax assets at the new tax rate in 2018 amounts to €8 million.

23.2) Accrued income tax expense

The table below shows how the income tax expense accrued for accounting purposes in 2018 and 2017 was calculated:

	€ Million	
	2018	2017
Current tax for the year	(1,028)	(657)
Adjustments to current tax ⁽¹⁾	(178)	33
Current income tax (a)	(1,206)	(624)
Deferred tax for the year	(135)	180
Adjustments to deferred tax ⁽²⁾	(45)	(776)
Deferred income tax (b)	(180)	(596)
(Income)/Expense on income tax (a+b)	(1,386)	(1,220)

⁽¹⁾ Corresponds mainly to adjustments from previous years and movements in provisions.

⁽²⁾ In 2017 corresponds mainly to the impact of tax reform in the US as rates have been lowered, resulting in a devaluation of tax credits pending application and net deferred tax assets.

The reconciliation of "Income tax expense" registered and the expense that would result from the application of the nominal tax rate existing in the country of the parent company (Spain) to the net profit before taxes and participated entities is as follows:

	€ Million	
	2018	2017
Net income before tax	3,333	3,107
Net income from investments accounted for using the equity method - net of taxes	1,053	630
Profit (loss) before tax and before considering the profit (loss) of entities accounted for using the equity method	2,280	2,477
General nominal income tax rate in Spain	25%	25%
(Expense)/Income on the nominal income tax rate	(570)	(619)
Income taxed at different nominal rates than the general Spanish rate	(543)	(258)
Mechanisms to avoid double taxation ⁽¹⁾	78	36
Non-deductible costs ⁽²⁾	(173)	(14)
Tax deductions ⁽³⁾	38	140
Tax losses for which no deferred tax asset for has been recognized	(33)	(89)
Revaluation deferred taxes ⁽⁴⁾	112	(129)
Tax risk provisions	(214)	(276)
Other items	(81)	(11)
(Expense)/Income on the income tax rate	(1,386)	(1,220)

⁽¹⁾ Includes mechanisms to prevent international and internal double taxation, whether in the form of exemptions, credits or deduction

⁽²⁾ Corresponds mainly to provisions that are not tax deductible (in 2018 the most noteworthy are those for credit risk of financing instruments and accounts receivable from PDVSA, see Note 20.3)

⁽³⁾ Mainly relates to deductions in Spain for capitalization, R&D and other

⁽⁴⁾ Includes revaluation of deferred taxes due to modifications in the tax rate (-€406 Million in 2017) exchange rate (-€16 million in 2018 and +€23 million in 2017) and new expectations of future use of tax credits, mainly on losses carried over from prior years (+€128 million in 2018 and +€254 million in 2017).

23.3) Deferred taxes

The Group presents deferred tax assets and liabilities on a net basis in the same taxable entity. The breakdown of the deferred tax assets and deferred tax liabilities by underlying concept recognized in the accompanying balance sheet is shown below:

€ Million	2018	2017
For losses, deductions and similar	3,671	3,809
Amortization differences	(2,688)	(2,585)
Provisions for decommissioning fields	712	836
Staff provisions and others	593	416
Other deferred taxes	575	530
Total deferred tax	2,863	3,006

Below is a breakdown of changes in deferred tax:

€ Million	2018	2017
Opening balance for the year	3,006	3,367
Impact of the new standards (Note 2.2.2)	91	-
Adjusted opening balance	3,097	3,367
Charge (payment) statement of profit or loss	(190)	(403)
Charge (payment) in equity	20	(1)
Translation differences of balances in foreign currency	39	(99)
Other items	(103)	142
Balance at year end	2,863	3,006

The Repsol Group only recognizes deferred tax assets insofar as it is deemed probable that the entities (individually or on a consolidated basis) that have generated them will have sufficient taxable income in the future against which they can be utilized.

At each closing date, the recognized deferred tax assets are reassessed to verify that they still qualify for recognition

and they make the appropriate adjustments on the basis of the outcome of the analysis performed. These analysis are based on: (i) the construction of hypotheses to analyze the existence or otherwise of sufficient earnings for tax purposes that might offset such tax losses based on the approach used to ascertain the presence of indications of impairment in its assets (see Note 3); (ii) the assessment of earnings estimates for each entity or tax group in accordance with their individual business plans and the Group's overall strategic plan; and (iii) the statute of limitations period and other utilization limits imposed under prevailing legislation in each country for the recovery of the tax credits.

The deferred tax assets corresponding to offsetable tax losses and tax credits pending application amount to €3,671 million and correspond mainly to:

Country	€ Million	Legal Expiry	Estimated recoverability
Spain	1,399	No time limit	In less than 10 years
United States	1,401	20 years	Mostly in 10 years.
Canada	507	20 years	In less than 10 years
Norway	40	No time limit	Mostly in 10 years.
Other	324	-	-
Total	3,671		

The Group has deferred tax assets not recognized of €3,390 million and €3,550 million at 2018 and 2017 respectively.

The Group has deferred tax liabilities not recognized of €94 million and €108 million at year-end 2018 and 2017 respectively. This mainly relates to taxable temporary differences associated with investments in subsidiaries, associates and permanent establishments that qualify for the exemption provided for under IFRS.

23.4) Government and legal proceedings with tax implications

In accordance with prevailing tax legislation, tax returns cannot be considered final until they have been inspected by the tax authorities or until the inspection period in each tax jurisdiction has prescribed.

The years for which the Group companies have their tax returns open to inspection in respect of the main applicable taxes are as follows:

Country (Years open to inspection)	Years
Algeria	2014 – 2018
Australia	2014 – 2018
Bolivia	2013 – 2018
Canada	2013 – 2018
Colombia	2013 – 2018
Ecuador	2015 – 2018
Spain	2015 – 2018
United States	2015 – 2018
Indonesia	2013 – 2018
Libya	2011 – 2018
Malaysia	2014 – 2018
Norway	2016 – 2018
The Netherlands	2017 – 2018
Papua New Guinea	2015 – 2018
Peru	2014 – 2018
Portugal	2015 – 2018
United Kingdom	2012 – 2018
Singapore	2014 – 2018
Trinidad and Tobago	2014 – 2018
Venezuela	2012 – 2018

Whenever discrepancies arise between Repsol and the tax authorities with respect to the tax treatment applicable to certain operations, the Group acts with the authorities in a transparent and cooperative manner in order to resolve the resulting controversy, using the legal avenues at its disposition with a view to reaching non-litigious solutions. However, in this fiscal year, as in prior years, there are administrative and legal proceedings with tax implications that might be adverse to the Group's interest and that have given rise to litigious situations that could result in contingent tax liabilities. Repsol believes that it has acted lawfully in handling the foregoing matters and that its defense arguments are underpinned by reasonable interpretations of prevailing legislation, to which end it has lodged appeals as necessary to defend the interests of the Group and its shareholders.

It is difficult to predict when these tax proceedings will be resolved due to the extensive appeals process. Based on the advice received from in-house and external tax experts, the Company believes that the tax liabilities that may ultimately derive from these proceedings will not have a significant impact on the accompanying Financial Statements. In the Group's experience, the result of lawsuits claiming sizeable amounts have either tended to result in immaterial settlements or the courts have found in favor of the Group.

The Group's general criterion is to recognize provisions for tax-related proceedings that it deems it is likely to lose and does not recognize provisions when the risk of losing the case is considered possible or remote. The amounts to be provisioned are calculated on the basis of the best estimate (see Note 3) of the amount needed to settle the lawsuit in question, underpinned, among others, by a case-by-case analysis of the facts, the legal opinions of its in-house and external advisors and prior experience in these matters. At December 31, 2018, the Group recognized provisions to cover contingencies associated with lawsuits and other tax matters in the Group's consolidated balance statement for the sum of €1,390 million (€1,415 million at December 31, 2017), which are considered adequate to cover those contingencies (see Note 14). As for the main tax proceedings affecting the Group at December 31 noted below:

Bolivia

Repsol E&P Bolivia, S.A. has applied the regime established in the Tax Regularization Law (Law 1,105/2018) and waived the lawsuits pending resolution in application thereof, putting an end to existing disputes in tax matters, with no significant impact on the Group's financial statements.

YPFB Andina, S.A. maintains a single lawsuit against an administrative act that, fundamentally, denies the deductibility of the payments for royalties and hydrocarbon stakes in the Tax to the Profits of the Companies before the nationalization of the oil sector. This lawsuit is currently pending a judgment in the first instance. The Company believes that its position is expressly endorsed in Law 4,115 of September 26, 2009.

Brazil

Petrobras, as operator of the Albacora Leste, BMS 7, BMES 21 and BMS 9 consortia (in which Repsol has a 10%, 37%, 11% and 25% interest, respectively) received tax assessments (IRRF, CIDE and PIS/COFINS) and for the years 2008 to 2012, in connection with payments to foreign companies for charter contracts for exploration platforms and related services used in the blocks. All notices have been appealed and are either in administrative tribunals (2009-2012) or are being appealed (2008).

Likewise, Repsol Sinopec Brasil received notification of minutes for the same items and taxes (2009 and 2011), in connection with payments to foreign companies for contracts for chartering exploration vessels and related services used in blocks BMS 48, BMS 55, BMES 29 and BMC 33, in which Repsol Sinopec Brasil is the operator. All notices have been appealed in federal administrative bodies. The Company considers that its actions are in accordance with the law and are in line with the general practice of the sector.

In relation to these lawsuits, the company has reduced the amount in litigation in relation to the IRRF, by 97%, by taking advantage of a program enabled by Law 13,586/17, which made this reduction possible through the retroactive application of the percentages of price determination (*split*) included in Law 13,043/2014 and through the abandonment of litigation in progress, without sanctions being applicable.

Canada

The Canadian Revenue Agency (CRA) periodically reviews the tax situation of Repsol Oil&Gas Canadá Inc. companies (formerly Talisman Group, acquired by Repsol in 2015) resident in Canada. The inspection activities for the years 2010 to 2012, have been completed in conformity, without relevant impacts on the Group's financial statements. Corporate income tax for 2013-2015 is currently being inspected.

Ecuador

Repsol Ecuador, S.A. Branch in Ecuador, holder of 35% of the stake in Consorcio Petrolero Block 16, and the company Oleoducto de Crudos Pesados, S.A. (OCP), an entity in which Repsol OCP de Ecuador, S.A. holds a 29.66% stake, have applied the remission regime established in the Organic Law for Productive Promotion, Investment Attraction, Employment Generation and Fiscal Stability and Equilibrium (Official letter No.: OCP). SAN-2018-1358) and withdrawing

all lawsuits that are pending, putting an end to existing disputes in tax matters (see Note 14).

Spain

Proceedings relating to the following corporate income tax years are still open.

- Financial years 2006 to 2009. The matters discussed relate mainly to transfer prices, deduction of losses for investments abroad and deductions for investments, the majority of them as a result in changes in the criteria maintained by the Administration in previous and subsequent actions. In relation to the transfer price adjustments, the settlements have been annulled as a consequence of a resolution of a dispute by the Arbitration Board of the Economic Agreement with the Basque Country and the resolution of an amicable procedure with the US, which is why the Inspection must issue new settlements applying the criteria already accepted in subsequent years by the Administration and the taxpayer. In relation to the other matters, the Central Economic Administrative Court partially upheld the company's appeal and has appealed to the National High Court for the aspects that were not upheld.
- Financial years 2010-2013. The actions were concluded in 2017 without any sanctions being imposed and, for the large part, by means of declarations of conformity or agreements from which no significant liabilities have arisen for the Group. However, with regards to two issues (deductibility of interest for the late payment of taxes and the calculation of losses on overseas business,) the administrative decision has been subject to appeal, as the Company believes it has acted within the law.
- Financial years 2014-2016. The inspection started in August 2017 and is still ongoing.

The Company understands that all its actions have been in accordance with the law and does not expect any liabilities to arise that could have a material impact on the Group's results as a result of the foregoing procedures.

Indonesia

Indonesian Corporate Tax Authorities have been questioning various aspects of the taxation of permanent establishments that Talisman Group has in the country. These proceedings are pending a court hearing or administrative appeal.

Malaysia

Repsol Oil & Gas Malaysia Ltd. and Repsol Oil & Gas Malaysia (PM3) Ltd., the Group's operating subsidiaries in Malaysia, have received notifications from the *Inland Revenue Board* (IRB) in respect of the years 2007, 2008 and 2011 questioning the deductibility of certain costs. The aforementioned actions have resulted in a reconciliation agreement ratified by the tax court, under which Repsol subsidiaries will receive a refund of the taxes initially retained by the IRB.

(24) INCOME FROM DISCONTINUED OPERATIONS

"Income from discontinued operations", net of taxes includes the income from the transfer of the stake in Naturgy for (€344 million), as well as the income generated for this stake up to February 22, 2018, the date it was reclassified as held for sale, for an amount of €68 million (€274 million in 2017).

(25) EARNINGS PER SHARE

The earnings per share at December 31, 2018 and 2017 are detailed below:

Earnings per share	2018	2017
Income attributed to the parent company ⁽¹⁾ (€ million)	2,341	2,121
Adjustment to interest expense on subordinated perpetual bonds (million euros)	(29)	(29)
Weighted average number of shares outstanding (millions of shares) ⁽²⁾	1,593	1,622
Basic and diluted earnings per share (euros/share)	1.45	1.29

⁽¹⁾ In 2018 and 2017 includes the result attributed to the parent company corresponding to interrupted operations amounting to €412 million and €274 million, equivalent to an EPS of 0.26 and 0.17 euros per share, respectively.

⁽²⁾ The outstanding share capital at December 31, 2017, came to 1,527,396,053 shares, although the average weighted number of shares outstanding for the purposes of calculating earnings per share on said date includes the effect of capital increases undertaken as part of the "Repsol Flexible Dividend" shareholder payment system, as per the applicable accounts regulations (see Note 2.2.3).

CASH FLOWS

(26) CASH FLOWS¹

26.1) Cash flow from operating activities

During 2018 the net cash flow from operating activities amounted to €4,579 Million, which represents a decrease of 10% with respect to 2017. The breakdown of "Cash Flows from Operating Activities" in the consolidated statement of cash flows is as follows:

	Notes	€ Million	
		2018	2017
Net income before tax		3,333	3,107
Adjusted result:		2,360	2,146
Amortisation of non-current assets	3,11 and 12	2,140	2,399
Net operating provisions	14 and 20	1,235	160
Earnings arising from the disposal of non-commercial assets	4 and 20	(62)	(41)
Financial result	21	173	312
Share of results of companies accounted for using the equity method, net of taxes	13	(1,053)	(630)
Other adjustments (net)		(73)	(54)
Changes in working capital:		(389)	(110)
Increase/Decrease Accounts receivable	17	119	(665)
Increase/Decrease Inventories	16	(531)	(332)
Increase/Decrease Accounts payable	18	23	887
Other cash flows from / (used in) operating activities:		(725)	(30)
Dividends received		472	511
Income tax receivable / (payable) ⁽¹⁾		(762)	(320)
Other receipts / (payments) of operating activities ⁽²⁾		(435)	(221)
Cash Flows from Operating Activities		4,579	5,113

⁽¹⁾ In 2017 this includes the cash flows from discontinued operations due to dividends received from the investment in Naturgy amounting to €201 million.

⁽²⁾ In 2018, tax payments in Spain (payments in instalments for tax group 6/80), Libya, Indonesia and Ecuador (see Note 14) should be highlighted. The total amount of taxes paid in 2018, including that attributed to the divestment in Naturgy (under "Payments/Collections for Investments in Group and Associated Companies") amounted to €1,226 million. For more information on the Group's tax contribution, see section 6.6 of the 2018 Consolidated Management Report.

⁽³⁾ Includes mainly payments for the application of provisions (see Note 14).

26.2) Cash flows from investment activities

During 2018, the net cash flow from investing activities resulted in the net payment of -€1,359 million.

"Payments/collections for investments in Group and associated companies" amount to +€2,565 million and relate mainly to the collection of €3,816² million for the divestment of Naturgy, net of the tax payment for profits (€3,352 million) declared in the second instalment payment of tax group 6/80, and the payment for the investment in the unregulated electricity generation businesses of Viesgo amounting to €732 million.

"Payments/receipts on investments in property, plant and equipment, intangible assets and property investments" came to -€2,542 million and primarily corresponds to investments in the *Upstream* segment in North America, Norway and in Exploration and in the *Downstream* in the industrial complexes of the Refining and Chemical businesses.

¹ In accordance with the presentation options allowed in IAS 7 *Statement of cash flows*, the Group uses the so-called "indirect method" to disclose its operating cash flows. Under this method, the statement of cash flows starts with "Net income before tax" for the year, as per the income statement; this figure is then adjusted for the effects of transactions of a non-cash nature, any deferrals or accruals of past or future operating cash receipts or payments, and items of income or expense associated with investing or financing cash flows.

² From 2018, Repsol discloses the cash flow from discontinued operations in the Notes to the Financial Statements.

The "payments/receipts on investments in other financial assets", came to €-1,450 million, corresponding to the constitution of deposits and the variation of loans extended to joint ventures.

26.3) Cash flows from financing activities

During 2018, the net cash flow from financing activities resulted in the net payment of €3,032 million, which represents an increase of 28% on 2017.

A breakdown of the changes to liabilities linked to financing activities can be found below:

	€ Million					
	2017	2018				Closing balance (1)
	Opening balance (1)	Cash flows	Other cash flows			
		Exchange rate effect	Changes in FV	Others (3)		
Bank borrowings	1,552	393	57	-	(90)	1,912
Bonds and other securities	9,729	(1,916)	38	-	247	8,098
Derivatives (liabilities)	96	(454)	3	453	8	106
Loans (2)	2,858	359	145	-	87	3,449
Other financial liabilities	51	55	4	-	6	116
Lease agreements liabilities	1,541	(199)	66	-	216	1,624
Remunerations to shareholders and perpetual bonds	1,183	(297)	-	-	318	1,204
Treasury shares and own equity	(45)	(1,595)	-	-	1,290	(350)
Total liabilities perpetual activities	16,965	(3,654)	313	453	2,082	16,159
Derivatives (asset)	(18)	609	-	(668)	-	(77)
Other receipts/payments of financing activities (4)	-	13	-	-	-	-
Total other assets and liabilities	(18)	622	-	(668)	-	(77)
Total	16,947	(3,032)	313	(215)	2,082	16,082

(1) Corresponds to the current and non-current balance of the income statement.

(2) Includes loans to Group companies that have not been eliminated from the consolidation process.

(3) This mainly includes the capital reduction carried out during the year through the amortization of treasury shares amounting to €1,125 million (see Note 7.1) and the accrual of interest and dividends.

(4) Includes mainly payments/receipts of short-term financing granted in the amount of €24 million.

OTHER DISCLOSURES

(27) COMMITMENTS AND GUARANTEES

27.1) Contractual commitments

At December 31, 2018, the Group has contractually committed to the following purchases, investment and other expenditures:

€ Million	2019	2020	2021	2022	2023	Subsequent years	Total
Purchase commitments	4.280	1.202	922	852	893	12.658	20.807
Crude and others ^{(1) (3)}	3.318	318	266	274	283	3.099	7.558
Natural gas ^{(2) (3)}	962	884	656	578	610	9.559	13.249
Investment commitments ⁽⁴⁾	112	513	297	86	69	166	2.243
Service provisions ⁽⁵⁾	482	363	286	191	135	992	2.449
Transport commitments ⁽⁶⁾	208	215	186	170	168	391	1.338
TOTAL	6.082	2.293	1.691	1.299	1.265	14.207	26.837

Note: Commitments consist of future unconditional obligations (non-cancellable, or cancellable only under certain circumstances), as a result of commercial agreements in which fixed total amounts are not stipulated. These commitments were quantified using Repsol's best estimates, and, in case fixed total amounts were not stipulated, price estimates and other variables for calculating the recoverable amount of the assets (see Notes 3 and 20). For operating lease commitments, see Note 19.8.

⁽¹⁾ Mainly includes the commitments for the purchase of products needed to operate the Group's refineries in Spain and the commitments assumed under crude oil purchase contracts with the Pemex Group (open-ended), with the Saudi Arabian Oil Company (renewed annually) and with the Repsol Sinopec Brasil Group (expires 2020) and with Overseas Petroleum and Investment Corporation (expires in 2019),

⁽²⁾ Primarily includes commitments to purchase liquefied natural gas in North America, acquired under two contracts signed in 2013. All these contracts qualify for accounting purposes as own use.

⁽³⁾ Committed crude oil and gas volumes are as follows:

	Unit of measurement	2019	2020	2021	2022	2023	Subsequent years	Total
Purchase commitments								
Crude oil	Mb	42,237	209	202	190	190	909	43,937
Natural Gas:								
Natural Gas	Tbtu	73	54	53	45	45	66	336
Liquefied natural gas	Tbtu	81	82	59	42	45	1,052	1,361

It does not include the contract for the supply of approximately one million tons per year of liquefied natural gas (LNG) reached with the US company Venture Global LNG (see Note 32).

⁽⁴⁾ Includes mainly investment commitments in Algeria, Vietnam, Norway, Algeria, Bolivia, Spain, Malaysia and Indonesia for the amount of €462 million, 454 million, 389 million, 188 million, 161 million and 108 million, respectively.

⁽⁵⁾ Primarily includes services for processing gas in Canada amounting to €922 million, and associated with oil and gas exploration and productions activities in Upstream totaling €670 million.

⁽⁶⁾ It includes, primarily, oil and gas transportation commitments in North America, Peru and Colombia amounting to approximately €1,190 million.

27.2) Guarantees

At December 31, 2018, the most significant guarantees to third parties or companies whose assets, liabilities and earnings are not presented in the consolidated financial statements (joint ventures and associates) are as follows:

- For the rental of three floating production platforms for the development of the BMS 9 field in Brazil:
 - A guarantee for \$554 million corresponding to 100% of RSB's interest (see Note 13) in Guara B.V., for which Repsol holds a counter guarantee from China Petrochemical Corporation in respect of the latter's 40% interest in RSB,
 - and two additional guarantees of \$457 million and \$489 million, corresponding to the 15% interest held indirectly by the Group in Guar B.V.

The guaranteed amounts are reduced annually during the contracts' term of 20 years.

- For 51% of the guarantees for the decommissioning of RSRUK in the North Sea, for £631 million.

- To cover the risk of confiscation, expropriation, nationalization, or any measure designed to restrict use of the drilling unit introduced by the Venezuelan government or acts of insurgency or terrorism, for \$90 million, granted for the 50% interest in Cardón IV¹.
- To cover the construction, abandonment, environmental and operating risks of a pipeline in Ecuador in the amount of \$30 million, granted for the 29.66% interest in Oleoducto de Crudos Pesados de Ecuador, S.A.

In addition, in line with general industry practice, the Group grants guarantees and commitments to compensate for obligations arising in the course of ordinary activities, and for any liabilities of its activities, including environmental liabilities² and for the sale of assets³.

The aforementioned guarantees cannot be considered a definite outflow of resources to third parties, as for the large part, they will mature without any payment obligation arising. At the date of issue of these consolidated financial statements, the probability of a breach that would trigger liability for these commitments to any material extent is remote.

(28) INFORMATION ON RELATED PARTY TRANSACTIONS

Repsol carries out transactions with related parties on an arm's length basis. The transactions performed by Repsol, S.A. with its Group companies and those performed by the Group companies among themselves form part of the Company's ordinary course of business in terms of their purpose and conditions.

For the purposes of presenting this information, the following are considered to be related parties:

- a. Significant shareholders: at December 31, the Company's significant shareholders that are deemed related parties are:

Significant shareholders	% total on share capital December 31, 2018 ⁽¹⁾
Sacyr, S.A. ⁽²⁾	8.03
Temasek Holdings (Private) Limited ⁽³⁾	2.43

Note: Data available to the Company at December 31, 2018 based on the most recent information furnished by Spain's central counterparty clearing house (Iberclear for its acronym in Spanish) and the information submitted by the shareholders to the Company and to the National Securities Market Commission (CNMV for its abbreviation in Spanish).

⁽¹⁾ Data prior to the close of the scrip issue detailed in section 7.1 Share capital.

⁽²⁾ Sacyr, S.A. holds its investment through Sacyr Securities, S.A.U, Sacyr Investments S.A.U. and Sacyr Investments II, S.A.U.

⁽³⁾ Temasek holds its investment through its subsidiary Chembra Investment PTE, Ltd.

- b. Directors and executives: includes members of the Board of Directors as well as members of the Executive Committee whose members are considered as "executive personnel" for purposes of this section (see Note 30.4).
- c. People, companies or entities within the Group: includes transactions with Group companies or entities for the part not eliminated in the consolidation process, corresponding mainly to transactions undertaken with companies consolidated using the equity method (see Note 13).

Income, expenses and other transactions and balances recorded at December 31 with related party transactions are as follows:

¹ Also in Venezuela, Repsol has issued an indeterminate guarantee in favor of Cardón IV to cover gas supply commitments undertaken with Petróleos de Venezuela, S.A. through to 2036. (PDVSA). In the opposite direction, PDVSA has granted a guarantee to Cardón IV to cover receivables on supply commitments. The Group has also granted a guarantee in favor of the Republic of Venezuela to cover the obligations contracted in the development of gas assets in the country.

² Guarantees granted in the ordinary course of business correspond to a limited number of guarantees totaling €24 Million. Environmental guarantees are formalized in the normal course of oil and gas exploration and production activity, where the probability of occurrence of the collateralized contingencies is remote, and the related amounts are unascertainable.

³ Outstanding guarantees for asset sales, granted in accordance with general industry practice, are immaterial. Of recent note are those granted in the sale of LNG assets to Shell in 2015.

€ Million	2018				2017			
	Significant shareholders	Directors and executives ⁽¹⁾	People, companies or entities within the Group	Total	Significant shareholders	Directors and executives ⁽¹⁾	People, companies or entities within the Group	Total
EXPENSES AND REVENUE								
Finance costs	7	-	90	97	7	-	75	82
Leasing	1	-	1	2	1	-	1	2
Service receptions	20	-	87	107	19	-	138	157
Purchase of goods ⁽²⁾	-	-	1,453	1,453	-	-	1,389	1,389
Other expenses ⁽³⁾	7	-	739	746	13	-	512	525
TOTAL EXPENSES	35	-	2,370	2,405	40	-	2,115	2,155
Finance income	4	-	162	166	8	-	156	164
Service provisions	6	-	1	7	8	-	1	9
Sale of goods ⁽⁴⁾	180	-	575	755	156	-	685	841
Other revenue	1	-	66	67	1	-	64	65
TOTAL REVENUE	191	-	804	995	173	-	906	1,079

€ Million	2018				2017			
	Significant shareholders	Directors and executives ⁽¹⁾	People, companies or entities within the Group	Total	Significant shareholders	Directors and executives ⁽¹⁾	People, companies or entities within the Group	Total
OTHER TRANSACTIONS								
Funding agreements: credit and contributions of capital (creditor)	-	-	302	302	-	-	296	296
Funding agreements: loans and contributions of capital (borrower) ⁽⁵⁾	-	-	1,082	1,082	-	-	724	724
Guarantees and sureties given ⁽⁶⁾	44	-	669	713	8	-	668	676
Guarantees and sureties received	7	-	-	7	-	-	-	-
Commitments assumed ⁽⁷⁾	30	-	-	30	-	-	-	-
Dividends and other profits distributed ⁽⁸⁾	92	-	-	92	174	-	-	174
Other operations ⁽⁹⁾	135	-	1,906	2,041	1,334	-	1,541	2,875

€ Million	2018				2017			
	Significant shareholders	Directors and executives ⁽¹⁾	People, companies or entities within the Group	Total	Significant shareholders	Directors and executives ⁽¹⁾	People, companies or entities within the Group	Total
CLOSING BALANCES								
Customers and trade receivables	2	-	181	183	1	-	358	359
Loans and credits granted	-	-	1,096	1,096	-	-	1,871	1,871
Other receivables	-	-	1	1	-	-	-	-
TOTAL RECEIVABLE BALANCES	2	-	1,278	1,280	1	-	2,229	2,230
Suppliers and trade payables	9	-	93	102	8	-	336	344
Loans and credits received	-	-	3,442	3,442	-	-	2,860	2,860
Other payment obligations ⁽¹⁰⁾	47	-	1	48	82	-	1	83
TOTAL PAYABLE BALANCES	56	-	3,536	3,592	90	-	3,197	3,287

Note: The tables for 2017 include the necessary modifications to the 2017 consolidated annual accounts to adapt them to the models of CNMV Circular 3/2018. In 2018 the tables for Expenses and Income and Other Transactions include transactions with the Naturgy Group until 22 February 2018, the date on which it was reclassified as held for sale (see Note 1.3) and with Caixabank until September 20, the date of the announcement of the resolution adopted by its Board of Directors to sell its shareholding in Repsol and the resignation of its proprietary directors.

- (1) Includes transactions performed with executives and directors not included in Note 30 on the remuneration received by executives and directors, and would correspond to the outstanding balance at the reporting date of the loans granted to members of senior management and the corresponding accrued interest, as well as dividend and other remuneration received as a result of holding shares of the Company.
- (2) As of December 31, the column headed "People, companies or entities within the Group" primarily includes products purchased with Repsol Sinopec Brasil (RSB), and from BPRY Caribbean Ventures LLC (BPRY), for the amount of €875 million, €395 million in 2018 and €822 Million and €166 Million in 2017, respectively.
- (3) Includes mainly supplies and provisions for credit risks of accounts receivable and financial instruments (see Note 10.3 and 20.3). Excludes impacts of first application of IFRS 9 in joint ventures in Venezuela, which are recognized in "Equity." (see Note 2.2.2)
- (4) In 2018 and 2017 the column "Significant shareholders" includes mainly the sales of crude oil to the Temasek group. In 2018 and 2017 the column "Persons, companies or entities of the Group" includes mainly sales of products to Iberian Lube Base Oil, S.A. (ILBOC) and Dynasol Group for €252 million and €119 million in 2018 and €187 million and €148 million in 2017, respectively, as well as sales to the Naturgy Group.
- (5) Includes loans granted and new provisions for credit facilities in the period, as well as capital contributions to Group companies with companies accounted for using the equity method.
- (6) Includes primarily guarantees granted to joint ventures in the United Kingdom, issued in the ordinary course of business to cover obligations to dismantle offshore platforms in the North Sea.
- (7) Corresponds to purchase, investment or expense commitments acquired in the period (see Note 27).
- (8) They include the amounts allocated as dividends and other profits distributed include sums corresponding to the sale to Repsol, of bonus share rights as part of the bonus share issue closed in January and July 2018 (in the 2017 table: January and July 2017) as part of the "Repsol Flexible Dividend" shareholder remuneration program (see Note 7.3).
- (9) In 2017 "Significant Shareholders" included mainly interest-bearing accounts and deposits amounting to €852 million with Caixabank. In 2018 and 2017 "Individuals, Companies or Group Entities" includes mainly cancellations of guarantees granted to joint ventures in the United Kingdom, and the, financing agreements.
- (10) In 2018 and 2017 "Significant Shareholders" includes the amounts corresponding to the sale to Repsol, at the guaranteed fixed price, of the free allocation rights arising from bonus capital increase closed in January 2019 and 2018. Duties are recorded as accounts payable at 31 December.

(29) PERSONNEL OBLIGATIONS

29.1) Defined contribution pension plans

Repsol has defined mixed modality plans for certain employees in Spain, which conform to current legislation. Specifically, this refers to pension plans with defined contributions for retirement and defined contributions for permanent disability and death. For contingencies of permanent disability and death, pension plans have life insurance policies with an external entity. Additionally, outside Spain, certain Group subsidiaries have a defined contribution pension plans for their employees.

The annual cost charged to “*Personnel expenses*” in the income statement in relation to the defined contribution pension plans detailed above has risen to €56 million in 2018 and €54 million in 2017.

Executives of the Repsol Group in Spain are beneficiaries of an executive pension plan that complements the standard pension plan denominated “*Plan de previsión de Directivos*” (Management remuneration plan) which covers the participant retirement, disability and death. Repsol makes defined contributions based on a percentage of participants’ salaries. The plan guarantees a fixed return equivalent to 125% the prior year National Consumer Price Index. The plan is instrumented through collective insurances that cover pension obligations, subscribed with an insurance entity. Premiums paid under these policies finance and externalize the Group’s commitments in respect of contributions, as well as the fixed return mentioned above.

The cost of this plan recognized under “*Personnel expenses*” in the income statement in 2018 and 2017 was €12.00 and €13.5 million, respectively.

29.2) Defined benefit pension plans

Repsol has arranged defined benefit pension plans for certain groups of employees. The amount charged to the Group’s income statement in 2018 and 2017 was €5 million and €2 million respectively, while the related balance sheet provision at year-end 2018 and 2017 stood at €64 million and €70 million, respectively (see Note 14).

29.3) Long-term variable remuneration

The Company has implemented a loyalty building program aimed at senior executives and other persons occupying positions of responsibility in the Group, consisting of long-term incentives as part of their benefit package. The purpose of this program is to strengthen the identification of executives and managers with shareholders’ interests, based on the Company’s medium and long-term earnings sustainability as well as the compliance with the Strategic Plan, while at the same time facilitating the retention by the Group of key personnel.

At year end, the 2015-2018, 2016-2019, 2017-2020 and 2018-2021 long-term incentive programs were in force. The 2014-2017 plan was closed, as originally stipulated, on December 31, 2017 and its beneficiaries perceived their bonuses during 2018.

The four long-term incentive programs in effect are independent of each other but their main characteristics are the same. Fulfillment of the respective objectives tied to each program entitles the beneficiaries of each plan to receive an incentive in the first four months of the year following the last year of the plan. However, receipt of this incentive payment is tied to the beneficiary remaining in the Group’s employ until December 31 of the last year of the plan, except in the special cases envisaged in the terms and conditions of the related plan.

If the incentive is to be received, the amount determined at the time the long-term incentive is applied a first variable coefficient on the basis of the extent to which the objectives set are achieved, and then a second variable coefficient linked to the arithmetic mean of the individual performance evaluation obtained by the beneficiary in the years included in the measurement period of each incentive program, calculated as the percentage of individual variable annual remuneration obtained with respect to 100% of the established target.

None of the plans involve the delivery of shares or options to beneficiaries, with the exception of Executive Directors to

whom, as per the agreement approved by the shareholder annual meeting on May 19, 2017, under Agenda item 19, a payment shall be made partially in shares (30%); the amount corresponding to the Long-Term Incentive Programs for 2014-2017, 2015-2018, 2016-2019, 2017-2020 and 2018-2021. The 2016-2019, 2017-2020 and 2018-2021 Programs involve targets pegged to Repsol's stock price performance.

The amount corresponding to the 2015-2018 Long-term Incentive Plan will be paid to the Executive Directors in a proportion of 70% in cash and the remaining 30% in Company shares, so that Mr. Josu Jon Imaz will receive € 1,098,339 in cash and 14,330 Company shares, equivalent to an amount of €217,041 and Mr. Luis Suárez de Lezo Mantilla will receive €706,197 in cash and 9,214 Company shares, equivalent to an amount of €139,554.

As resolved by the General Shareholders' meeting on May 19, 2017, the final number of shares to be delivered to the Executive Directors is calculated taking into account: (i) the amount that is effectively payable to each Director following application of the corresponding taxes (or withholdings) ; and (ii) the weighted average for the daily volume of average weighted Repsol share prices in the fifteen trading sessions before the Friday of the week preceding the date on which the Board of Directors agrees payment of the Long-Term Incentive for Executive Directors in each of the Plans.

To reflect the commitments assumed under these incentive plans, the Group recognized a provision charge of €31 and €23 million in the 2018 and 2017 income statement, respectively. At December 31, 2018 and 2017, the Group had recognized provisions totaling €70 million and €57 Million, respectively, to meet its obligations under all the aforementioned plans, to fulfill all the plans described above.

29.4) Share purchase plans for beneficiaries of long-term incentive programs and share acquisition plans

i.) "Share Purchase Plan for Beneficiaries of the Long-Term Incentive Programs"

This Plan allows its beneficiaries to invest in Repsol, S.A. shares of up to 50% of the gross amount of the long-term incentive received and its purpose is to encourage its beneficiaries (including Executive Directors and members of the Executive Committee) to align themselves with the long-term interests of the Company and its shareholders. Its aim is to promote the alignment of beneficiaries (including Executive Directors and Corporate Executive Committee members) with the long-terms interests of both the Company and its shareholders.

If the beneficiaries continue to hold the shares so acquired for three years after they are purchased and the rest of the Plan terms and conditions are met, the Company will provide them with one additional share for every three initially acquired. The beneficiaries qualifying as Senior Management, defined to this end as the Executive Directors and the other Members of the Executive Committee, are subject to an additional performance requirement in order to qualify for receipt of these additional shares, namely overall satisfaction of at least 75% of the targets set in the long-term incentive program closed in the year immediately preceding that of delivery of the shares.

At the date of preparation of the accompanying consolidated financial statements for issue, the sixth, seventh and eighth cycles of this Plan were in force (2016-2019, 2017-2020 and 2018-2021); key data for these cycles are provided below:

	No. shares	Total initial investment (No. shares)	Average price (EUR/share)	Commitment Max delivery of shares
Sixth cycle (2016-2019)	132	160,963	11.378	53,604
Seventh cycle (2017-2020)	153	135,047	14.9955	44,964
Eighth cycle (2018-2021) ⁽¹⁾	158	150,476	16.3021	50,160

⁽¹⁾ This amount includes the shares delivered to the Executive Directors as a partial payment of the ILP 2014-2017 Program, amounting to 21,003. In accordance with the provisions of the Directors' Remuneration Policy, the shares, if any, delivered to the Executive Directors under each long-term variable remuneration plan may be computed for the purposes of the investment in shares referred to in the Share Purchase Plan by the Beneficiaries of the Multi-Year Variable Remuneration Programs.

During this eighth cycle, the current members of the Corporate Executive Committee and other Executive Directors have acquired a total of 63,606 shares.

As a result of this Plan, at December 31, 2018 and 2017, the Group had recognized an expense under "Personnel expenses" with a counterbalancing entry under "Other reserves" in equity of €0.5 million.

In addition, the fifth cycle of the Plan vested on May 29, 2018. As a result, the rights of 166 beneficiaries to 37,570 shares vested (receiving a total of 28,523 shares net of payment on account of the personal income tax to be made by the Company). Specifically, the rights of the members of the Executive Committee and the rest of the Executive Directors to 13,328 shares also vested (net of the withholding retained by the Company, these individuals received a total of 9,222 shares).

ii.) *“Share Acquisition Plans”*

Since 2011 the Company has set up different Share Acquisition Plans, which were approved at the Annual General Meetings of April 15, 2011 (the 2011-2012 Share Acquisition Plan), May 31, 2012 (the 2013-2015 Share Acquisition Plan), April 30, 2015 (the 2016-2018 Share Acquisition Plan) and 11 May 2018 (Share Acquisition Plan 2019-2021).

These Plans are targeted at employees of the Repsol Group in Spain and are designed to enable those so wishing to receive a portion of their remuneration in Repsol, S.A. shares up to an annual limit of €12,000. The shares to be delivered will be valued at Repsol, S.A.’s closing share price on the continuous Spanish stock market on each date of delivery to the beneficiaries.

In 2018 the Group purchased 518,228 shares of Repsol, S.A. for €8.2 million for delivery to employees. Under the scope of the 2017 Plan, the Group acquired 539,430 shares from Repsol, S.A. for a total of €7.8 million (see Note 7).

The members of the Executive Committee acquired a total of 5,274 shares in accordance with the plan terms and conditions in 2018.

The shares to be delivered under both schemes i) and ii) may be sourced from Repsol’s directly or indirectly held treasury shares, new-issued shares or from third party entities with whom the Group has entered into agreements to guarantee coverage of the commitments assumed.

(30) REMUNERATION OF THE MEMBERS OF THE BOARD OF DIRECTORS AND EXECUTIVES

30.1) Remuneration of the members of the Board of Directors

a) Due to membership of the Board of Directors

In accordance with Article 45 of the Articles of Association, the Directors, in their capacity as members of the Board and in exchange for discharging the supervisory and decision-making duties intrinsic to Board membership, are entitled to receive a fixed annual payment that may not exceed the ceiling established to this end at the Annual General Meeting or on the Director Remuneration Policy; it is up to the Board of Directors to determine the precise amount payable within that limit and its distribution among the various Directors, factoring in the positions and duties performed by each within the Board and its Committees, the membership of the Committees, the positions held by each one of them on the Board and any other objective circumstance considered as relevant.

The upper limit established in the Director Remuneration Policy approved at the Annual General Meeting held on April 30, 2015, under item nineteen of the corresponding agenda, is €8.5 million.

The amount of remuneration accrued in 2018 by the members of the Board of Directors in their capacity as Board members against the aforesaid assignment amounted to €7.058 million, the detail being as follows:

Remuneration of Board members relating to their position (euros)

Board of Directors	Board	Delegate Com.	Audit Com.	Appoints. Com.	Renum. Com.	Sustain. Com.	Total
Antonio Brufau Niubó ⁽¹⁾	(1)	(1)	-	-	-	-	2,500,000
Josu Jon Imaz San Miguel	176,594	176,594	-	-	-	-	353,188
Gonzalo Gortázar Rotaache ⁽²⁾	117,729	117,729	-	-	14,716	-	250,174
Jordi Gual Solé ⁽³⁾	117,729	-	-	14,716	-	29,432	161,877
Henri Philippe Reichstul ⁽⁴⁾	29,432	29,432	-	-	-	-	58,864
M ^a del Carmen Ganyet i Cirera ⁽⁵⁾	117,729	-	58,865	14,716	-	-	191,310
Ignacio Martín San Vicente ⁽⁶⁾	117,729	117,729	-	-	14,716	-	250,174
Artur Carulla Font ⁽⁷⁾	73,581	73,581	-	9,198	9,198	-	165,558
Mario Fernández Pelaz ⁽⁸⁾	29,432	-	14,716	3,679	3,679	-	51,506
María Teresa Ballester Fornés ⁽⁹⁾	176,594	-	88,297	-	14,716	-	279,607
Ángel Duráñez Adeva ⁽¹⁰⁾	176,594	-	88,297	14,716	22,074	-	301,681
Manuel Manrique Cecilia	176,594	176,594	-	-	-	-	353,188
Luis Carlos Croissier Batista	176,594	-	88,297	-	-	44,148	309,039
Rene Dahan	176,594	176,594	-	-	-	-	353,188
José Manuel Loureda Mantiñán	176,594	-	-	22,074	22,074	44,148	264,890
Mariano Marzo Carpio	176,594	-	-	22,074	-	44,148	242,816
Isabel Torremocha Ferrezuelo	176,594	-	88,297	-	-	-	264,891
J. Robinson West	176,594	176,594	-	-	-	-	353,188
Luis Suárez de Lezo Mantilla	176,594	176,594	-	-	-	-	353,188

Note: In accordance with the scheme adopted by the Board of Directors, and at the proposal of the Remuneration Committee, the amount due annually in 2018 came to: (i) €176,594 for membership of the Board of Directors; (ii) €176,594 for membership of the Delegate Committee; (iii) €88,297 for membership of the Audit and Control Committee; (iv) €44,148 for membership of the Sustainability Committee; (v) €22,074 for Membership of the Nomination Committee; and (vi) €22,074 for Membership of the Remuneration Committee.

⁽¹⁾ On April 30, 2015, Mr. Brufau stepped down from his executive duties, and on the same date the General Shareholders' Meeting approved his re-election as non-executive Chairman of the Board of Directors and his new remuneration conditions, applicable from May 1, 2015, consisting of a fixed remuneration of 2,500 thousand euros gross per year. In addition, remuneration in kind and payments on account/withholdings linked to remuneration in kind totaled 0.605 million euros.

⁽²⁾ Mr. Gortázar resigned from his post as Director and member of the Executive Committee and of the Remuneration Committee on September 20, 2018 after Caixabank, S.A. announced that it would sell its entire shareholding in Repsol, S.A.

⁽³⁾ Mr. Gual resigned from his post as Director and member of the Appointments Committee and the Sustainability Committee on September 20, 2018 after Caixabank, S.A. announced that it was selling its entire stake in Repsol, S.A.

⁽⁴⁾ Mr. Reichstul was appointed as Director via co-option and member of the Executive Committee on October 30, 2018.

⁽⁵⁾ Ms Ganyet was appointed Director and member of the Audit and Control Committee and the Appointments Committee on May 11, 2018.

⁽⁶⁾ Mr. Martín San Vicente was appointed Director and member of the Executive Committee and of the Remuneration Committee on May 11, 2018.

⁽⁷⁾ Mr. Carulla ended his term as Director and as Chairman of the Remuneration Committee and member of the Executive Committee and of the Appointments Committee on May 11, 2018.

⁽⁸⁾ Mr. Fernández resigned as Director, Chairman of the Appointments Committee and member of the Audit and Control Committee and of the Remuneration Committee on February 20, 2018.

⁽⁹⁾ Ms Ballester was appointed member of the Remuneration Committee on May 11, 2018.

⁽¹⁰⁾ Mr. Duráñez was appointed member of the Appointments Committee and the Remuneration Committee on May 11, 2018, being appointed Chairman of both Committees on June 27 and July 25, 2018, respectively.

Additionally, it should also be noted that:

- The members of the Board of Directors of the parent company have not been granted any loans or advances by any Group company, joint arrangement or associate.
- The non-executive Directors only receive the fixed remuneration indicated in the table above and are excluded from the schemes financed by the Company to provide coverage in the event of termination, death or other developments and from the Company's short and long term performance-based bonus schemes. As regards the Chairman of the Board of Directors, see Note 1 of the table of remuneration for being part of the Administration Bodies, in this section.
- No Group company, joint arrangement or associated company has pension or life insurance obligations to any former or current member of the Board of Directors of the parent company, except in the case of the Chairman of the Board, the Chief Executive Officer and the General Counsel Secretary, whose remuneration are subject to the commitments set forth in their respective contracts for services, as described further on.

b) Due to the holding of executive positions and performing executive duties

In 2018, compensation to Directors for the performance of executive duties was as follows:

€ Million	Mr. Josu Jon Imaz San Miguel	Mr. Luis Suárez de Lezo Mantilla
Fixed monetary remuneration	1.200	0,983
Variable remuneration and in kind ⁽¹⁾	2.475	1.841

⁽¹⁾ Includes, among other items, life and disability insurance and health insurance, as well as variable annual and multi-annual remuneration, as well as additional shares corresponding to the settlement of the fifth cycle of the Share Acquisition Plan by the beneficiaries of the long-term incentive programs, as detailed in section 30.1) e).

The above amounts do not include the amounts detailed in section c) and d) below.

c) Due to membership of the Boards of Directors of subsidiaries

The remuneration earned in 2018 by the members of the parent's Board of Directors in their capacity as directors of other Group companies, joint arrangements and associates amounted to €0.138 million, according to the following detail:

€ Million	Naturgy
Josu Jon Imaz San Miguel	0,046
Luis Suárez de Lezo Mantilla	0,092

d) Due to contributions to pension plans, long-service bonuses and welfare plans

The cost in 2018 of the contributions made to pension plans, long-service bonuses and welfare plans for the members of the Executive Directors discharging executive duties in the Group amounted to:

	€ Million
Josu Jon Imaz San Miguel	0,254
Luis Suárez de Lezo Mantilla	0,197

e) Share Purchase Plan for beneficiaries of the multi-year variable remuneration programs

On May 29, 2018, the vesting period concluded for the fifth cycle of the share purchase program for beneficiaries of long-term incentive programs (see Note 29.4.i). Upon vesting, Josu Jon Imaz became entitled to the receipt of 2,201 (before withholdings), valued at a unit price of €16.91 per share. Luis Suárez de Lezo Mantilla became entitled to receive 957 shares at the same valuation.

30.2) Indemnity payments to Board Members

None of the Directors received any indemnity payment from Repsol in 2018.

30.3) Other transactions with directors

During 2018, Repsol's Directors did not conclude any material transaction with the Company or any of the Group companies outside the ordinary course of business or on terms other than those afforded to customers or other than on an arm's length basis.

The Chief Executive Officer signed up for the 2016-2019, 2017-2020 and 2018-2021 cycles of the Share Purchase Plan for beneficiaries of the long-term incentive programs, as detailed in Note 29. The General Counsel Secretary has signed up for the 2017-2020 and 2018-2021 cycles of this Plan.

In 2018, the Board of Directors has not been made aware of any situation of direct or indirect conflict of interest. Nevertheless, in accordance with article 229 of the Companies Act, in that fiscal year resolutions of the Board and of the Nomination Committee regarding related-party transactions, ratification, re-election and continuity of Directors and on appointment to positions within the Board were adopted in the absence of the Director and its committees affected by the relevant proposed resolution.

In addition, the Executive Directors did not participate in the approval of the Board of Directors resolutions regarding their compensation for the performance of executive duties at the Company.

30.4) Remuneration of key management personnel

a) Scope

For reporting purposes in this section, Repsol considers "*key management personnel*" to be the members of the Executive Committee. In 2018, a total of 10 persons formed the Executive Committee. The term "*key management personnel*", made purely for reporting purposes, neither substitutes nor comprises a benchmark for interpreting other senior management pay concepts applicable to the Company under prevailing legislation (e.g. Royal Decree 1382/1985), nor does it have the effect of creating, recognizing, amending or extinguishing any existing legal or contractual rights or obligations.

This section itemizes the remuneration accrued in 2018 by the people who, at some juncture during the period and during the time they occupied such positions, were members of the Board of Directors. Unless indicated otherwise, the compensation figures provided for "*key management personnel*" do not include the compensation accrued by people who are also directors of Repsol, S.A.; the director compensation disclosures for these individuals are included in section 1 of this note.

b) Wages and salaries, executive welfare plan, pension fund and insurance premiums.

The total remuneration earned in 2018 by executive officers who formed part of the Executive Committee is as follows:

	€ Million
Wages	5.314
Allowances	0,090
Variable remuneration ⁽¹⁾	5.425
Remuneration in kind ⁽²⁾	0,700
Executive welfare plan	1.103

⁽¹⁾ This consists of an annual bonus, and a multi-annual bonus, calculated both as a given percentage of the fixed remuneration earned on the basis of the degree to which certain targets are met.

⁽²⁾ Includes, inter alia, vested entitlement to 10,170 additional shares (before withholdings) at the end of the vesting period for the fifth cycle of the share purchase plan for beneficiaries of the long-term incentive programs, valued at €16.91 per share, representing an equivalent amount of €171,946 gross. It also includes contributions to pension plans for executives (see Note 29), and the amount of premiums paid for life and disability insurance, amounting to €0.332 million.

c) Advances and loans granted

At December 31, 2018, the Company had granted loans to members of its management amounting to €0.367 Million, having accrued an average interest rate of 2.1% during the current financial year.

30.5) Indemnity payments to key management personnel

Key management personnel are entitled under their contracts to severance pay if their employment is terminated for any reason other than breach of executive duties, retirement, disability or their own free will without reference to any of the indemnifiable events specified in the contracts.

The Group has arranged a collected insurance agreement to assure such benefits for Executive Committee members with the title General Manager, and for Directors that have performed executive duties.

In 2018, the compensation received by the Group's key management personnel in the form of termination benefits and compensation for non-compete clauses totaled €14.78 Million.

30.6) Other transactions with key management personnel

Notwithstanding the foregoing, during 2018, Repsol's key management personnel did not conclude any material transaction with the Company or any of the Group companies outside the ordinary course of business or on terms other than those afforded to customers or other than on an arm's length basis.

Additionally, executive personnel signed up for the 2016-2019, 2017-2020 and 2018-2021 cycles of the Share Purchase Plan for beneficiaries of the long-term incentive programs, as detailed in Note 29.

30.7) Civil liability insurance

During the financial year 2018, the Repsol Group subscribed a civil liability policy for Board members, the executive officers referred to in Note 30.4.a), and the rest of officers and people executing such functions, for a total premium of €1.8 million. The policy also covers different Group companies under certain circumstances and conditions.

(31) ENVIRONMENTAL INFORMATION

In relation to the risks and management of climate change, as well as the Group's environmental management, see sections 6.1 "*Climate change*" and 6.3 "*Environment*" of the Consolidated Management Report.

31.1) Environmental investment, expenses and provisions¹

Environmental investments in 2018 amounted to € 241 million (€ 199 million classified as 'work in progress' at 31 December). Of note are those aimed at improving environmental quality of oil products, managing and optimizing water consumption, minimizing emissions into the atmosphere, increasing energy saving and efficiency and improving contingency systems and spill prevention systems and managing and optimizing water consumption. Of particular note in 2018 is the completion of the project to adapt the new quality specifications at the La Pampilla refinery in Peru, with the start-up of the gasoline production units for an accumulated investment of €245 million (€ 29 million invested in 2018).

Environmental expenses, which are recorded under the headings "*Supplies*" and "*Other Operating Expenses*", amounted to €195 million and €162 million in 2018 and 2017, respectively, and include the expenses for the rights necessary to cover CO₂ emissions (see next section). In 2018, the actions carried out for the protection of the atmosphere in the *downstream* industrial facilities amounting to €27 million (€31 million in 2017); water management amounting to €17 million (€19 million in 2017); waste management amounting to €18 million (€16 million in 2017), and soil remediation and abandonment amounting to €8 million (€12 million in 2017) stand out.

In addition, €33.7 million were invested in energy efficiency projects in 2018, including a €5 million investment in the Coruña refinery to reduce emissions by replacing turbines in the fluid catalytic cracking unit (FCC), and a €5.9 million euro investment in Petronor for efficiency actions in furnaces and heat exchangers.

Provisions for environmental actions² at 31 December 2018 amount to €53 million (€79 million in 2017). No significant provisions were recorded during the year. Additionally, the Group has registered field dismantling provisions (see Note 14).

The insurance policies cover, subject to terms and conditions, civil liability for pollution on land and at sea and certain liabilities *via-a-vis* the authorities pursuant to the Environmental Liability Act, all of which derived from accidental, sudden and identifiable events, in keeping with habitual industry practice and applicable legislation.

¹ Items identified as an environmental nature, are understood as those the purpose of which is to minimize environmental impact and to protect and improve the environment. The criteria for their assessment are based on the Group's technical criteria established in the "Repsol Safety and Environmental Costs Guide" based on the guidelines issued by the American Petroleum Institute (API).

² Repsol recognizes the provisions required to cover the measures aimed at preventing and repairing environmental impact. These provisions are presented under "*Current and non-current provisions*" on the balance sheet and under the "*Other provisions*" column in the table reconciling the movement in provisions in Note 14.

31.2) Carbon emission allowances

Accounting policies –Carbon emission allowances

Emission allowances are recognized as an intangible asset and are initially recognized at acquisition cost. Those received free of charge under the emissions trading system for the period 2013-2020, are initially recognized at the market price prevailing at the beginning of the year in which they are issued, against deferred income as a grant. As the corresponding tons of CO₂ are issued, the deferred income is reclassified to profit or loss.

They are not amortized as their carrying amount matches their residual value and are subject to an impairment test based on their recoverable amount, (measured with reference to the price of the benchmark contract in the futures market provided by the ECX-European Climate Exchange).

The Group records an expense under “Other operating expenses” in the income statement for the Carbon emissions released during the year, recognizing a provision calculated based on the tons of CO₂ emitted, measured at: (i) their carrying amount in the case of the allowances of which the Group is in possession at year end; and (ii) the closing list price in the case of allowances of which it is not in possession at year end.

When the emissions allowances for the CO₂ tons emitted are delivered to the authorities, the intangible assets as well as their corresponding provision are derecognized from the balance sheet without any effect on the income statement.

When carbon emission allowances are actively managed to take advantage of market trading opportunities, the trading allowances portfolio is classified as trading inventories (see Note 16).

In Europe, the regulation concerning the carbon allowances market, the EU Emissions Trading System Directive (EU-ETS) entered Phase III on January 1, 2013. This phase, which ends in 2020, marks the end of the generic allocation of carbon emission allowances, where some emissions, such as those related to electricity generation, will no longer benefit from free allocations, while others will be significantly reduced. The 2014 update to the EU-ETS Directive confirmed that refining activity in Europe was one of the sectors exposed to "Carbon Leakage" and would therefore continue to benefit from the free allocation of carbon allowances, partially covering its deficits.

The provisions movements recognized in respect of carbon emission allowances used in 2018 and 2017 is as follows:

	€ Million	
	2018	2017
Opening balance for the year	69	72
Contributions charged to results ⁽¹⁾	114	69
Reclassifications and other movements ⁽²⁾	(70)	(72)
Balance at year end	113	69

⁽¹⁾ Corresponds to the expense incurred to acquire the allowances needed to cover the Group's carbon emissions.

⁽²⁾ In 2018 and 2017, corresponds to the derecognition of allowances used to cover emissions made in 2017 and 2016, respectively (see Note 11).

During 2018 and 2017, the companies comprising the consolidation scope recognized emission allowances allocated free of charge under the Spanish National Allocation plan equivalent to 8 million tons of CO₂, initially measured at €63 and €51 million, respectively (see Note 11).

The net cost of carbon management amounted to 44 million euros in 2018 and 17 million euros in 2017.

(32) FURTHER BREAKDOWNS

32.1) Staff¹

Repsol Group employed a total of 24,506 people at December 31, 2018, geographically distributed as follows: Spain (16,740 employees), North America (1,339 employees), South America (3,927 employees), Europe, Africa and Brazil (1,754 employees), Asia and Russia (745 employees) and Oceania (1 employee). Average headcount in 2018 was 24,691 employees (24,675 employees in 2017).

¹ For further information on the workforce and human resource management policies, see section 6.2 of the Consolidated Management Report.

Below is a breakdown of the Group's total staff¹ distributed by professional categories and genders at year-end 2018 and 2017:

	2018		2017	
	Men	Women	Men	Women
Executives	217	56	212	50
Technical Managers	1,752	746	1,648	685
Technicians	7,051	4,621	7,123	4,382
Manual workers junior personnel	6,405	3,658	6,613	3,513
Total ⁽¹⁾	15,425	9,081	15,596	8,630

The Repsol Group employed a total of 567 people of differing abilities at December 31, 2018 (2.31% of its workforce).

In Spain in 2018, using the computation criteria stipulated in Spanish law on the rights of people with disability and their integration, the Group surpassed the legally required percentage threshold: its differently-abled workforce accounted for 2.52% of the total in Spain, namely 485 direct hires.

32.2) Fees paid to auditors

The approved fees for audit services, professional services related to the audit and other non-audit services provided during the year to Repsol Group companies by PriceWaterhouseCoopers Auditores, S.L and the companies in its network(PwC)², as well as the fees for those provided by other audit firms, are shown below:

€ Million	Main auditor		Other auditors ⁽¹⁾	
	2018	2017	2018	2017
Audit and related services:	7.3	7.0	-	1.9
Audit services	6.6	6.2	-	1.9
Other related services	0.7	0.8	-	-
Tax services	0.0	0.3	-	0.7
Other services	0.2	0.3	-	-
Total ⁽²⁾⁽³⁾⁽⁴⁾	7.5	7.6	0.0	2.6

(1) In 2017 this mainly includes fees due to EY, S.L. for audit work and other services provided to Repsol Oil&Gas Canada, Inc. and its subsidiaries.

(2) The 2017 information has been modified for comparative purposes to conform to the 2018 presentation criteria

(3) The fees approved in 2018 by PriceWaterhouseCoopers Auditores, S.L. for audit and related services amounted to €4.1 million and €0.5 million, respectively.

(4) The fees received by the auditor for services other than the auditing of accounts do not exceed 70% of the amount of the audit fees, thus complying with the provisions of Law 22/2015, of 20 July, on the Auditing of Accounts in Spain, and with the requirement of Article 4.2 on audit fees of Regulation (EU) No. 537/2014, of April 16 of the European Parliament and of the Council.

The "*Audit Services*" heading includes the fees relating to the audit of the individual and consolidated annual accounts of Repsol, S.A. and of the companies forming part of its Group, the limited reviews of the Group's interim consolidated financial statements, whose work allows evidence to be obtained for the audit, and the review of the information relating to the Group's Internal Financial Reporting Control System (IFRS).

The "*Other Related Services*" caption includes, mainly, verifications and certifications for partners and official bodies, reports for the issuance of bonds and other negotiable securities (*Comfort letters*), as well as the verification of the non-financial information of the consolidated management report.

The "*Tax Services*" caption includes mainly tax advisory services and assistance in connection with tax inspections.

The heading "*Other Services*" in 2018 includes consultancy work in the area of information technology.

¹ Pursuant to the provisions of Organic Law 3/2007, of March 22, which promotes true equality between men and women, published in the Official State Gazette of March 23, 2007.

² Repsol's Annual Shareholders' Meeting held on May 19, 2017 approved the appointment of PwC as the auditor of Repsol, S.A. and the Group for 2018, 2019 and 2020. In 2017 the main auditor was Deloitte.

The directors of the Parent Company obtained confirmation from the Group auditor of the Group's compliance with the applicable independence requirements in accordance with the aforementioned Law and Regulations.

32.3) Research and development

Research costs incurred are recognized as expenses for the year and development costs are capitalized only if all the conditions stipulated in the applicable accounting standard are met.

The expense recognized in the income statement in connection with research and development activities amounted to €75 million in 2018 and €65 million in 2018 and 2017 respectively. The capitalized expenses corresponding to development activities amounted to €22 million in 2018.

32.4) Relevant agreements for the year

Repsol has signed an agreement with US firm Venture Global LNG to supply approximately one million tons per year of liquefied natural gas (LNG) for 20 years from the *Calcasieu Pass* export plant that Venture Global LNG is developing in *Cameron Parish*, Louisiana. Repsol will purchase LNG from the commissioning of the plant in 2022, which will be employed both to supply gas to industrial complexes in Spain and to be sold worldwide. This contract is subject to Venture Global LNG's final investment decision in the facility and to compliance with various administrative milestones with the relevant authorities (*Department of Energy* and *Federal Energy Regulatory Commission*).

The price of this supply contract is indexed to the Henry Hub price.

(33) SUBSEQUENT EVENTS

On February 19, 2019, a major gas discovery was announced in Indonesia with the Kaliberau Dalam-2X (KBD-2X) exploratory well in the Sakakemang onshore block, located in the south of the island of Sumatra, where Repsol is the operating company with a 45% stake.

Preliminary estimates of recoverable resources are around 2 billion cubic feet of gas (TCF), making it one of the world's leading hydrocarbon discoveries in the last twelve months and the largest gas discovery in Indonesia in the last 18 years.

(34) EXPLANATION ADDED FOR TRANSLATION TO ENGLISH

These consolidated financial statements are prepared on the basis of IFRSs, as endorsed by the European Union, and Article 12 of Royal Decree 1362/2007. Consequently, certain accounting practices applied by the Group may not conform to other generally accepted accounting principles in other countries.

APPENDIX I: GROUP'S CORPORATE STRUCTURE

APPENDIX IA: MAIN COMPANIES COMPRISING THE REPSOL GROUP AT DECEMBER 31, 2018

				December 2018				
				%		Millions of Euros		
Name	Parent company	Country	Corporate purpose	Method of consolidation ⁽¹⁾	Dism. Control ⁽²⁾	Dism. Total Group	Equity ⁽³⁾	Share Capital ⁽³⁾
UPSTREAM								
Agri Development, B.V. ⁽²⁸⁾	Repsol Sinopec Brasil, B.V.	The Netherlands	Platform for production of crude oil and natural gas	EM (NC)	10.00	6.00	0	0
Akakus Oil Operations, B.V.	Repsol Exploración Murzuq, S.A.	The Netherlands	Oil and gas exploration and production	EM	49.00	49.00	0	0
ASB Geo (S)	Repsol Exploración, S.A.	Russia	Oil and gas exploration and production	EM (NC)	50.01	50.01	0	0
BP Trinidad & Tobago, Llc. ⁽²⁸⁾	BPRY Caribbean Ventures, Llc.	Estados Unidos	Exploración y producción de hidrocarburos	EM (NC)	100.00	30.00	0	0
BPRY Caribbean Ventures, Llc. ⁽²⁷⁾	Repsol Exploración S.A.	Estados Unidos	Exploración y producción de hidrocarburos	EM (NC)	30.00	30.00	2,202	2,725
Cardón IV, S.A.	Repsol Exploración, S.A.	Venezuela	Exploración y producción de hidrocarburos	EM (NC)	50.00	50.00	(960)	3
CSJC Eurotek - Yugra	Repsol Exploración Karabashsky, B.V.	Russia	Oil and gas exploration and production	EM (NC)	71.51	71.51	66	0
Dubai Marine Areas Ltd.	Repsol Exploración, S.A.	United Kingdom	Oil and gas exploration and production (11) (12)	EM (NC)	50.00	50.00	2	0
Equion Energia Ltd.	Talisman Colombia Holdco Ltd.	United Kingdom	Oil and gas exploration and production	EM (NC)	49.00	49.00	535	0
FEHI Holding S.ar.l.	TE Holding S.a.r.l.	Luxembourg	Portfolio company	FC	100.00	100.00	2,802	195
Foreland Oil Ltd. (9)	Rift Oil, Ltd.	British Virgin Islands	Oil and gas exploration and production	FC	100.00	100.00	32	250
Fortuna Resources (Sunda) Ltd. (9)	Talisman UK (South East Sumatra) Ltd.	British Virgin Islands	Oil and gas exploration and production (11)	FC	100.00	100.00	51	0
Guará, B.V. ⁽²⁸⁾	Repsol Sinopec Brasil, B.V.	Países Bajos	Platform for production of crude oil and natural gas	EM	25.00	15.00	0	0
MC Alrep, Llc.	AR Oil & Gaz, B.V.	Rusia	Servicios de gestión de empresas del IV	EM (NC)	100.00	49.00	0	0
Lapa Oil & Gas, B.V. ⁽²⁸⁾	Repsol Sinopec Brasil, B.V. (20)	Países Bajos	Platform for production of crude oil and natural gas	EM	25.00	15.00	0	0
Occidental de Colombia LLC	Repsol International Finance, B.V.	United States	Portfolio company	EM (NC)	25.00	25.00	141	92
Paladin Resources Ltd.	TE Holding S.a.r.l.	United Kingdom	Portfolio company	FC	100.00	100.00	481	292
Pan Pacific Petroleum (Vietnam) Pty, Ltd.	Repsol Exploración, S.A.	Australia	Oil and gas exploration and production	FC	100.00	100.00	14	0
Petrocarabobo, S.A.	Repsol Exploración, S.A.	Venezuela	Oil and gas exploration and production	EM (NC)	11.00	11.00	482	542
Petroquiquire, S.A. Joint Venture	Repsol Exploración, S.A.	Venezuela	Oil and gas exploration and production.	EM (NC)	40.00	40.00	(1,000)	228
Quiquire Gas, S.A. Joint Venture	Repsol Venezuela, S.A.	Venezuela	Oil and gas exploration and production.	EM (NC)	60.00	60.00	0	0
Repsol Alberta Shale Partnership	Repsol Oil & Gas Canada Inc.	Canada	Oil and gas exploration and production	FC	100.00	100.00	1,216	1,412
Repsol Angola 22, B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	36	341
Repsol Angola 35, B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production (11)	FC	100.00	100.00	1	119
Repsol Angola 37, B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production (11)	FC	100.00	100.00	5	252
Repsol Angostura, Ltd.	Repsol Exploración, S.A.	Trinidad and Tobago	Oil and gas exploration and production	FC	100.00	100.00	1	33
Repsol Aruba, B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	17	17
Repsol Bulgaria, B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	21	111
Repsol Bulgaria Khan Kubrat, S.A. (5)	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	0	0
Repsol Canada Energy Partnership	Repsol Oil & Gas Canada Inc.	Canada	Oil and gas exploration and production	FC	100.00	100.00	5,384	1,335
Repsol Ductos Colombia, S.A.S.	Talisman Colombia Holdco Ltd.	Colombia	Oil and gas exploration and production	FC	100.00	100.00	59	3
Repsol E&P Bolivia, S.A.	Repsol Bolivia, S.A.	Bolivia	Oil and gas exploration and production	FC	100.00	100.00	689	133
Repsol E&P Canada Ltd.	Repsol Exploración, S.A.	Canada	Oil and gas exploration and production	FC	100.00	100.00	3	91
Repsol E&P Eurasia, Llc.	Repsol Exploración, S.A.	Russia	Oil and gas exploration and production	FC	99.99	99.99	3	5
Repsol E&P USA, Inc.	Repsol USA Holdings Corporation	United States	Oil and gas exploration and production	FC	100.00	100.00	2,726	2,869
Repsol E&P USA Holdings, Inc.	Repsol Oil & Gas Holdings USA, Inc.	United States	Oil and gas exploration and production	FC	100.00	100.00	2,438	1,652
Repsol Ecuador, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	(375)	5
Repsol Energy North America Corporation	Repsol USA Holdings Corporation	United States	Marketing of LNG	FC	100.00	100.00	(472)	250
Repsol Exploración 17, B.V. (14)	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	0	0
Repsol Exploración Aitoloakarnania, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	3	0
Repsol Exploración Argelia, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	457	5
Repsol Exploración Atlas, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	0	0
Repsol Exploración Bougehezou, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	0	0
Repsol Exploración Caribe, S.L.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production (11)	FC	100.00	100.00	0	0
Repsol Exploración Cendrawasih I, B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	(1)	27
Repsol Exploración Cendrawasih II, B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production (11)	FC	100.00	100.00	0	13
Repsol Exploración Cendrawasih III, B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production (11)	FC	100.00	100.00	0	4
Repsol Exploración Cendrawasih IV, B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	0	6
Repsol Exploración Colombia, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	95	2
Repsol Exploración East Bula, B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production (11)	FC	100.00	100.00	0	4

					December 2018				
					%		Millions of Euros		
Name	Parent company	Country	Corporate purpose	Method of consolidation ⁽¹⁾	Dism. Control ⁽²⁾	Dism. Total Group	Equity ⁽³⁾	Share Capital ⁽³⁾	
Repsol Exploración Gharb, S.A. (14)	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	22	0	
Repsol Exploración Guinea, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production (11)	FC	100.00	100.00	0	0	
Repsol Exploración Guyana, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	15	0	
Repsol Exploración Ioannina, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	25	0	
Repsol Exploración Irlanda, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	16	0	
Repsol Exploración Jamaica, S.A. (5)	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	0	0	
Repsol Exploración Karabashsky, B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	136	131	
Repsol Exploración Kazakhstan, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production (11)	FC	100.00	100.00	7	0	
Repsol Exploración Liberia, B.V. (6)	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production (11)	FC	100.00	100.00	3	57	
Repsol Exploración México, S.A. de C.V.	Repsol Exploración, S.A.	Mexico	Oil and gas exploration and production	FC	100.00	100.00	108	109	
Repsol Exploración Murzuq, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	316	9	
Repsol Exploración Perú, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	197	11	
Repsol Exploración Seram, B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production (11)	FC	100.00	100.00	0	7	
Repsol Exploración South East Jambi B.V. (19)	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	1	0	
Repsol Exploración Tanfit, S.L. (16)	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production (11)	FC	100.00	100.00	8	3	
Repsol Exploración Tobago, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	15	0	
Repsol Exploración, S.A.	Repsol S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	13,483	26	
Repsol Exploration Australia, Pty, Ltd.	Repsol Exploración, S.A.	Australia	Oil and gas exploration and production	FC	100.00	100.00	0	22	
Repsol Exploration Namibia Pty, Ltd.	Repsol Exploración, S.A.	Namibia	Oil and gas exploration and production (11)	FC	100.00	100.00	(12)	0	
Repsol Exploração Brasil, Ltda.	Repsol Exploración, S.A.	Brazil	Oil and gas exploration and production	FC	100.00	100.00	34	35	
Repsol Groundbirch Partnership	Repsol Oil & Gas Canada Inc.	Canadá	Exploración y producción de hidrocarburos	I.G.	100.00	100.00	3	227	
Repsol Investigaciones Petrolíferas, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	489	208	
Repsol Jambi Merang, S.L. (5)	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	0	0	
Repsol Libreville, S.A. avec A.G.	Repsol Exploración, S.A.	Gabon	Oil and gas exploration and production	FC	100.00	100.00	(10)	66	
Repsol LNG Holdings, S.A.	Repsol Exploración, S.A.	Spain	Hydrocarbon marketing	FC	100.00	100.00	9	2	
Repsol Louisiana Corporation (12)	Repsol USA Holdings Corporation	United States	Oil and gas exploration and production	FC	100.00	100.00	24	90	
Repsol Norge, AS	Repsol Exploración, S.A.	Norway	Oil and gas exploration and production	FC	100.00	100.00	132	0	
Repsol OCP de Ecuador, S.A.	Repsol Ecuador, S.A.	Spain	Operation of an oil pipeline for the transport of hydrocarbons	FC	100.00	99.99	52	0	
Repsol Offshore E & P USA, Inc.	Repsol USA Holdings Corporation	United States	Oil and gas exploration and production	FC	100.00	100.00	11	29	
Repsol Oil & Gas Australia (JPDA 06-105) Pty Ltd.	Paladin Resources Ltd.	Australia	Oil and gas exploration and production	FC	100.00	100.00	(24)	143	
Repsol Oil & Gas Australasia Pty Ltd.	Talisman International Holdings, B.V.	Australia	Shared services company	FC	100.00	100.00	1	65	
Repsol Oil & Gas Canada, Inc. (10)	Repsol Energy Resources Canada Inc.	Canada	Oil and gas exploration and production	FC	100.00	100.00	5,445	6,002	
Repsol Oil & Gas Holdings USA Inc.	FEHI Holding S.a.r.l.	United States	Oil and gas exploration and production	FC	100.00	100.00	4,286	1,877	
Repsol Oil & Gas Malaysia (PM3) Ltd.	Repsol Oil & Gas Malaysia Holdings Ltd.	Barbados	Oil and gas exploration and production	FC	100.00	100.00	0	0	
Repsol Oil & Gas Malaysia Ltd.	Repsol Oil & Gas Malaysia Holdings Ltd.	Barbados	Oil and gas exploration and production	FC	100.00	100.00	0	0	
Repsol Oil & Gas Niugini Kimu Alpha Pty Ltd.	Repsol Oil & Gas Niugini Ltd.	Australia	Oil and gas exploration and production	FC	100.00	100.00	0	6	
Repsol Oil & Gas Niugini Kimu Beta Ltd.	Repsol Oil & Gas Niugini Ltd.	Papua Nueva Guinea	Oil and gas exploration and production	FC	100.00	100.00	0	14	
Repsol Oil & Gas Niugini Ltd.	Repsol Oil & Gas Papua Pty, Ltd.	Papua Nueva Guinea	Oil and gas exploration and production	FC	100.00	100.00	71	329	
Repsol Oil & Gas Niugini Pty Ltd.	Talisman International Holdings, B.V.	Australia	Oil and gas exploration and production	FC	100.00	100.00	339	592	
Repsol Oil & Gas Papua Pty Ltd.	Repsol Oil & Gas Niugini Pty Ltd.	Australia	Oil and gas exploration and production	FC	100.00	100.00	310	311	
Repsol Oil & Gas USA LLC.	Repsol E&P USA Holdings Inc.	United States	Oil and gas exploration and production	FC	100.00	100.00	1,855	1,767	
Repsol Oil & Gas Vietnam 07/03 Pty Ltd	Repsol Exploración, S.A.	Australia	Exploración y producción de hidrocarburos	I.G.	100.00	100.00	14	0	
Repsol Oriente Medio, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production (11)	FC	100.00	100.00	43	0	
Repsol Services México, S.A. de C.V. (17)	Repsol Downstream Internacional, S.A. (26)	Mexico	Oil and gas exploration and production	FC	100.00	100.00	0	0	
Repsol Servicios Colombia, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	5	0	
Repsol Sinopec Brasil, S.A. ⁽²⁷⁾	Repsol S.A.	Brasil	Hydrocarbon operations and marketing	EM (NC)	60.01	60.01	7,248	7,050	
Repsol Sinopec Resources UK Ltd. ⁽¹⁵⁾	Talisman Colombia Holdco Ltd.	Reino Unido	Hydrocarbon operations and marketing	EM (NC)	51.00	51.00	1,419	4,309	
Repsol Surorientes Ecuador, S.A.	Repsol Exploración, S.A.	Spain	Oil and gas exploration and production	FC	100.00	100.00	1	2	
Repsol U.K., Ltd.	Repsol Exploración, S.A.	United Kingdom	Oil and gas exploration and production	FC	100.00	100.00	(7)	1	
Repsol USA Holdings Corporation	Repsol Exploración, S.A.	United States	Oil and gas exploration and production	FC	100.00	100.00	3,024	3,055	
Repsol Venezuela, S.A.	Repsol Exploración Venezuela, B.V.	Venezuela	Oil and gas exploration and production	FC	100.00	100.00	148	700	
Saneco	AR Oil & Gaz, B.V.	Russia	Oil and gas exploration and production	EM (NC)	100.00	49.00	31	0	
SC Repsol Baicol, S.R.L.	Repsol Exploración, S.A.	Romania	Oil and gas exploration and production	FC	100.00	100.00	9	53	

Name	Parent company	Country	Corporate purpose	Method of consolidation ⁽¹⁾	December 2018			
					%		Millions of Euros	
					Dism. Control ⁽²⁾	Dism. Total Group	Equity ⁽³⁾	Share Capital ⁽³⁾
SC Repsol Pitesti, S.R.L.	Repsol Exploración, S.A.	Romania	Oil and gas exploration and production	FC	100.00	100.00	0	8
SC Repsol Targoviste, S.R.L.	Repsol Exploración, S.A.	Romania	Oil and gas exploration and production	FC	100.00	100.00	4	47
SC Repsol Targu Jiu, S.R.L.	Repsol Exploración, S.A.	Romania	Oil and gas exploration and production	FC	100.00	100.00	1	5
Talisman (Algeria) B.V.	Repsol Exploración, S.A. ⁽²⁴⁾	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	177	0
Talisman (Asia) Ltd.	Repsol Oil & Gas Canada Inc.	Canada	Oil and gas exploration and production	FC	100.00	100.00	(142)	3
Talisman (Block K 39) B.V.	Repsol Exploración, S.A. ⁽²⁴⁾	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	(2)	0
Talisman (Block K 44) B.V.	Repsol Exploración, S.A. ⁽²⁴⁾	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	0	0
Talisman (Block K 9) B.V.	Talisman Global Holdings, B.V.	The Netherlands	Oil and gas exploration and production (11) (12)	FC	100.00	100.00	0	0
Talisman (Colombia) Oil & Gas Ltd.	Repsol Exploración, S.A. (22)	Canada	Oil and gas exploration and production	FC	100.00	100.00	572	775
Talisman (Corridor) Ltd. (13)	Fortuna International (Barbados), Inc	Barbados	Oil and gas exploration and production	FC	100.00	100.00	929	41
Talisman (Jambi Merang) Ltd.	Talisman International Holdings, B.V.	United Kingdom	Oil and gas exploration and production	FC	100.00	100.00	52	71
Talisman (Pasangkayu) Ltd.	Repsol Oil & Gas Canada Inc.	Canada	Oil and gas exploration and production (11)	FC	100.00	100.00	(14)	45
Talisman (Sagen) Ltd.	Repsol Oil & Gas Canada Inc.	Canada	Oil and gas exploration and production (11)	FC	100.00	100.00	(84)	0
Talisman (Sumatra) Ltd.	Repsol Oil & Gas Canada Inc.	Canada	Oil and gas exploration and production (11)	FC	100.00	100.00	0	0
Talisman (Vietnam 133 & 134) Ltd.	Repsol Exploración, S.A. (22)	Canada	Oil and gas exploration and production	FC	100.00	100.00	15	31
Talisman (Vietnam 15-2/01) Ltd.	Repsol Exploración, S.A. (22)	Canada	Oil and gas exploration and production	FC	100.00	100.00	235	314
Talisman (Vietnam 46/02) Ltd.	Repsol Oil & Gas Canada Inc.	Canada	Oil and gas exploration and production (11)	FC	100.00	100.00	53	52
Talisman Andaman B.V.	Talisman International Holdings, B.V.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	59	0
Talisman Colombia Holdco Ltd.	Repsol Exploración, S.A. (23)	United Kingdom	Portfolio company	FC	100.00	100.00	426	4,133
Talisman Banyumas B.V.	Repsol Exploración, S.A. (21)	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	0	0
Talisman East Jabung B.V.	Talisman International Holdings, B.V.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	5	0
Talisman Energy Investments Norge AS	Talisman Perpetual (Norway) Ltd.	Norway	Oil and gas exploration and production (11) (12)	FC	100.00	100.00	0	1
Talisman Java B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	0	0
Talisman Resources (Bahamas) Ltd. (8)	Paladin Resources Ltd.	Bahamas	Oil and gas exploration and production (11)	FC	100.00	100.00	7	0
Talisman Resources (North West Java) Ltd.	Talisman UK (South East Sumatra) Ltd.	United Kingdom	Oil and gas exploration and production (11)	FC	100.00	100.00	33	0
Talisman Sadang B.V.	Talisman International Holdings, B.V.	The Netherlands	Oil and gas exploration and production (11) (12)	FC	100.00	100.00	0	0
Talisman Sakakemang B.V.	Talisman International Holdings, B.V.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	91	0
Talisman South Mandar B.V.	Talisman International Holdings, B.V.	The Netherlands	Oil and gas exploration and production (11)	FC	100.00	100.00	0	0
Talisman South Sageri B.V.	Talisman International Holdings, B.V.	The Netherlands	Oil and gas exploration and production (11)	FC	100.00	100.00	0	0
Talisman Transgasindo Ltd. (13)	Fortuna International (Barbados), Inc.	Barbados	Portfolio company	FC	100.00	100.00	(17)	25
Talisman UK (South East Sumatra) Ltd.	Paladin Resources, Ltd.	United Kingdom	Oil and gas exploration and production (11)	FC	100.00	100.00	50	0
Talisman Vietnam Ltd.	Talisman Oil, Ltd.	Barbados	Oil and gas exploration and production	FC	100.00	100.00	15	0
Talisman Vietnam 07/03 B.V.	Repsol Canada Inversiones, S.A. (24)	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	233	0
Talisman Vietnam 07/03-CRD Corporation LLC	Talisman International Holdings, B.V.	United States	Oil and gas exploration and production	FC	100.00	100.00	198	45
Talisman Vietnam 135-136 B.V.	Repsol Canada Inversiones, S.A. (24)	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	296	0
Talisman Vietnam 146-147 B.V.	Repsol Canada Inversiones, S.A. (24)	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	24	0
TNO (Tafneftoedacha)	AR Oil & Gaz, B.V.	Russia	Oil and gas exploration and production	EM (NC)	99.57	48.79	183	0
Transportadora Sulbrasileira de Gas, S.A.	Tucunaré Empreendimentos e Participações, Ltda.	Brazil	Gas pipeline construction and operation	EM (NC)	25.00	25.00	0	15
Transworld Petroleum (U.K.)	Repsol Sinopec North Sea Ltd.	United Kingdom	Oil and gas exploration and production	EM (NC)	100.00	51.00		
Triad Oil Manitoba Ltd.	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production (11)	FC	100.00	100.00	5	0
YPFB Andina, S.A. ⁽²⁷⁾	Repsol Bolivia, S.A.	Bolivia	Exploración y producción de hidrocarburos	EM (NC)	48.33	48.33	956	154
YPFB Transierra, S.A. ⁽²⁸⁾	YPFB Andina, S.A.	Bolivia	Transporte de hidrocarburos por gasoducto y oleoducto	EM	44.50	21.51	0	0
504744 Alberta Ltd.	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production (11)	FC	100.00	100.00	(7)	0
7308051 Canada Ltd	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production	FC	100.00	100.00	44	267
8441251 Canada Ltd.	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production	FC	100.00	100.00	12	14
8787352 Canada Ltd.	Repsol Oil & Gas Canada, Inc.	Canada	Oil and gas exploration and production	FC	100.00	100.00	2	2
Vung May 156-159 Vietnam B.V.	Repsol Exploración, S.A.	The Netherlands	Oil and gas exploration and production	FC	100.00	100.00	2	0

					December 2018				
					%	Millions of Euros			
Name	Parent company	Country	Corporate purpose	Method of consolidation ⁽¹⁾	Dism. Control ⁽²⁾	Dism. Total Group	Equity ⁽³⁾	Share Capital ⁽³⁾	
DOWNSTREAM									
Abastecimentos e Serviços de Aviação, Lda.	Repsol Portuguesa, S.A.	Portugal	Marketing of oil products	EM	50.00	50.00	0	0	
Air Miles España, S.A. (14)	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Travel Club Program. Loyalty Service	EM	26.67	25.78	11	0	
Arteche y García, S.L. (14)	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Installation and operation of service stations	FC	100.00	96.68	0	0	
Asfaltos Españoles, S.A.	Repsol Petróleo, S.A.	Spain	Asphalts	(4)	50.00	49.99	35	9	
Bardahl de México, S.A. de C.V. (5)	Repsol Downstream Internacional, S.A.	Mexico	Production and distribution of lubricants	EM (NC)	40.00	40.00	56	0	
Benzirep-Vall, S.L.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Installation and operation of service stations	FC	100.00	96.68	0	0	
Caiageste - Gestao de Areas de Serviço, Lda.	GESPOST	Portugal	Operation and management of gas stations	EM	50.00	50.00	0	0	
Campsa Estaciones de Servicio, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Operation and management of gas stations	FC	100.00	96.68	184	8	
Carburants i Derivats, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Andorra	Distribution of oil derivative products	EM	33.25	32.15	2	0	
CI Repsol Aviación Colombia, S.A.S. (5)	Repsol Downstream Internacional, S.A.	Colombia	Distribution and marketing of oil products	FC	100.00	100.00	0	0	
Cogeneración Gequisa, S.A. (14)	General Chemicals	Spain	Production of electricity and steam	EM	39.00	19.50	7	2	
Compañía Anónima de Revisiones y Servicios, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Installation and operation of service stations	FC	95.00	91.85	3	1	
Compañía Auxiliar de Remolcadores y Buques Especiales, S.A.	Repsol Petróleo, S.A.	Spain	Provision of maritime services	FC	100.00	99.19	7	0	
Distribuidora Andaluza Oriental, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Fuel marketing	EM (NC)	50.00	48.34	2	1	
Distribuidora de Petróleos, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Fuel marketing	FC	85.00	82.18	0	0	
Dynasol Altamira, S.A. de C.V. (14)	Dynasol Elastómeros, S.A. de C.V.	Mexico	Service provisions	EM (NC)	100.00	50.00	2	0	
Dynasol China, S.A. de C.V. (14)	Dynasol Gestión Mexico, S.A.P.I. de C.V.	Mexico	Service provisions	EM (NC)	99.99	49.99	17	5	
Dynasol Elastómeros, S.A. de C.V. (14)	Dynasol Gestión Mexico, S.A.P.I. de C.V.	Mexico	Production and marketing of chemical products	EM (NC)	100.00	50.00	89	27	
Dynasol Elastómeros, S.A.U. (14)	Dynasol Gestión, S.L.	Spain	Production and marketing of chemical products	EM (NC)	100.00	50.00	50	17	
Dynasol Gestión Mexico, S.A.P.I. de C.V. (14)	Repsol Química, S.A.	Mexico	Portfolio and shared services company	EM	50.00	50.00	258	187	
Dynasol Gestión, S.L.	Repsol Química, S.A.	Spain	Portfolio and shared services company	EM	50.00	50.00	234	42	
Dynasol, Llc. (14)	Dynasol Gestión, S.L.	United States	Marketing of petrochemical products	EM (NC)	100.00	50.00	0	0	
Endomexicana Renta y Servicios, S.A. de C.V. (5)	Repsol Downstream Internacional, S.A.	Mexico	Production and distribution of lubricants	EM (NC)	40.00	40.00	0	0	
Energy Express S.L.U. (14)	Societat Catalana de Petrolis, S.A.	Spain	Operation and management of gas stations	FC	100.00	91.89	4	1	
Estación de Servicio Barajas, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Installation and operation of service stations	FC	96.00	92.81	3	1	
Estaciones de Servicio El Robledo, S.L.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Installation and operation of service stations (11)	FC	100.00	96.68	0	0	
Estación de Servicio Montsia, S.L.	Repsol Comercial de Productos Petrolíferos, S.A.	España	Instalación y explotación de estaciones de servicio	P.E.(N.C.)	50.00	48.34	0	0	
Ezzing Renewable Energies S.L. (5)	Repsol Energy Ventures, S.A.	Spain	Development of solar power projects	EM	22.22	22.22	0	0	
Gas Natural West África S.L.	Repsol LNG Holding, S.A.	Spain	Oil and gas exploration and production.	EM (NC)	100.00	72.06	(1)	0	
Gastream México, S.A. de C.V.	Repsol S.A.	Mexico	Other activities (11)(12)	FC	100.00	100.00	0	27	
General Química, S.A.U. (14)	Dynasol Gestión, S.L.	Spain	Manufacture and sale of petrochemical products	EM (NC)	100.00	50.00	44	6	
Gestão e Admin. de Postos de Abastecimento, Unipessoal, Lda. GESPOST	Repsol Portuguesa, S.A.	Portugal	Marketing of oil products	FC	100.00	100.00	6	2	
Gestión de Puntos de Venta GESPEVESA, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Gas station management	EM (NC)	50.00	48.34	55	39	
Grupo Repsol YPF del Perú, S.A.C.	Repsol Perú B.V.	Peru	Shared services company	FC	100.00	100.00	2	0	
Iberian Lube Base Oil Company, S.A.	Repsol Petróleo, S.A.	Spain	Development and production of lubricant base oils	(4)	30.00	29.99	218	180	
Ibil, Gestor de Carga de Vehículo Eléctrico, S.A.	Repsol Nuevas Energías, S.A.	Spain	Operation of electric vehicle charging points	EM (NC)	50.00	50.00	3	13	
Industrias Negromex, S.A. de C.V. (14)	Dynasol Gestión Mexico, S.A.P.I. de C.V.	Mexico	Production of synthetic oilcloths	EM	99.99	49.99	0	0	
Insa Altamira, S.A. de C.V. (14)	Dynasol Gestión Mexico, S.A.P.I. de C.V.	Mexico	Supply of permanent staff	EM (NC)	99.99	49.99	2	0	
Insa Gpro (Nanjing), Synthetic Rubber Co., Ltd. (14)	Dynasol China, S.A. de C.V.	China	Production, search and development, sale of synthetic rubber.	EM (NC)	50.00	24.99	5	1	
Insa, Llc. (14)	Dynasol Gestión, S.L.	United States	Marketing of rubber NBR products	EM (NC)	100.00	50.00	8	10	
Klikin Deals Spain, S.L.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Customer and oil product marketing management.	EM	70.00	67.67	5	1	
Liaoning North Dynasol Synthetic Rubber Co., Ltd. (14)	Dynasol Gestión, S.L.	China	Production, search and development, sale of synthetic rubber.	EM (NC)	50.00	25.00	38	96	
Nanogap Sub n-m Powder S.A. (5)	Repsol Energy Ventures, S.A.	Spain	Development of nanoparticles and nanofibers for use in materials, energy and biomedical applications.	EM	8.78	8.78	0	0	
North Dynasol Shanghai Business Consulting Co Ltd.	Dynasol Gestión, S.L.	China	Marketing of rubber products	EM (NC)	50.00	25.00	0	0	
OGCI Climate Investments, Lp.	Repsol Energy Ventures, S.A.	United Kingdom	Technology Development	EM	9.09	9.09	68	81	
Petróleos del Norte, S.A.	Repsol S.A.	Spain	Construction and operation of an oil refinery.	FC	85.98	85.98	1,257	121	
Petronor Innovación, S.L.	Petróleos del Norte, S.A.	Spain	Research activities	FC	100.00	85.98	0	0	
Polidux, S.A.	Repsol Química, S.A.	Spain	Manufacture and sale of petrochemical products	FC	100.00	100.00	17	17	
Principle Power (Europe), Ltd. (14)	Principle Power, Inc.	United Kingdom	Electricity production	EM (NC)	100.00	22.98	17	0	
Principle Power Portugal Unipessoal, Lda. (14)	Principle Power, Inc.	Portugal	Electricity production	EM (NC)	100.00	22.98	17	0	
Principle Power, Inc.	Repsol Energy Ventures, S.A.	United States	Holding company	EM	22.98	22.98	15	36	

				December 2018					
				%		Millions of Euros			
Name	Parent company	Country	Corporate purpose	Method of consolidation ⁽¹⁾	Dism. Control ⁽²⁾	Dism. Total Group	Equity ⁽³⁾		
							Equity	Share Capital ⁽³⁾	
Puma Energy Perú, S.A.C. (5)	Repsol Comercial, S.A.C.	Peru	Sale of solid, liquid and gaseous fuels and related products	FC	100.00	82.38	10	11	
Recreus Industries S.L. (5)	Repsol Energy Ventures, S.A.	Spain	Distribution of oil derivative products	EM	16.67	16.67	0	0	
Refinería La Pampilla, S.A.A.	Repsol Perú B.V.	Peru	Hydrocarbon refining and marketing.	FC	82.39	82.39	384	465	
Repsol Butano, S.A.	Repsol S.A.	Spain	Marketing of LPG	FC	100.00	100.00	1,315	59	
Repsol Canada, Ltd. General Partner	Repsol Exploración, S.A.	Canada	Regasification of LNG	FC	100.00	100.00	5	5	
Repsol Chemie Deutschland, GmbH	Repsol Química, S.A.	Germany	Marketing of chemical products	FC	100.00	100.00	2	0	
Repsol Chile, S.A.	Repsol S.A.	Chile	Portfolio company (11)	FC	100.00	100.00	2	2	
Repsol Comercial de Productos Petrolíferos, S.A.	Repsol Petróleo, S.A.	Spain	Marketing of oil products	FC	99.79	96.68	1,128	335	
Repsol Comercial, S.A.C.	Refinería La Pampilla S.A.A.	Peru	Fuel marketing	FC	100.00	82.38	83	73	
Repsol Directo, Lda.	Repsol Portuguesa, S.A.	Portugal	Distribution and marketing of oil products	FC	100.00	100.00	2	2	
Repsol Directo, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Distribution and marketing of oil products	FC	100.00	96.68	3	0	
Repsol Downstream México, S.A. de C.V	Repsol Downstream Internacional, S.A. (25)	Mexico	Production and distribution of lubricants	FC	100.00	99.97	21	43	
Repsol Eléctrica de Distribución, S.L.	Repsol Petróleo, S.A.	Spain	Distribution and supply of electricity	FC	100.00	99.97	9	0	
Repsol Energy Canada, Ltd.	Repsol Exploración, S.A.	Canada	Marketing of LNG	FC	100.00	100.00	(1,436)	79	
Repsol Energy Ventures, S.A.	Repsol Nuevas Energías, S.A.	Spain	Development of new energy source projects	FC	100.00	100.00	35	2	
Repsol Exploration Advanced Services, AG	Repsol Exploración, S.A.	Switzerland	Human resource service provider	FC	100.00	100.00	1	0	
Repsol Gas Portugal, S.A.	Repsol Butano, S.A.	Portugal	Marketing of LPG	FC	100.00	100.00	64	3	
Repsol Italia, SpA	Repsol S.A.	Italy	Marketing of oil products	FC	100.00	100.00	24	2	
Repsol Lubrificantes y Especialidades, S.A.	Repsol Petróleo, S.A.	Spain	Production and marketing of oil derivatives	FC	100.00	99.97	70	5	
Repsol Lubrificantes e Especialidades Brasil Participações, Ltda.	Repsol Lubrificantes y Especialidades, S.A.	Brazil	Production and marketing of lubricants	FC	100.00	100.00	1	3	
Repsol Marketing, S.A.C.	Repsol Perú B.V.	Peru	Fuel and special product marketing	FC	100.00	100.00	11	3	
Repsol Marketing France, S.A.S.U. (5)	Repsol Downstream Internacional, S.A.	France	Marketing of oil products.	FC	100.00	100.00	0	0	
Repsol Maroc, S.A.	Repsol Butano, S.A.	Morocco	Marketing of LPG (11)	EM	99.96	99.96	0	1	
Repsol Nuevas Energías, S.A.	Repsol S.A.	Spain	Production, distribution and sale of biofuels	FC	100.00	100.00	783	1	
Repsol Perú, B.V.	Repsol S.A.	The Netherlands	Portfolio company	FC	100.00	100.00	212	167	
Repsol Petróleo, S.A.	Repsol S.A.	Spain	Import of products and operation of refineries	FC	99.97	99.97	4,703	218	
Repsol Polimeros, S.A.	Repsol Química, S.A.	Portugal	Manufacture and sale of petrochemical products	FC	100.00	100.00	263	62	
Repsol Portuguesa, S.A.	Repsol S.A.	Portugal	Distribution and marketing of oil products	FC	100.00	100.00	219	59	
Repsol Química, S.A.	Repsol S.A.	Spain	Manufacture and sale of petrochemical products	FC	100.00	100.00	1,614	60	
Repsol St. John LNG, S.L.	Repsol LNG Holding, S.A.	Spain	Sector studies	FC	100.00	100.00	0	0	
Repsol Trading Perú, S.A.C.	Repsol Trading, S.A.	Peru	Trading and transport	FC	100.00	100.00	1	3	
Repsol Trading Singapore Pte., Ltd.	Repsol Trading, S.A.	Singapore	Trading and transport	FC	100.00	100.00	(37)	0	
Repsol Trading USA Corporation	Repsol USA Holdings Corporation	United States	Trading and transport	FC	100.00	100.00	(107)	0	
Repsol Trading, S.A.	Repsol S.A.	Spain	Supply, Marketing, Trading and Transport	FC	100.00	100.00	591	0	
Rocsole OY	Repsol Energy Ventures, S.A.	Finland	Technology Development	EM	12.50	12.50	2	5	
Saint John Gas Marketing Company	Repsol St. John LNG, S.L.	United States	Liquefaction plant investment project in Canada	FC	100.00	100.00	0	2	
Saint John LNG Development Company, Ltd.	Repsol St. John LNG, S.L.	Canada	Liquefaction plant investment project in Canada	FC	100.00	100.00	0	3	
Servicios de Seguridad Mancomunados, S.A.	Repsol Petróleo, S.A.	Spain	Safety	FC	100.00	99.98	1	0	
Servicios Logísticos Combustibles de Aviación, S.L.	Repsol Lubrificantes y Especialidades, S.A.	Spain	Transport of aviation oil products	EM (NC)	50.00	49.29	26	4	
Sociedade Abastecedora de Aeronaves, Lda.	Repsol Portuguesa, S.A.	Portugal	Marketing of oil products	EM	25.00	25.00	0	0	
Societat Catalana de Petrolis, S.A. (PETROCAT)	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Distribution and marketing of oil products	FC	94.94	91.89	(4)	6	
Solgas Distribuidora de Gas, S.L.	Repsol Butano, S.A.	Spain	Marketing of LPG	FC	100.00	100.00	1	1	
Solred, S.A.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Management of payment methods at gas stations	FC	100.00	96.68	48	25	
Sorbwater Technology, A.S.	Repsol Energy Ventures, S.A.	Norway	Water and water treatment technology management in e&p.	EM	11.29	11.29	1	9	
Terminales Canarias, S.L.	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	Supply and distribution of oil products	EM (NC)	50.00	48.34	26	20	
The Repsol Company of Portugal, Ltd.	Repsol S.A.	Portugal	Leasing of logistics assets in Portugal	FC	100.00	100.00	2	1	
Valdesolar Hive, S.L. (5)	Repsol Nuevas Energías, S.A.	Spain	Development of solar power projects	FC	100.00	100.00	0	0	
Viesgo Generación S.L.U. (5)	Repsol Nuevas Energías, S.A.	Spain	Electricity generation	FC	100.00	100.00	621	523	
Viesgo Comercializadora de Referencia S.L.U. (5)	Viesgo Generación S.L.U.	Spain	Marketing of electricity	FC	100.00	100.00	(36)	1	
Viesgo Energía, S.L.U. (5)	Viesgo Generación S.L.U.	Spain	Marketing of electricity	FC	100.00	100.00	99	1	
WIB Advance Mobility, S.L. (5)	Repsol Comercial de Productos Petrolíferos, S.A.	Spain	City car sharing rentals	EM (NC)	50.00	48.34	1	0	
Windplus, S.A.	Repsol Nuevas Energías, S.A.	Portugal	Technology development for wind generation	EM	20.60	19.70	2	1	

					December 2018				
					%		Millions of Euros		
					Method of consolidation ⁽¹⁾	Dism. Control ⁽²⁾	Dism. Total Group	Equity ⁽³⁾	Share Capital ⁽³⁾
Name	Parent company	Country	Corporate purpose						
CORPORATION									
Albatros, S.à.r.l.	Repsol S.A.	Luxembourg	Portfolio company	FC	100.00	100.00	228	0	
AR Oil & Gaz, B.V.	Repsol Exploración, S.A.	The Netherlands	Portfolio company	EM (NC)	49.00	49.00	493	0	
Edwards Gas Services LLC	Repsol Oil & Gas USA LLC.	United States	Portfolio company	EM	37.00	37.00	145	52	
Fortuna International (Barbados) Inc. (13)	Talisman International (Luxembourg), S.a.r.l.	Barbados	Portfolio company	FC	100.00	100.00	40	67	
Fortuna International Petroleum Corporation	Repsol Exploración, S.A. (22)	Barbados	Portfolio company	FC	100.00	100.00	497	395	
Gaviota RE, S.A. (7)	Albatros, S.a.r.l.	Luxembourg	Insurance and reinsurance.	FC	100.00	100.00	298	14	
Greenstone Assurance, Ltd.	Gaviota RE, S.A.	Bermuda	Insurance and reinsurance ("run-off" company)	FC	100.00	100.00	3	3	
Oleoducto de Crudos Pesados, Ltd.	Repsol OCP de Ecuador, S.A.	Cayman Islands	Portfolio company	EM	29.66	29.66	225	88	
Oleum Insurance Company Ltd.	Repsol Oil & Gas Canada Inc.	Barbados	Insurance and reinsurance ("run-off" company)	FC	100.00	100.00	365	3	
Repsol Bolivia, S.A.	Repsol S.A.	Bolivia	Service provisions	FC	100.00	100.00	481	233	
Repsol Downstream Internacional, S.A. (18)	Repsol S.A.	Spain	Portfolio company	FC	100.00	100.00	148	0	
Repsol Gestión de Divisa, S.L.	Repsol S.A.	Spain	Financial	FC	100.00	100.00	3,759	0	
Repsol International Finance, B.V.	Repsol S.A.	The Netherlands	Financing and holding of shares	FC	100.00	100.00	894	311	
Repsol Oil & Gas RTS Sdn.Bhd.	Repsol Exploración, S.A. (23)	Malaysia	Shared services company	FC	100.00	100.00	1	18	
Repsol Oil & Gas SEA Pte. Ltd.	Repsol Exploración, S.A. (23)	Singapore	Shared services company	FC	100.00	100.00	7	5	
Repsol Services Company	Repsol USA Holdings Corporation	United States	Service provisions	FC	100.00	100.00	43	39	
Repsol Sinopec Brasil, B.V. ⁽²⁸⁾	Repsol Sinopec Brasil, S.A.	Países Bajos	Sociedad de cartera	P.E.(N.C.)	100.00	60.01	0	0	
Repsol Tesorería y Gestión Financiera, S.A.	Repsol S.A.	Spain	Financial	FC	100.00	100.00	587	0	
Rift Oil Ltd.	Talisman International Holdings, B.V.	United Kingdom	Portfolio company	FC	100.00	100.00	140	146	
Talisman International (Luxembourg), S.a.r.l.	Repsol Oil & Gas Canada Inc.	Luxembourg	Portfolio company	FC	100.00	100.00	1,510	67	
Talisman International Holdings B.V.	Repsol Canada Inversiones, S.A. (23)	The Netherlands	Portfolio company	FC	100.00	100.00	365	853	
Talisman Perpetual (Norway) Ltd.	TE Holding S.a.r.l.	United Kingdom	Portfolio company (11)	FC	100.00	100.00	0	1	
TE Holding S.a.r.l.	Repsol Oil & Gas Canada, Inc.	Luxembourg	Portfolio and finance company	FC	100.00	100.00	3,128	4,050	
TEGSI (UK) Ltd	TE Holding S.a.r.l.	United Kingdom	Portfolio company	FC	100.00	0.00	0	0	
TV 05-2/10 Holding, B.V.	Talisman International Holdings, B.V.	The Netherlands	Portfolio company	FC	100.00	100.00	0	0	

⁽¹⁾ Method of consolidation:

F.C.: Full consolidation

E.M: Equity method. Joint ventures are identified as "JV".

⁽²⁾ Percentage corresponding to direct and indirect stake of the parent company immediately above the subsidiary.

⁽³⁾ Corresponds to Equity and Share Capital data used in the Group's consolidation process. Companies whose functional currency is not the euro have been converted at the closing exchange rate. Amounts have been rounded (less than half a million down to zero).

⁽⁴⁾ Interests in joint operations (see Appendix II) which are structured through a Company, this vehicle does not limit its rights to the assets or obligations for the liabilities relating to the arrangement.

⁽⁵⁾ Companies incorporated into the Repsol Group in 2018 (see Appendix Ib).

⁽⁶⁾ This company has a registered office in Liberia, which is currently being derecognized.

⁽⁷⁾ This company holds a minority interest in the company Oil Insurance, Ltd (5.77%), domiciled in Bermudas.

⁽⁸⁾ This company, legally constituted in Bahamas, is registered for tax purposes in the United Kingdom.

⁽⁹⁾ These companies, legally constituted in the British Virgin Islands, are registered for tax purposes in the United Kingdom.

⁽¹⁰⁾ This company is the parent company for Repsol Groundbirch Partnership, registered in the United States.

⁽¹¹⁾ Inactive company.

⁽¹²⁾ Company in the process of liquidation.

⁽¹³⁾ These companies, legally constituted in the Barbados, are registered for tax purposes in the Netherlands.

⁽¹⁴⁾ Share Capital and Equity data correspond to 2017.

⁽¹⁵⁾ The value of the investment in this company on consolidated financial statements is zero (refer to Note 13).

⁽¹⁶⁾ This company was previously called Repsol Exploración Sierra Leona, S.L.

⁽¹⁷⁾ This company was previously called Servicios Administrativos Cuenca de Burgos, S.A. de C.V.

⁽¹⁸⁾ This company was previously called Carbon Black Española, S.A.

⁽¹⁹⁾ This company was previously called Talisman West Bengara, B.V.

⁽²⁰⁾ This company's parent was previously Guarà, B.V.

⁽²¹⁾ This company's parent was previously Talisman International Holdings, B.V.

⁽²²⁾ This company's parent was previously Repsol Oil & Gas Canada, Inc.

⁽²³⁾ This company's parent was previously TE Holding S.a.r.l.

⁽²⁴⁾ This company's parent was previously Talisman International Holdings, B.V.

⁽²⁵⁾ This company's parent was previously Repsol Lubrificantes y Especialidades, S.A.

⁽²⁶⁾ This company's parent was previously Repsol Exploración, S.A.

⁽²⁷⁾ Equity relates to the value of the consolidated subgroup.

⁽²⁸⁾ Equity value included in parent.

APPENDIX IB: MAIN CHANGES IN THE CONSOLIDATION SCOPE

For the year ended December 31, 2018

a) Business combinations, other acquisitions and acquisitions of interest in subsidiaries, joint ventures and/or associates:

31.12.2018

Name	Country	Parent Company	Item	Date	Method of consolidation (1)	% voting rights acquired	% total voting rights in entity following acquisition (2)
WIB Advance Mobility, S.L.	Spain	Repsol Comercial de Productos Petrolíferos, S.A	Constitution	March-18	EM (NC)	50.00%	50.00%
Repsol Jambi Merang, S.L.	Spain	Repsol Exploración, S.A.	Constitution	April-18	FC	100.00%	100.00%
Repsol Exploración Jamaica, S.A.	Spain	Repsol Exploración, S.A.	Constitution	July-18	FC	100.00%	100.00%
Valdesolar Hive, S.L.	Spain	Repsol Nuevas Energías, S.A.	Acquisition	July-18	FC	100.00%	100.00%
Repsol Bulgaria Khan Kubrat, S.A.	Spain	Repsol Exploración, S.A.	Constitution	September-18	FC	100.00%	100.00%
Bardahl de México, S.A. de C.V.	Mexico	Repsol Downstream Internacional, S.A.	Acquisition	November-18	EM (NC)	40.00%	40.00%
Endomexicana Renta y Servicios, S.A. de C.V.	Mexico	Repsol Downstream Internacional, S.A.	Acquisition	November-18	EM (NC)	40.00%	40.00%
Viesgo Generación S.L.U.	Spain	Repsol Nuevas Energías, S.A.	Acquisition	November-18	FC	100.00%	100.00%
Viesgo Comercializadora de Referencia S.L.U.	Spain	Viesgo Generación S.L.U.	Acquisition	November-18	FC	100.00%	100.00%
Viesgo Energía, S.L.U.	Spain	Viesgo Generación S.L.U.	Acquisition	November-18	FC	100.00%	100.00%
CI Repsol Aviación Colombia, S.A.S.	Colombia	Repsol Downstream Internacional, S.A.	Constitution	November-18	FC	100.00%	100.00%
Repsol Marketing France, S.A.S.U.	France	Repsol Downstream Internacional, S.A.	Constitution	November-18	FC	100.00%	100.00%
Puma Energy Perú, S.A.C.	Peru	Repsol Comercial, S.A.C.	Acquisition	November-18	FC	100.00%	100.00%
Ezzing Renewable Energies S.L.	Spain	Repsol Energy Ventures, S.A.	Acquisition	December-18	EM	22.22%	22.22%
Nanogap Sub n-m Powder S.A.	Spain	Repsol Energy Ventures, S.A.	Acquisition	December-18	EM	8.78%	8.78%
Recreus Industries S.L.	Spain	Repsol Energy Ventures, S.A.	Acquisition	December-18	EM	16.67%	16.67%
ASB Geo	Russia	Repsol Exploración, S.A.	Acquisition	December-18	EM (NC)	50.01%	50.01%

(1) Method of consolidation:

FC: Full consolidation.

EM: Equity method. Joint ventures are identified as "JV"

(2) Corresponds to the percentage of equity in the acquired company.

b) Reduction in interest in subsidiaries, joint ventures, and/or associates and other similar transactions:

31.12.2018

Nombre	Country	Parent Company	Item	Date	Method of consolidation (1)	% voting rights disposed or derecognized	% total voting rights in entity following disposal
Repsol Oil & Gas Canada Inc.	Canada	Repsol Energy Resources Canada Inc.	Amalgamation (2)	January-18	FC	100.00%	0.00%
Rocsole OY	Finland	Repsol Energy Ventures, S.A.	Decrease in stake	February-18	EM	0.66%	12.50%
Asfalnor, S.A.	Spain	Petróleos del Norte, S.A.	Liquidation	March-18	FC	100.00%	0.00%
OGCI Climate Investments, Llp.	United Kingdom	Repsol Energy Ventures, S.A.	Decrease in stake	April-18	EM	1.79%	12.50%
Repsol Venezuela Gas, S.A.	Venezuela	Repsol Venezuela, S.A.	Absorption	May-18	FC	100.00%	0.00%
Gas Natural SDG, S.A.	Spain	Repsol, S.A.	Sale	May-18	EM	20.07%	0.00%
AESA - Construcciones y Servicios, S.A. - Bolivia	Bolivia	Repsol Bolivia, S.A.	Absorption	May-18	FC	100.00%	0.00%
Repsol GLP de Bolivia, S.A.	Bolivia	Repsol Bolivia, S.A.	Absorption	May-18	FC	100.00%	0.00%
Talisman Sierra Leone, B.V.	The Netherlands	Talisman International Holdings, B.V.	Liquidation	May-18	FC	100.00%	0.00%
Talisman Vietnam 05-2/10, B.V.	The Netherlands	TV 05-2/10 Holding, B.V.	Liquidation	May-18	FC	100.00%	0.00%
CSIC Eurotek - Yugra	Russia	Repsol Exploración Karabashsky, B.V.	Decrease in stake	June-18	EM (NC)	1.28%	72.33%
Repsol Netherlands Finance, B.V.	The Netherlands	Repsol International Finance, B.V.	Liquidation	June-18	FC	100.00%	0.00%
Talisman Finance (UK) Limited	United Kingdom	TEGSI (UK) Ltd.	Liquidation	September-18	FC	100.00%	0.00%
TE Finance S.a.r.l	Luxembourg	TE Holding S.a.r.l.	Absorption	November-18	FC	100.00%	0.00%
Repsol Canada Inversiones, S.A.	Spain	Repsol Exploración, S.A.	Absorption	November-18	FC	100.00%	0.00%
Talisman Energy Tangguh, B.V.	The Netherlands	Talisman International Holdings, B.V.	Absorption	November-18	FC	100.00%	0.00%
OGCI Climate Investments, Llp.	United Kingdom	Repsol Energy Ventures, S.A.	Decrease in stake	November-18	EM	3.41%	9.09%
Principle Power, Inc.	United States	Repsol Energy Ventures, S.A.	Decrease in stake	December-18	EM	1.24%	22.98%
Repsol Exploración Venezuela, B.V.	The Netherlands	Repsol Exploración, S.A.	Liquidation	December-18	FC	100.00%	0.00%
CSIC Eurotek - Yugra	Russia	Repsol Exploración Karabashsky, B.V.	Decrease in stake	December-18	EM (NC)	0.82%	71.51%
Sociedade Agoreana de Armazenagem, S.A. (3)	Portugal	Repsol Gas Portugal, S.A.	Sale	December-18	EM	25.07%	0.00%
Spelta Produtos Petroliferos Sociedade Unipessoal, Ltda.	Portugal	Repsol Gas Portugal, S.A.	Sale	December-18	FC	100.00%	0.00%
Servicios y Operaciones de Perú S.A.C	Peru	Repsol Perú B.V.	Liquidation	December-18	FC	100.00%	0.00%

(1) Method of consolidation:

FC: Full consolidation.

EM: Equity method. Joint ventures are identified as "JV".

(2) With effect from January 1, 2018, Repsol Oil & Gas Canada Inc. (ROGCI) and Repsol Energy Resources Canada Inc. have been involved in a corporate reorganization process known under Canadian law as "vertical amalgamation"; as a result, these companies have been merged into a single company which has assumed the corporate name of Repsol Oil & Gas Canada Inc.

(3) Companies sold to the Rubis Group. The result of the sale was 21 million euros.

For the year ended December 31, 2017

a) Business combinations, other acquisitions and acquisitions of interest in subsidiaries, joint ventures and/or associates:

Registered name	Country	Parent Company	Item	Date	31.12.2017		
					Method of consolidation (1)	% voting rights acquired	% total voting rights in entity following acquisition (2)
Repsol Exploración Aitoloakarnania, S.A.	Spain	Repsol Exploración, S.A.	Constitution	February-17	FC	100.00%	100.00%
Repsol Exploración Ioannina, S.A.	Spain	Repsol Exploración, S.A.	Constitution	February-17	FC	100.00%	100.00%
Air Miles España, S.A.	Spain	Repsol Comercial de Productos Petrolíferos, S.A.	Part. increase	February-17	EM	1.67%	26.67%
OGCI Climate Investments, Llp.	United Kingdom	Repsol Energy Ventures, S.A.	Constitution	April-17	EM	14.29%	14.29%
Sorbwater Technology, A.S.	Norway	Repsol Energy Ventures, S.A.	Acquisition	May-17	EM	11.29%	11.29%
Pan Pacific Petroleum (Vietnam) Pty, Ltd.	Australia	Repsol Exploración, S.A.	Acquisition	June-17	FC	100.00%	100.00%
JSC Eurotek	Russia	AR Oil & Gaz, B.V.	Constitution	August-17	EM (JV)	100.00%	100.00%
JSC Yuzhno-Khadrykhinskoye	Russia	AR Oil & Gaz, B.V.	Constitution	August-17	EM (JV)	100.00%	100.00%
Repsol Downstream México S.A. de C.V.	Mexico	Repsol Lubricantes y Especialidades, S.A.	Constitution	September-17	FC	100.00%	100.00%
TNO (Tafneftodacha)	Russia	AR Oil & Gaz, B.V.	Part. increase	October-17	EM (JV)	0.03%	99.57%
Kliikin Deals Spain, S.L.	Spain	Repsol Comercial de Productos Petrolíferos, S.A.	Acquisition	December-17	EM	70.00%	70.00%
Lapa Oil & Gas, B.V.	The Netherlands	Guará, B.V.	Constitution	December-17	EM	100.00%	100.00%

- (1) Method of consolidation:
FC: Full consolidation.
EM: Equity method. Joint ventures are identified as "JV"
(2) Corresponds to the percentage of equity in the acquired company.

b) Reduction in interest in subsidiaries, joint ventures, and/or associates and other similar transactions:

Registered name	Country	Parent Company	Item	Date	31.12.2017			Profit / (Loss) generated (in millions of euros) (2)
					Method of consolidation (1)	% voting rights disposed or derecognized	% total voting rights in entity following disposal	
Talisman North Jabung, Ltd.	Canada	Talisman (Asia), Ltd.	Absorption	January-17	FC	100.00%	0.00%	-
Talisman (Ogan Koming) Ltd.	Canada	Repsol Oil & Gas Canada, Inc.	Disposal	March-17	FC	100.00%	0.00%	3
Repsol Central Alberta Partnership	Canada	Repsol Oil & Gas Canada, Inc.	Liquidation	May-17	FC	100.00%	0.00%	-
Repsol Wild River Partnership	Canada	Repsol Oil & Gas Canada, Inc.	Liquidation	May-17	FC	100.00%	0.00%	-
8787387 Canada, Ltd.	Canada	Repsol Oil & Gas Canada, Inc.	Liquidation	May-17	FC	100.00%	0.00%	-
8441316 Canada, Ltd.	Canada	Repsol Oil & Gas Canada, Inc.	Liquidation	May-17	FC	100.00%	0.00%	-
Talisman East Tanjung, B.V.	The Netherlands	Talisman International Holdings, B.V.	Liquidation	June-17	FC	100.00%	0.00%	-
Talisman Sumatra, B.V.	The Netherlands	Talisman International Holdings, B.V.	Liquidation	June-17	FC	100.00%	0.00%	-
Talisman Vietnam 45, B.V.	The Netherlands	Talisman International Holdings, B.V.	Liquidation	June-17	FC	100.00%	0.00%	-
Talisman Vietnam 46-07, B.V.	The Netherlands	Talisman International Holdings, B.V.	Liquidation	June-17	FC	100.00%	0.00%	-
Talisman International Holdings, B.V. S.C.S.	Luxembourg	Talisman Global Holdings, B.V.	Liquidation	June-17	FC	100.00%	0.00%	-
Talisman Middle East, B.V.	The Netherlands	Talisman Global Holdings, B.V.	Absorption	June-17	FC	100.00%	0.00%	-
Talisman K. Holdings, B.V.	The Netherlands	Talisman Global Holdings, B.V.	Absorption	June-17	FC	100.00%	0.00%	-
TV 135- 136 Holding, B.V.	The Netherlands	Talisman International Holdings, B.V.	Absorption	June-17	FC	100.00%	0.00%	-
Talisman Global Holdings, B.V.	The Netherlands	Talisman International Holdings, B.V.	Absorption	June-17	FC	100.00%	0.00%	-
Talisman Energy (Sahara), B.V.	The Netherlands	Talisman International Holdings, B.V.	Absorption	June-17	FC	100.00%	0.00%	-
Repsol Moray Firth, Ltd.	United Kingdom	Repsol UK Round 3, Ltd.	Liquidation	July-17	FC	100.00%	0.00%	-
Repsol UK Round 3, Ltd.	United Kingdom	Repsol Nuevas Energías, S.A.	Liquidation	July-17	FC	100.00%	0.00%	-
FEX GP, Llc. (3)	United States	Repsol Oil & Gas USA, Llc.	Absorption	July-17	FC	100.00%	0.00%	-
Rock Solid Images US Group, Inc.	United States	Repsol USA Holdings Corporation	Disposal	August-17	EM	30.00%	0.00%	(1)
OJSC Eurotek	Russia	AR Oil & Gaz, B.V.	Liquidation	August-17	EM (JV)	100.00%	0.00%	-
Repsol Oil & Gas Malaysia Holdings, Ltd.	Barbados	Talisman Oil Limited	Absorption	August-17	FC	100.00%	0.00%	-
Talisman Oil Limited	Barbados	Fortuna International Petroleum Corp	Absorption	August-17	FC	100.00%	0.00%	-
Repsol Lusitania, S.L.	Spain	Repsol Química, S.A.	Absorption	October-17	FC	100.00%	0.00%	-
CSJC Eurotek- Yugra (4)	Russia	Repsol Exploración Karabashsky, S.A.	Decrease in stake	November-17	EM (JV)	26.39%	73.61%	8
JSC Eurotek	Russia	AR Oil & Gaz, B.V.	Disposal	December-17	EM (JV)	100.00%	0.00%	Note (5)
JSC Yuzhno-Khadrykhinskoye	Russia	AR Oil & Gaz, B.V.	Disposal	December-17	EM (JV)	100.00%	0.00%	Note (5)
Principle Power, Inc.	United States	Repsol Energy Ventures, S.A.	Decrease in stake	December-17	EM	0.57%	24.22%	-
Talisman Colombia, B.V.	The Netherlands	TE Colombia Holding, S.a.r.l.	Liquidation	December-17	FC	100.00%	0.00%	-
Talisman Holding International, S.a.r.l.	Luxembourg	Repsol Oil & Gas Canada, Inc.	Liquidation	December-17	FC	100.00%	0.00%	-
Talisman Ocesa Pipelines Holdings, AG	Switzerland	Talisman Colombia, B.V.	Liquidation	December-17	FC	100.00%	0.00%	-
Fortuna Finance Corporation, S.a.r.l.	Luxembourg	TE Holding, S.a.r.l.	Absorption	December-17	FC	100.00%	0.00%	-
TE Capital, S.a.r.l.	Luxembourg	TE Holding, S.a.r.l.	Absorption	December-17	FC	100.00%	0.00%	-
Amulet Maritime, Ltd.	United Kingdom	TEGSI (UK), Ltd.	Liquidation	December-17	FC	100.00%	0.00%	-
Talisman Perú, B.V.	The Netherlands	Repsol Exploración Perú, S.A.	Absorption	December-17	FC	100.00%	0.00%	-

- (1) Method of consolidation:
FC: Full consolidation.
EM: Equity method. Joint ventures are identified as "JV".
(2) Corresponds to net income before tax.
(3) This company is the parent of FEX LP, Llc, which is registered in the United States. It is included in the absorption of the parent.
(4) This company was consolidated under the full consolidation method prior to the sale of 25% of its interest.
(5) These companies have been sold generating a loss of -€78 million.

APPENDIX IC: JOINT OPERATIONS OF THE REPSOL GROUP AT DECEMBER 31, 2018

The Repsol Group's main Joint Operations (Note 2) are shown below (including those in which the Group is involved through a joint arrangement)¹:

Name	Stakeholding % ⁽¹⁾	Operator	Activity
UPSTREAM			
Algeria			
EMK	9.10%	Groupement Berkin	Development/Production
Greater MLN	35.00%	Pertamina	Development/Production
Menzel Ledjmet Sud-Est /405a	35.00%	Pertamina	Development/Production
Ourhoud Field / 404,405,406a	2.00%	Organisation Ourhoud	Development/Production
Reggane Nord	29.25%	Groupement Reggane	Development/Production
S.E. Illizi	35.50%	Repsol	Exploration
Tin Fouyé Tabenkor (TFT)	22.62%	Groupement TFT	Development/Production
Australia			
Kitan	25.00%	ENI	Development/Production
Bolivia ⁽²⁾			
Arroyo Negro	48.33%	YPF B Andina, S.A	Development/Production
Boqueron	48.33%	YPF B Andina, S.A	Development/Production
Camiri	48.33%	YPF B Andina, S.A	Development/Production
Carahuaicho 8B	24.17%	YPF B Andina, S.A	Exploration
Carahuaicho 8C	24.17%	YPF B Andina, S.A	Exploration
Carahuaicho 8D	48.33%	YPF B Andina, S.A	Exploration
Cascabel	48.33%	YPF B Andina, S.A	Development/Production
Cobra	48.33%	YPF B Andina, S.A	Development/Production
Enconada	48.33%	YPF B Andina, S.A	Development/Production
Guairuy	48.33%	YPF B Andina, S.A	Development/Production
Huacaya (Caipipendi)	37.50%	Repsol	Development/Production
Iñiguazu	37.50%	Repsol	Exploration
La Peña - Tundy	48.33%	YPF B Andina, S.A	Development/Production
Los Penocos	48.33%	YPF B Andina, S.A	Development/Production
Los Sauces	48.33%	YPF B Andina, S.A	Development/Production
Margarita (Caipipendi)	37.50%	Repsol	Development/Production
Monteagudo	39.67%	Repsol	Development/Production
Palacios	48.33%	YPF B Andina, S.A	Development/Production
Patujú	48.33%	YPF B Andina, S.A	Development/Production
Puerto Palos	48.33%	YPF B Andina, S.A	Development/Production
Rio Grande	48.33%	YPF B Andina, S.A	Development/Production
Sabalo	24.17%	Petrobras	Development/Production
San Alberto	24.17%	Petrobras	Development/Production
Sara Boomerang III	48.33%	YPF B Andina, S.A	Exploration
Sirari	48.33%	YPF B Andina, S.A	Development/Production
Víbora	48.33%	YPF B Andina, S.A	Development/Production
Yapacani	48.33%	YPF B Andina, S.A	Development/Production
Brazil			
Albacora Leste	6.00%	Petrobras	Development/Production
BM-C-33 (C-M-539)	21.00%	Statoil	Exploration
BM-ES-21 (ES-M-414)	6.66%	Petrobras	Exploration
BM-S-50 (S-M-623)	12.00%	Petrobras	Exploration
BM-S-9 - Sapinhoá	15.00%	Petrobras	Development/Production
BM-S-9 PSC Sapinhoá	15.00%	Petrobras	Development/Production
BM-S-9A - Lapa	15.00%	Total	Development/Production
C-M-821	40.00%	Repsol	Exploration
C-M-823	40.00%	Repsol	Exploration
S-M-764	40.00%	Chevron	Exploration
Bulgaria			
1_21 Han Asparuh	30.00%	Total	Exploration
1-14 Khan Kubrat	20.00%	Shell	Exploration

⁽¹⁾ Joint operations in the *Upstream* segment include the blocks of joint operations where the Group holds acreage for exploration, development and production of oil and gas.

Name	Stakeholding % ⁽¹⁾	Operator	Activity
Canada ⁽⁴⁾			
Chauvin Alberta	63.00%	Repsol	Development/Production
Chauvin Saskatchewan	92.00%	Repsol	Development/Production
Edson	78.00%	Repsol	Development/Production
Groundbirch/Saturn- No Montney Rights	35.00%	Others	Development/Production
Misc. Alberta (*) Exploration Unconventional	53.00%	Repsol	Exploration
Misc. British Columbia	88.00%	Repsol	Exploration
Misc. Saskatchewan	71.00%	Repsol	Exploration
Northwest Territories	4.00%	Others	Exploration
Nunavut	2.00%	Others	Exploration
Quebec	80.00%	Repsol	Exploration
Wild River Region	57.00%	Repsol	Development/Production
Yukon	2.00%	Others	Exploration
Colombia ⁽⁵⁾			
Akacias	45.00%	Ecopetrol	Development/Production
Caguan 5	50.00%	Meta Petroleun Corp.	Exploration
Caguan 6	40.00%	Meta Petroleun Corp.	Exploration
Catleya	50.00%	Repsol	Exploration
Chipirón	8.75%	Ecopetrol	Development/Production
COL-4	33.40%	Repsol	Exploration
Cosecha	17.50%	Oxycol	Development/Production
CPE-8	50.00%	Repsol	Exploration
CPO-9	45.00%	Ecopetrol	Exploration/Production
Cravo Norte	5.63%	Oxycol	Development/Production
Gua Off 1	30.00%	Repsol	Exploration
Mundo Nuevo	30.00%	Equion	Exploration
Niscota	30.00%	Equion	Exploration
Piedemonte	22.05%	Equion	Development/Production
RC-12	50.00%	Repsol	Exploration
Rio Chitamena	15.19%	Equion	Development/Production
Rondon	6.25%	Oxycol	Development/Production
Tayrona	20.00%	Petrobras	Exploration
Ecuador			
Block 16 (Wati extension)	35.00%	Repsol	Services Contract
Tivacuno	35.00%	Repsol	Services Contract
Spain			
Albatros	82.00%	Repsol	Development/Production
Angula	53.85%	Repsol	Development/Production
Bezana	44.45%	Petroleum Oil & Gas Spain	Exploration ⁽⁴⁾
Bigüenzo	44.45%	Petroleum Oil & Gas Spain	Exploration ⁽⁴⁾
Boquerón	61.95%	Repsol	Development/Production
Casablanca -Montanazo Unificado	68.67%	Repsol	Development/Production
Casablanca No Unit	67.35%	Repsol	Development/Production
Montanazo D	72.44%	Repsol	Development/Production
Rodaballo	65.42%	Repsol	Development/Production
United States ⁽⁴⁾			
Alaska			
North Slope (28 blocks)	49.00%	Oil Search	Exploration
North Slope (212 blocks)	25.00%	Oil Search	Exploration
North Slope (34 blocks)	25.00%	Armstrong	Exploration
Eagle Ford			
Eagle Ford	28.97%	Equinor	Development/Production
Eagle Ford Exploration	36.98%	Equinor	Exploration
Gulf of Mexico			
Alaminos Canyon 379	8.50%	Shell	Exploration
Alaminos Canyon 380 and 381	8.50%	Equinor	Exploration
Alaminos Canyon 423 and 424	10.00%	Equinor	Exploration
Garden Banks (4 blocks)	50.00%	Repsol	Exploration
Green Canyon 487, 730 and 775	33.34%	Repsol	Exploration
Green Canyon 819	34.00%	Repsol	Exploration
Green Canyon - Shenzi (6 blocks)	28.00%	BHP	Development/Production
Green Canyon 581	40.00%	Murphy	Exploration
Keathley Canyon 642, 643, 686 and 687	60.00%	Repsol	Exploration
Keathley Canyon Buckskin (6 blocks)	22.50%	Llog	Development/Production
Walker Ridge (5 blocks)	60.00%	Repsol	Exploration

Marcellus ⁽⁵⁾			
Marcellus New York (Expl. Unconventional)	99.81%	Repsol	Exploration
Marcellus New York	86.66%	Repsol	Development/Production
Marcellus Pennsylvania	83.76%	Repsol	Development/Production
Greece			
Aitolokarnania	60.00%	Repsol	Exploration
Ioannina	60.00%	Repsol	Exploration
Guyana			
Kanuku	37.50%	Repsol	Exploration
Indonesia			
Corridor PSC	36.00%	Conoco	Development/Production
East Jabung	51.00%	Repsol	Exploration
Jambi Merang	25.00%	JOB Jambi Merang	Development/Production
Sakakemang	45.00%	Repsol	Exploration
South East Jambi	67.00%	Repsol	Exploration
Ireland			
FEL 3/04 (Dunquin)	33.56%	ENI	Exploration
Libya			
NC-115 (Development)	20.00%	Akakus	Development/Production
NC-115 (Exploration)	40.00%	Repsol	Exploration
NC-186 (Development)	16.00%	Akakus	Development/Production
NC-186 (Exploration)	32.00%	Repsol	Exploration
Malaysia			
Angsi South Channel (Unit.)	60.00%	Repsol	Development/Production
PM03 CAA	41.44%	Repsol	Development/Production
PM305	60.00%	Repsol	Development/Production
PM314	60.00%	Repsol	Development/Production
SB1 Kinabalu	60.00%	Repsol	Development/Production
SB309	70.00%	Repsol	Exploration
Morocco			
Gharb Offshore Sud	75.00%	Repsol	Exploration
Tanfit	37.50%	Repsol	Exploration
Mexico			
Block 10	40.00%	Repsol	Exploration
Block 11	60.00%	Repsol	Exploration
Block 14	50.00%	Repsol	Exploration
Block 29	30.00%	Repsol	Exploration
Norway			
PL 019B (Gyda)	61.00%	Repsol	Development/Production
PL 019B (Tambar East Unit)	9.76%	BP	Development/Production
PL 025 (Gudrun)	15.00%	Equinor	Development/Production
PL 038 (Varg)	65.00%	Repsol	Development/Production
PL 038C (Rev)	70.00%	Repsol	Development/Production
PL 052 (Veslefrikk)	27.00%	Equinor	Development/Production
PL 053B (Brage)	33.84%	Wintershall	Development/Production
PL 055 (Brage)	33.84%	Wintershall	Development/Production
PL 055 B (Brage)	33.84%	Wintershall	Development/Production
PL 055 D (Brage)	33.84%	Wintershall	Development/Production
PL 120	7.70%	Equinor	Development/Production
PL 120 CS	11.00%	Equinor	Development/Production
PL 185 (Brage)	33.84%	Wintershall	Development/Production
PL 187 (Gudrun)	15.00%	Equinor	Exploration
PL 316 (Yme)	60.00%	Repsol	Development/Production
PL 316B (Yme)	60.00%	Repsol	Development/Production
PL 528	6.00%	Centrica R. Norge	Exploration
PL 528 B	6.00%	Centrica R. Norge	Exploration
PL 840	20.00%	Equinor	Exploration
PL 847	20.00%	Wintershall	Exploration
PL 847B	20.00%	Wintershall	Exploration
PL 897	30.00%	Equinor	Exploration
PL 909	70.00%	Repsol	Exploration
PL 910	61.11%	Repsol	Exploration
PL 913	50.00%	OMV	Exploration

Name	Stakeholding % ⁽¹⁾	Operator	Activity
Papua New Guinea			
PDL 10	40.00%	Repsol	Development/Production
PPL 261	50.00%	Repsol	Exploration
PRL 8	22.29%	Oil Search	Exploration
PRL 21	35.10%	Horizon Oil	Exploration
PRL 28	37.50%	Eaglewood	Exploration
PRL 38	25.00%	Repsol	Exploration
PRL 40	60.00%	Repsol	Exploration
Peru			
Block 56	10.00%	Pluspetrol	Development/Production
Block 57	53.84%	Repsol	Development/Production
Block 88	10.00%	Pluspetrol	Development/Production
Region of Iraqi Kurdistan			
Kurdamir	40.00%	Repsol	Development/Production
Topkhana	80.00%	Repsol	Development/Production
United Kingdom ⁽⁷⁾			
P534 (98/06a-Wareham)	2.55%	Perenco	Development/Production
P534 (98/06a-Wych Farm UOA)	2.53%	Perenco	Development/Production
PL089 (SZ/8a, SY/88b, SY/98a)	2.55%	Perenco	Development/Production
P201 (16/21a)	7.65%	Premier	Development/Production
P201 (16/21d)	7.65%	Premier	Development/Production
P344 (16/21b_F1*-Balmoral Field Area)	8.06%	Premier	Development/Production
P344 (16/21c_f1*)	7.81%	Premier	Development/Production
P344 (16/21c_f1*-Balmoral)	8.06%	Premier	Development/Production
P019 (22/17n)	30.08%	RESRUK	Development/Production
P020 (22/18n)	30.08%	RESRUK	Development/Production
P073 (30/18_E)	51.00%	RESRUK	Development/Production
P1031 (11/25a Beatrice)	51.00%	RESRUK	Development/Production
P1031 (12/21a Beatrice)	51.00%	RESRUK	Development/Production
P111 (30/3a Blane Field)	30.75%	RESRUK	Development/Production
P111 (30/3a Upper)	15.55%	RESRUK	Development/Production
P116 (30/16n)	51.00%	RESRUK	Development/Production
P185 (30/11b)_Developm.	51.00%	RESRUK	Development/Production
P219 (16/13a)	16.07%	RESRUK	Development/Production
P220 (15/17n-F2- Piper+ rest of Block)	51.00%	RESRUK	Development/Production
P237 (15/16a)	51.00%	RESRUK	Development/Production
P240 (16/22a- non Arundel Area)	18.86%	RESRUK	Development/Production
P241 (21/1c)	51.00%	RESRUK	Development/Production
P241/P244 (21/1c/21/2a- Cretaceous Area West)	51.00%	RESRUK	Development/Production
P244 (21/2a)	51.00%	RESRUK	Development/Production
P249 (14/19n - Residual -Claymore)_Develop.	51.00%	RESRUK	Development/Production
P249 (14/19n_F1- Claymore)	47.16%	RESRUK	Development/Production
P249 (14/19n_F2- Scapa/Claymore)	51.00%	RESRUK	Development/Production
P250 (14/19s- F1)	51.00%	RESRUK	Development/Production
P250 (14/19s- Rest of Block)_Develop	51.00%	RESRUK	Development/Production
P256 (30/16s)	51.00%	RESRUK	Development/Production
P263 (14/18a)	51.00%	RESRUK	Development/Production
P266 (30/17b)	51.00%	RESRUK	Development/Production
P291 (22/17s)	30.08%	RESRUK	Development/Production
P291 (22/22a)	30.08%	RESRUK	Development/Production
P291 (22/23a)	30.08%	RESRUK	Development/Production
P292 (22/18a)	30.08%	RESRUK	Development/Production
P295 (30/16a)	51.00%	RESRUK	Development/Production
P295 (30/16b)	51.00%	RESRUK	Development/Production
P295 (30/16c)	51.00%	RESRUK	Development/Production
P295 (30/16t)	51.00%	RESRUK	Development/Production
P297 (13/28a)_Devel.	35.28%	RESRUK	Development/Production
P307 (13/29a)_Devel.	35.28%	RESRUK	Development/Production
P324 (14/20b)	25.50%	RESRUK	Development/Production
P324 (14/20b-Claymore Extension)	51.00%	RESRUK	Development/Production
P324 (14/20b-f1+f2)	51.00%	RESRUK	Development/Production
P324 (15/16b)	51.00%	RESRUK	Development/Production
P324 (15/23a)_Developm.	51.00%	RESRUK	Development/Production
P344 (16/21b Rest of Block)	30.60%	RESRUK	Development/Production
P344 (16/21c*- Rest of block excluding Stirling)	30.60%	RESRUK	Development/Production
P593 (20/05c)	51.00%	RESRUK	Development/Production

Name	Stakeholding % ⁽¹⁾	Operator	Activity
P729 (13/29b - Blake Ext Non Skate_Devel.)	40.80%	RESRUK	Development/Production
P729 (13/29b - Ross Unitised Field UUOA interests)	35.28%	RESRUK	Development/Production
P810 (13/24b Blake Area)	34.53%	RESRUK	Development/Production
P810 (13/24b-Rest of Block)	35.28%	RESRUK	Development/Production
P973 (13/28c)	35.28%	RESRUK	Development/Production
P255 (30/14 Cawdor Sub Area)_Develop.	4.94%	Total	Development/Production
P255 (30/14 Flyndre Area)	3.83%	Total	Development/Production
P255 (30/19a Affleck)	16.98%	Total	Development/Production
P073 (30/18_W)	51.00%	RESRUK	Exploration
P079 (30/13a)	31.88%	RESRUK	Exploration
P101 (13/24a)	34.53%	RESRUK	Exploration
P185 (30/11b)	30.60%	RESRUK	Exploration
P185 (30/12b)	30.60%	RESRUK	Exploration
P250 (14/19a)	51.00%	RESRUK	Exploration
P297 (13/28a)	33.02%	RESRUK	Exploration
P307 (13/29a)	36.55%	RESRUK	Exploration
P324 (15/23a)	51.00%	RESRUK	Exploration
P593 (20/05e)	51.00%	RESRUK	Exploration
P983 (13/23b)	25.50%	RESRUK	Exploration
P534 (98/07a)	2.55%	Perenco	Exploration
P225 (16/27a - Contract Area 3)	13.50%	JX Nippon	Exploration
Russia ⁽⁸⁾			
Alkanovskoe	49.00%	AROG	Development/Production
Avgustovskoe	49.00%	AROG	Development/Production
Bazhkovskoe	49.00%	AROG	Development/Production
Borshevskoe	49.00%	AROG	Development/Production
Karabashkiy - 78	71.51%	Eurotek Yugra	Exploration
Karabashkiy - 79	71.51%	Eurotek Yugra	Exploration
Karabashsky-1	71.51%	Eurotek Yugra	Exploration
Karabashsky-2	71.51%	Eurotek Yugra	Exploration
Karabashsky-3	71.51%	Eurotek Yugra	Exploration
Karabashsky-9	71.51%	Eurotek Yugra	Exploration
Kileyskiy	71.51%	Eurotek Yugra	Exploration
Kochevnskoe	49.00%	AROG	Development/Production
Kovalevskoe	49.00%	AROG	Development/Production
Kulturnenskoe	49.00%	AROG	Development/Production
North Borshevskoe	49.00%	AROG	Development/Production
Novo-Kievskoe	49.00%	AROG	Development/Production
Penzenskoe	49.00%	AROG	Development/Production
Saratovskoe	49.00%	AROG	Development/Production
Solnechnoe	49.00%	AROG	Development/Production
South-Kultashikhskoe	49.00%	AROG	Development/Production
South-Solnechnoe	49.00%	AROG	Development/Production
Stepnoozerskoe	48.79%	AROG	Development/Production
West-Avgustovskoe	49.00%	AROG	Development/Production
West-Kochevnskoe	49.00%	AROG	Development/Production
Yelginskoe	48.79%	AROG	Development/Production
Trinidad and Tobago			
5B Manakin	30.00%	BP Amoco	Development/Production
East Block	30.00%	BP Amoco	Development/Production
S.E.C.C. (IBIS)	10.50%	EOG	Development/Production
West Block	30.00%	BP Amoco	Development/Production
Venezuela ⁽⁹⁾			
Barua Motatan	40.00%	Petroquiriquire	Development/Production
Carabobo	11.00%	Petrocarabobo	Development/Production
Cardón IV West	50.00%	Cardon IV	Development/Production
Mene Grande	40.00%	Petroquiriquire	Development/Production
Quiriquire	40.00%	Petroquiriquire	Development/Production
Quiriquire Gas	60.00%	Quiriquire Gas	Development/Production
Yucal Placer Norte	15.00%	Total	Development/Production
Yucal Placer Sur	15.00%	Total	Development/Production

Name	Stakeholding % ⁽¹⁾	Operator	Activity
Vietnam			
Block 07/03	51.75%	Repsol	Exploration/Development
Block 133 & 134	49.00%	Repsol	Exploration
Block 135 & 136	40.00%	Repsol	Exploration
Block 146 & 147	80.00%	Repsol	Exploration
Block 46-CN	70.00%	Repsol	Development/Production
Block 15-2/01	60.00%	Thang Long JOC	Development/Production
Block 16-1 (TGT- Unitization)	0.67%	Hoang Long JOC	Development/Production
DOWNSTREAM			
Canada			
Canaport LNG Ltd Partnership	75.00%	Repsol	Regasification LNG
Spain			
Asfaltos Españoles, S.A.	50.00%	Repsol	Asphalts
Iberian Lube Base Oils Company, S.A.	30.00%	SK Lubricants	Lubricants and specialized products

⁽¹⁾ Corresponds to the Group company's stake in the Joint Arrangement.

⁽²⁾ Mining domain rights in Canada and the United States are articulated over a large number of *Joint Operating Agreements* (JOA). They have been grouped by geographical areas and Repsol's stake.

⁽³⁾ The Pika and Horseshoe units in delineation phase on December 31, 2018.

APPENDIX II: SEGMENT REPORTING AND RECONCILIATION WITH IFRS-EU FINANCIAL STATEMENTS¹

Income Statement figures

The reconciliation between adjusted net income (loss) and IFRS-EU net income (loss) at December 31, 2018 and 2017 is as follows:

Results	€ Million											
	ADJUSTMENTS											
	Adjusted net income		Reclass. Joint Arrangements		Net income on special items		Inventory effect		Total Adjustments		Net income under EU-IFRS	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Operating income	4,396	3,214	(1,204)	(610)	(633)	42	(106)	143	(1,943)	(425)	2,453	2,789
Financial result	(462)	(356)	130	126	159	(82)	-	-	289	44	(173)	(312)
Net income from equity affiliates	15	49	965	580	72	1	1	-	1,038	581	1,053	630
Net income before tax	3,949	2,907	(109)	96	(402)	(39)	(105)	143	(616)	200	3,333	3,107
Income tax	(1,569)	(738)	(109)	(96)	46	(350)	28	(36)	183	(482)	(1,386)	(1,220)
Net income from continuing operations	2,380	2,169	-	-	(356)	(389)	(77)	107	(433)	(282)	1,947	1,887
Net income attributed to minority interests	(28)	(38)	-	-	1	1	9	(3)	10	(2)	(18)	(40)
Net income from continuing operations	2,352	2,131	-	-	(355)	(388)	(68)	104	(423)	(284)	1,929	1,847
Net income from interrupted operations	-	-	-	-	412	274	-	-	412	274	412	274
TOTAL INCOME ATTRIBUTABLE TO THE PARENT COMPANY	2,352	2,131	-	-	57	(114)	(68)	104	(11)	(10)	2,341	2,121

Segments	Millions of euros											
	Revenue ⁽²⁾		Net income from operations		Provisions for amortization of fixed assets ⁽³⁾		Impairment income/(expenses)		Net income from entities valued using the equity method		Income tax	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Upstream	7,699	6,333	2,514	1,009	(2,068)	(2,379)	(936)	(743)	22	32	(1,113)	(735)
Downstream	47,029	39,240	2,143	2,467	(790)	(739)	(33)	(3)	(6)	20	(425)	(677)
Corporate	(2,021)	(1,635)	(261)	(262)	(78)	(62)	(1)	(80)	(1)	(3)	43	290
Adjusted Figures⁽¹⁾	52,707	43,938	4,396	3,214	(2,936)	(3,180)	(970)	(826)	15	49	(1,495)	(1,122)
Adjustments:												
Upstream	(2,517)	(2,240)	(1,651)	(482)	784	777	218	643	1,004	576	96	(100)
Downstream	(317)	(29)	(204)	122	12	3	(15)	4	35	6	13	2
Corporate	-	-	(88)	(65)	-	1	-	80	(1)	(1)	-	-
EU-IFRS FIGURES	49,873	41,669	2,453	2,789	(2,140)	(2,399)	(767)	(99)	1,053	630	(1,386)	(1,220)

⁽¹⁾ Figures drawn up according to the Group's reporting model described in Note 5.

⁽²⁾ The revenue figure corresponds to the sum of the "Sales" and "Services rendered and other income". The itemization by provenance (customers or inter-segment transactions) is as follows:

Segments	Millions of euros					
	Customers		Inter-segment		Total	
	2018	2017	2018	2017	2018	2017
Upstream	5,699	4,79	2,000	164	7,699	6,333
Downstream	47,007	39,28	22	22	47,029	39,240
Corporate	1	1	-	-	1	1
(-) Adjustments and eliminations of operating income between segments			(2,022)	(1,636)	(2,022)	(1,636)
TOTAL	52,707	43,938	-	-	52,707	43,938

⁽³⁾ Including depreciation of failed dry wells. For more information, see Note 19.

⁽¹⁾ Some of these metrics presented in this Appendix are Alternative Performance Metrics (APMs) in accordance with European Securities Markets Authority (ESMA) guidelines. For further information, see Appendix I of the Consolidated Management Report.

Balance sheet figures

Millions of euros								
	Non-current assets		Net operating investments (2)		Capital employed (3)		Investments accounted for using the equity method	
Segments	2018	2017	2018	2017	2018	2017	2018	2017
Upstream	25,514	25,636	1,973	2,089	21,515	21,612	387	303
Downstream	11,118	10,312	1,831	805	11,338	9,749	21	242
Corporate	733	3,968	70	42	1,500	1,745	18	3,229
ADJUSTED FIGURES (1)	37,365	39,916	3,874	2,936	34,353	33,106	426	3,774
Adjustments								
Upstream	(6,421)	(7,126)	(365)	(307)	2,659	(1,153)	6,425	5,450
Downstream	(205)	(22)	(41)	(2)	64	(19)	341	42
Corporate	-	(4)	-	-	-	-	2	2
EU-IFRS FIGURES	30,738	32,764	3,468	2,627	37,076	31,934	7,194	9,268

(1) Figures drawn up according to the Group's reporting model described in Note 5.

(2) Excludes "Non-current financial investments", "Deferred tax assets" and "Other non-current assets".

(3) Includes capital employed corresponding to joint ventures, non-current non-financial assets, operating working capital and other non-financial liability headings. In 2017 does not include capital employed from discontinued operations which at 31 December amounted to € 3,224 Million.

APPENDIX III: REGULATORY FRAMEWORK

The activities of Repsol, S.A. and its subsidiaries are subject to extensive regulation, whose key aspects are described below.

Spain

Basic legislation

Spain currently has a legislation which implements a liberalization of the Oil Industry, an example of which is the Hydrocarbons Sector Law 34/1998 of October 7 ("LSH"), which has been amended by several legislative acts.

Law 2/2011, of March 4, on Sustainable Economy, modified the Hydrocarbons Sector Law, establishing binding guidelines for energy planning under criteria designed to contribute to the creation of a safe, cost-effective, economically-sustainable, and environmentally-friendly energy system.

Law 3/2013 of June 4, regarding the creation of the National Markets and Competition Commission (CNMC – "Comisión Nacional de los Mercados y la Competencia," in Spanish), created as an overseeing body, charged with the duties and tasks relating to supervision and control of regulated markets, which were previously supervised by various National Commissions, including the Energy and Competition.

Controlling concentration regime in the energy sector

The aforementioned Law 3/2013 modified the regime controlling corporate transactions in the energy sector, allocating duties to the Ministry for the Ecological Transition (MITECO). It devises a new *ex post* regime with respect to certain transactions by either requiring the buyer to notify MITECO of the execution of certain transactions or by means of the imposition of conditions on the business operations of the companies acquired, in so far as energy supply in Spain is deemed threatened.

A novelty of this new control regime is that in addition to extending to the electricity and gas sectors, it now extends to the liquid hydrocarbons sector including companies that pursue refining activities, pipeline transportation, and storage of petroleum products (related activities), or companies that hold title to said assets. Such assets acquire the condition of strategic assets.

Principal operators and dominant operators

Under Royal Decree-Law 5/2005, of March 11, the CNE - currently the CNMC - is obliged to publish not only the list of principal operators but also the dominant operators in each energy market or sector. Dominant operators are defined as those commanding a share of more than 10% of the benchmark market. On the other hand, a principal operator is considered an operator ranked among the top five players by market share. Designation as a dominant operator or principal operator implies certain regulatory restrictions.

Oil and gas exploration and production

Hydrocarbon deposits and underground storage existing on Spanish territory and in the territorial marine subsoil and ocean bottoms which are under Spanish sovereignty are considered public properties.

Exploration permits are granted by national or regional governments, depending on whether autonomous areas are affected, and exclusive investigation rights for the area in question are granted for periods lasting six years. In turn, the concession for exploiting hydrocarbon reserves grants the owners exclusive exploration rights for 30 years, renewable for two successive ten-year periods, as well as the right to continue exploration activities in these areas and obtain authorization to freely sell the hydrocarbon products they obtain.

Law 8/2015, regulating specific tax and non-tax measures related to oil and gas exploration, research and operation activities, fosters non-conventional extraction, or 'fracking' and creates an incentive regime for regional and local governments that pursue such activities, as well as creating a scheme for land owners to share in the profits derived from the related extraction activity.

Furthermore, on November 18, 2017, Royal Decree-Law 16/2017 came into

force, establishing safety provisions applicable to the hydrocarbon research and operation at sea ("RDL"), which partially transposes Directive 2013/30/EU, of June 12, 2013 on safety of offshore oil and gas operations ("Offshore Directive") into Spanish law.

The purpose of the RDL is to establish minimum requirements that offshore hydrocarbon research and operations must meet to prevent major accidents and to mitigate their consequences and to define action principles to ensure that offshore operations (including operations undertaken outside the EU) are performed employing a systematic risk management approach to ensure that the residual risk of serious accidents is considered acceptable.

Oil products

Law 11/2013 of July 26, regarding measures to support entrepreneurs and to stimulate growth and job creation, introduces a number of measures in the wholesale and retail markets for petroleum products intended to increase effective competition in the sector.

In the retail side of the business, it introduces changes to exclusive supply agreements for the distribution of vehicle fuel. Specifically, their term is now limited to 1 year (from 5 years previously); they can be automatically rolled over for additional one-year periods, for a maximum of three years, if and only if the distributor so desires. The new legislation also bans clauses that set, recommend or influence, directly or indirectly, the price at which fuel is sold to the public.

Additionally, it establishes limits on growth in the number of fuel supply facilities of wholesalers with provincial markets shares of over 30%. Law 8/2015 stipulates that from 2016 on, this market share shall no longer be measured in terms of points of sale but rather based on prior-year sales figures, allowing the government to revise this percentage threshold in three years' time or even remove the restriction altogether, market trends and the sector's business structure so permitting.

Finally, Law 8/2015 allows owners of oil and gas product retailers that do not belong to the distribution network of a wholesale operator (private label networks operating without exclusive supply agreements) to inform consumers of the origin of the fuel they sell by advertising the wholesaler from which they purchase the said fuel. Furthermore, oil and gas product retailers may supply products to other retailers, subject only to the requirement of first registering themselves in the special duty registry.

Minimum stock for security

Royal Decree 1766/2007, regulates the obligation to maintain a minimum inventory in the oil and natural gas sectors, the obligation to diversify the natural gas provisions and the activities of the Corporation of Strategic Reserves of Petroleum Products (CORES for its acronym in Spanish).

The obligation to maintain minimum stocks of oil and gas products for security reasons, excluding LPG, currently requires storing at all times an amount equivalent to 92 days of sales based on the sales during the previous 12 months. Repsol was obliged to maintain a stock corresponding to 50 days of sales, while the remaining inventory required to make up the difference with the above mentioned safety stock requirement are held by CORES on behalf of the various operators (strategic reserves).

Royal Decree-Law 15/2013, of December 13, introduces an amendment to the Hydrocarbon Sector Act, indicating that via regulation, administrative procedures and obligations needed to ensure, on an ongoing basis, a minimum safety buffer equivalent, at least, to the higher of the volume corresponding to 90 days of average net daily imports and 61 days of average internal daily consumption corresponding to the year of reference and measured in oil equivalent.

LPG

The prices of oil derivatives are deregulated, with the exception of LPG, which is, under certain circumstances, subject to retail price ceilings. The prices of bulk LPG and bottled LPG in cylinders with capacity of under 8 kilograms or

over 20 kilograms are deregulated. Law 18/2014 of October 15 has had the effect of also deregulating the prices of containers with capacity of under 8 kilograms or over 20 kilograms with a tare weight of no more than 9 kilograms other than containers of LPG mixes intended for use for fuel purposes; this measure favors certain players over others as a function of the tare weight of the containers they market and, in practice, does not constitute full sector deregulation.

Ministerial Order IET/389/2015 of March 5, 2015 updates the system for automatically determining the maximum price at which bottled LPG can be retailed and for determining the price of piped LPG, adjusting the formulae used to calculate raw material costs in order to, as per the wording of the Order, adapt them "to the supply reality in the Spanish market in recent years". Adaptation of these formulae does not apply to sales costs, thereby resulting in a reduction in maximum bottled LPG retail prices and piped LPG retail prices.

Additionally, Law 18/2014 consolidate users' right to home delivery of containers weighing between 8 and 20 kilograms by obliging the LPG wholesalers with the biggest market shares in the corresponding mainland and island territories to perform this home-delivery service. Failure to fulfill this obligation constitutes a very serious offense. The list of LPG wholesalers so obliged is determined by a resolution issued by the General Directorate of Energy Policy and Mining every 3 years. Every 5 years, the Spanish government is entitled to revise the terms of this obligation and has the power to remove it. The current list of mandatory home suppliers is as follows: Repsol Butano on the mainland and in the Balearics, DISA in the Canary Islands and Atlas in Ceuta and Melilla.

Natural Gas

Law 12/2007 of July 2, which amended the Hydrocarbon Sector Act incorporated measures for achieving a completely liberalized market. This legislation establishes the framework for eliminating the tariff system and creates the role of the supplier of last resort with ultimate liability for supplying customers lacking sufficient bargaining power. Moreover, these suppliers are subject to a price cap ("last resort tariff"), set by MITECO. Business operations in the natural gas sector can be classified into: i) regulated activities: transport (including storage, regasification and transport per se) and distribution of natural gas; and ii) deregulated activities: production, acquisition and marketing of natural gas. The Natural Gas System Operator, Enagás S.A. is responsible for the coordinating and ensuring that the system works properly. Law 8/2015 creates an official natural gas hub with a view to facilitating entry into the market of new suppliers and increasing competition, creating a new single hub operator, tasked with management of the gas "hub", the MIBGAS, (which stands for Iberian Gas Market in Spanish), which ensures that all participating entities comply with the established rules.

Electricity sector regulation in Spain

Deregulation of the Spanish electricity sector began in 1997 with the passage of Law 54/1997, of November 27, the Electricity Sector Act, which was amended by Law 17/2007, of July 4, and later by Law 24/2013, of December 26, which took effect on December 28, 2013.

Generation and supply activities continue to be deregulated, developed by competitive businesses, while transmission, distribution and the system's technical and financial management remain as regulated activities, characterized by an access that requires administrative authorization, activities normatively set their remuneration and are subject to specific obligations. Power supply, for its part, is classified as a service of general economic interest.

Royal Decree 413/2014 regulates the legal and economic regime governing the production of electric power using renewable sources, combined heat and power systems and waste and affects the Repsol Group's facilities, formerly part of the now-defunct 'special' regime and now assimilated into the 'ordinary' regime. Ministerial Order IET/1045/2014 of June 16, meanwhile, enacts the standard facility remuneration parameters applicable to certain electricity-producing facilities that use renewable energy sources, CHP systems or waste. Royal Decree 900/2015, of October 9, regulating the administrative, technical and financial conditions was passed, which governs the permitted forms of electricity distribution and generation with self-consumption. This Royal Decree 900/2015 has been substantially modified by Royal Decree-Law 15/2018, pending the new regulatory development of self-consumption in

Spain.

Order ETU/130/2017, of February 17, updates the remuneration parameters of standard installations applicable to certain installations for the production of electrical energy from renewable energy sources, cogeneration and waste, for the purposes of its application to the regulatory semi-period commencing on January 1, 2017.

a. Remuneration system for the generation activity

Law 24/2013, of December 26, abandons the differentiated concepts of ordinary and special regime, without prejudice to the singular considerations that need to be established. The remuneration system for renewable energies, cogeneration and waste is based on the market share of these facilities, complementing market income with a specific regulated remuneration that allows these technologies to compete on an equal footing with the rest of the technologies on the market. This additional specific remuneration must be sufficient to achieve the minimum level necessary to cover costs which, unlike conventional technologies, cannot be recouped on the market and will enable them to obtain adequate profitability with reference to the standard facility in each applicable case. The rate of return for the activity of production from renewable energy sources, cogeneration and waste, for the first regulatory period, is established in Royal Decree-Law 9/2013 of July 12, which adopts urgent measures to ensure the financial stability of the electricity system. For the purpose of calculating the specific remuneration, the following shall be taken into account for a standard facility: the income from the sale of the generated energy valued at the production market price, the average operating costs necessary to carry out the activity and the value of the initial investment of the standard facility.

Royal Decree 359/2017, of March 31, established a call for the granting of the specific remuneration system to new facilities producing electricity from renewable energy sources in the peninsular electricity system, and Order ETU/315/2017, of April 6, regulated the procedure for assigning the specific remuneration system. In turn, and for 2016 calls only for biomass and wind through Royal Decree 947/2015 and Order IET/2212/2015, and the 2nd auction in 2017 through Royal Decree 650/2017 and Order ETU/615/2017), similar to the 1st of that year and open to all technologies.

b. Remuneration system for the marketing activity

The marketing activity is based on the principles of freedom of contract and choice of supplier by the customer. Marketing, as a liberalized activity, has a freely agreed remuneration between the parties.

Of note is Law 24/2013, subsequently developed by Royal Decree 216/2014, of March 28, which establishes the methodology for calculating voluntary prices for small electricity consumers and their legal contracting regime. These prices are defined, in line with the previously denominated last resort tariffs, as the maximum prices that reference resellers may charge to consumers who use them (consumers of less than a certain contracted power, 10 kW, who wish to use this modality as opposed to a bilateral negotiation with a free reseller). These prices will be unique in the whole Spanish territory. The term last resort tariffs is reserved for two groups of consumers: the so-called vulnerable (which also define the new categories of severely vulnerable and at risk of social exclusion) and those consumers who, without being entitled to voluntary prices for the small consumer, temporarily do not have a supply contract with a marketer. These voluntary prices for the small consumer shall include in an additive manner, by analogy with the tariff of last resort, the concepts of electricity production cost, the corresponding access tolls and charges and the corresponding marketing costs. In addition, this Royal Decree provides as an alternative that the consumer can contract a fixed price of energy for one year with the reference marketer. It also sets out the criteria for designating reference marketers and their obligations in relation to supply to certain consumer groups.

Royal Decree 469/2016, of November 18, amending Royal Decree 216/2014, establishes the methodology for calculating the marketing costs of the reference marketers to be included in the calculation of the voluntary price for small consumers. Order ETU/1948/2016, of December 22, fixed the values of the marketing costs of the reference marketers to be included in the calculation of the voluntary price for the small consumer of electricity in the period 2014-2018, which result from applying the new approved methodology.

In turn, Royal Decree-Law 7/2016 and Royal Decree 897/2017, are the current frame of reference for everything relating to the rate subsidy and the vulnerable consumer.

c. Tariff deficit

In terms of revenue, the electricity system was not self-sufficient until 2014, generating an annual deficit, which the electricity companies have had to finance. 2014 was the first year with a surplus in the electricity system after more than a decade in which significant deficits accumulated, thanks to the comprehensive reform undertaken to put an end to the emergence of tariff deficits and allow the economic-financial balance of the system, fundamentally based on the following regulations:

- Law 15/2012, of 27 December, on fiscal measures for energy sustainability introduced by the IVPEE, commonly known as the green cent, the hydroelectric canon, etc...
- Royal Decree-Law 9/2013, of July 12, which adopted urgent measures to guarantee the financial stability of the electricity system, established a new remuneration system for facilities generating renewable energy, cogeneration and waste and a series of additional remuneration principles for the transport and distribution of electricity, establishing the concept of reasonable profitability in a project profitability, which will turn, before taxes, on the average yield in the secondary market of the ten-year Government Bonds applying the appropriate differential. In addition, it contemplates other measures aimed at rebalancing the balance between income and costs of the electricity system, such as imposing the financing of the rate subsidy on vertically integrated companies or the reduction of the investment incentive in exchange for doubling the time remaining to receive this incentive. Subsequently, the obligation was transferred to the marketing companies (or their corporate parent companies), an obligation that is currently in force.
- Law 24/2013, of December 26, incorporates the guiding principle of economic and financial sustainability, whereby any regulatory measure in relation to the sector that entails an increase in cost for the electricity system or a reduction in income must incorporate an equivalent reduction in other cost items or an equivalent increase in income to ensure the system's.
- Royal Decree 1054/2014, of December 12, regulates the procedure for assigning the rights to collect the electricity system deficit for 2013 and develops the methodology for calculating the interest rate that will accrue to the rights to collect said deficit and, where appropriate, the negative temporary misalignments in the financial years after 2013.

From 2014 onwards, any temporary mismatch between income and costs of the electricity system resulting from the closing settlements in a financial year and resulting in a deficit of income, as well as the transitory deviations between income and costs in the monthly settlements on account of the closing of each financial year that may arise, shall be financed by the subjects of the settlement system in proportion to the remuneration corresponding to them for the activity they carry out. In the event of a revenue shortfall in a financial year, the amount of the shortfall may not exceed 2 per cent of the system's estimated revenue for that financial year. In addition, the accumulated debt due to misalignments from previous years may not exceed 5% of the system's estimated revenues for that year. Tolls, if any, or corresponding charges shall be revised by a total at least equal to the amount by which those limits are exceeded.]

Contributions to the national energy efficiency fund

Directive 2012/27/EU of the European Parliament and of the Council of October 25, 2012 on energy efficiency makes it binding on member states to justify a quantity of energy savings by 2020, obliging each state to establish energy efficiency obligation schemes such that energy distributors and/or retailers are obliged to achieve a cumulative quantity of energy savings by year-end 2020 means of annual savings between 2014 and 2020 equivalent to 1.5% of their annual energy sales.

Royal Decree-Law 8/2014 and Law 18/2014 transpose this EU Directive into Spanish law by establishing a National Energy Efficiency Fund (NEEF) by virtue of which gas and electricity distributors, oil product wholesalers and liquid

petroleum gas wholesalers (although the latter are not considered bound parties under the Directive) are allocated an annual energy saving target at the national level called savings obligations, which is quantified in financial terms.

The successive IET/ETU ministerial orders stipulating mandatory contributions to the National Energy Efficiency Fund, are being appealed by the various companies encompassed by the aforementioned National Fund contribution obligation, including the Group entities subject to this obligation.

Energy audits

Spanish Royal Decree 56/2016, of February 12, transposing Article 8 of Directive 2012/27/EU, of the European Parliament and of the Council, of 25 October 2012, on energy efficiency, in respect of energy audits, energy service and energy audit provider accreditation and the promotion of energy efficiency, took effect in February 2016.

It has the effect of obliging all enterprises that are not SMEs ("large enterprises") within the European Union to carry out regular energy audits with a view to analyzing whether their energy management is as good as possible and having them establish the opportune energy savings and efficiency opportunities and proposals as warranted. The Group's energy management systems, which are based on the international ISO 50001 standard, are found in the Group's main industrial companies.

Climate change and alternative fuels

Following the Paris Agreement, countries' commitments under their respective *National Determined Contributions* (NDCs) will have a significant impact on the development of new climate policies. As a signatory of the "*Paris Pledge for Action*" document, Repsol supports the agreement, and works toward being part of the climate change solution.

In this connection, the Council of Ministers approved the National Action Framework on December 9, 2016 on alternative energy sources for transport. *Climate Change and Air Quality*. Furthermore, the future Climate Change and Energy Transition Law is being discussed, with a first draft of it having been submitted to a first round of comments within the framework of the National Climate Council. This Law represents a commitment on behalf of the Prime Minister to fulfil the objectives set out in the Paris Agreement and in the framework of the European Union, which has already been assumed by Spain.

Royal Decree 639/2016, of December 9, published on December 10 lays down a framework of measures to implement an infrastructure for alternative fuels, with the aim of minimizing the dependence of the transport industry on oil, mitigating the environmental impact of transport, and setting threshold requirements for the creation of an infrastructure for alternative fuel, including charging stations for electric vehicles and natural gas and hydrogen refuelling stations.

For further information on the regulatory risks arising from climate change see section [6.1] of the 2018 Consolidated Management Report.

Bolivia

The 2009 Bolivian Constitution establishes that state-owned company Yacimientos Petrolíferos Fiscales Bolivianos (YPFB) is authorized to enter into service agreements with companies for the latter to undertake activities in its name and on its behalf in exchange for remuneration or payment for their services.

The Bolivian oil and gas industry is regulated by Law 3,058 of May 19, 2005 (the "Hydrocarbons Law").

On May 1, 2006, Supreme Decree 28,701 was published, which nationalized the country's hydrocarbons. Furthermore, the shares required to enable YPFB to control at least 50% plus one vote in different companies, among them Empresa Petrolera Andina, S.A., (currently known as YPFB Andina) were nationalized.

On December 11, 2015, Law No. 767 was passed to promote investment in oil and gas exploration and production in Bolivia. Furthermore, Law No. 817 of July 19, 2016 was enacted supplementing Article 42 of Law No. 3058,

previously amended by Law No. 767, allowing YPFB to enforce addendums to Operating Contracts to extend their term.

Operating Contracts

As a result of the Hydrocarbons Law and the Nationalization Decree, Repsol E&P Bolivia S.A. and its subsidiary YPFB Andina S.A. signed the Operating Contracts with YPFB establishing the conditions for the exploration and production of hydrocarbons in Bolivia, effective as of May 2, 2007. Additionally, on May 8, 2009 the Natural Gas and Liquid Hydrocarbon Delivery Agreements establishing the terms and conditions governing the delivery of hydrocarbons by the Holder were executed at which time the Payment Procedures stipulating the Holder Remuneration payment mechanism were also executed.

On November 14, 2017, an addendum to the Operating Contract was signed for Caipipendi area, approved by Law No. 1,013 of December 27, 2017, coming into force on March 20, 2018. This addendum seeks to establish the continuation of Oil Operations in Area from May 2, 2031 onwards, subject to compliance with a new investment plan to be enforced by the Holder.

Furthermore, on June 13, 2018 YPFB Andina S.A., YPFB Chaco S.A., Repsol E&P Bolivia S.A., Shell Bolivia Corporation Sucursal Bolivia and PAE E&P Bolivia Limited (Sucursal Bolivia) entered into an Oil Services Contract for the Exploration and Operation of Reserved Areas in favor of Yacimientos Petrolíferos Fiscales Bolivianos – YPFB, corresponding to the Iñiguazu region, approved by Law No. 1081 of August 10, 2018.

Canada

In the Canadian provinces of British Columbia, Alberta and Saskatchewan where the majority of the Company's exploration and production interests in Canada lie, the provincial governments own the majority of the subsurface mineral rights to crude oil and natural gas. These governments grant rights to explore for and produce oil and natural gas from *Crown lands* under the conditions set forth in provincial legislation and regulations. In addition to Crown lands, the Company participates in leases entered into from freehold mineral owners through direct negotiation. The royalties applicable to production in Crown lands are established by government regulation and, in general, calculated as a percentage of gross production based on the productivity of the wells, geographic location, date on which the oil fields were discovered, recovery method and type of quality of oil derivative produced. Occasionally, the provincial governments may roll out incentive programs for exploration and development. Such programs seek to reduce for royalty rate fees, grace periods for fees or tax credits. Fees payable for production on privately owned land are established by means of negotiation between the owner and the company

Companies operating in the Canadian oil and natural gas industry are subject to extensive regulation and control of operations (including land ownership, exploration, development, production, refining, transportation and marketing in addition to environmental matters) as a result of legislation and policy enacted at both the federal level (by the government of Canada) and by the various provincial governments. Generally speaking, oversight of such operations is undertaken by regulatory bodies that include the *British Columbia Oil and Gas Commission*, the Alberta Energy regulatory entity, the Saskatchewan Ministry of Economy and the Saskatchewan Ministry of the Environment, as well as federal regulatory bodies such as the *Canadian Environmental Assessment Agency* and the *National Energy Board of Canada*. Environment legislation restricts and prohibits the release or emission of various substances, such as sulfur dioxide, carbon dioxide and nitrous oxide. The regulations also impose conditions or prohibitions in operating in certain environmentally sensitive areas and establish requirements that regulate the satisfactory abandonment and reclamation of well and facility sites.

Non-compliance with the legislation, regulations, orders, directives or other applicable guidelines can result in fines or other sanctions.

In November 2016, the provincial government of Alberta issued regulations regarding carbon emissions that included a carbon levy across all industry sectors. The price per ton of carbon dioxide emitted will increase to the previously announced amount of \$30 CDN in 2018 and compared to \$20 CDN in 2017. The fee is paid at the time that hydrocarbons are eliminated or

acquired in a gas or oil pipelines. The regulation contains exemptions for the producers and processors of raw material through to 2023, with certain exceptions. The Company has applied for and received exemption certificates in all possible cases.

In addition to the provincial regulations, the Canadian Federal Government has announced, as part of the Pan-Canadian Framework on Clean Growth and Climate Change, the possibility of provinces applying further increases to the price of carbon to \$50 CDN per ton by 2022.

Ecuador

In accordance with the Constitution of 2008 and the Hydrocarbons Law of Ecuador, the nation's hydrocarbon fields and the associated substances are the inalienable, imprescriptible and unattachable property of the State.

The amended legislation of the Hydrocarbons Law and the Internal Tax Regime Law, of July 27, 2010, established that all agreements for the exploration and exploitation of hydrocarbons must be modified to reflect the amended reformed services agreement model.

This model involves the contractor being obliged to provide services using its own economic resources and at its own risk. In exchange, the contractor will receive a set price per net barrel of oil produced and delivered to the state. This price, which constitutes the contractor's gross revenue, is contractually stipulated based on estimated depreciation schedules, cost/expense schedules and a reasonable profit in light of the risk incurred.

Repsol Ecuador, S.A. (Ecuador Branch), entered into the services agreement for Block 16, which came into force on January 1, 2011. In addition, on January 22, 2011, a services agreement was signed covering the Tivacuno Block.

United States

Offshore exploration and production

The two government agencies responsible for offshore exploration and production are the *Bureau of Ocean Energy Management* (BOEM) and the *Bureau of Safety and Environmental Enforcement* (BSEE) under the U.S. Department of the Interior. The BOEM is in charge of responsibly ensuring the economic and environmental development of US offshore resources. Its functions include the leasing (agreements that grant oil and gas mining rights), the revision and management of oil and gas exploration, the approval of development plans and carrying out analyses pursuant to the National Environmental Policy Act and other environmental studies. The BSEE is responsible for safety and environmental supervision of offshore oil and gas operations. Its functions include the development and application of security and environmental regulations, the authorization of offshore exploration, development and production, the performance of inspections and the response to oil spills.

Onshore exploration and production

With regard to U.S. onshore exploration and production activities, the oil and gas industry is primarily regulated by the laws of the individual States, with the exception of certain environmental matters and operations on Federal land. At present, the Company has operations in Alaska, Kansas, Louisiana, Oklahoma, Pennsylvania and Texas. In the different states, exploration and production activities are controlled by the Alaska Department of Natural Resources, the Corporate Commission of Kansas, the Louisiana Department of Natural Resources, the Corporate Commission of Oklahoma and the Railroad Commission of Texas. Each of these states has its own environmental protection agency. In Pennsylvania, the local Department of Environmental Protection is responsible for both environmental protection activities and the regulation of exploration and production activities.

Federal authorities do have exclusive jurisdiction over certain environmental aspects that affect the gas and oil sector. The United States Environmental Protection Agency The Environmental Protection Agency (EPA) applies laws and regulations such as the *Clean Air Act*, the *Clean Water Act* and the *Resource Conservation and Recovery Act*. The environmental impact of the projects is regulated by the National Environmental Policy Act (NEPA), which is managed by different Federal agencies depending on the type of project.

Transport

The Federal Energy Regulatory Commission (FERC) governs the transport of natural gas as part of inter-State trade and the transport of oil via oil pipelines within the same field. The States regulate other types of transport.

Liquefied natural gas

The Natural Gas Act grants the Federal Energy Regulatory Commission (FERC) the exclusive power to regulate plants that import and export liquefied natural gas arriving in the United States and leaving the country with the authorization of the Office of Fossil Energy at the US Department of Energy (DOE).

Trading of gas, crude oil and refined products

The FERC regulates the sale of natural gas as part of inter-State trade. A number of US regulatory bodies are empowered to regulate the oil and refined products trading market. The Federal Trade Commission (FTC) has the power to regulate crude oil trading activities. The Environmental Protection Agency (EPA) regulates refined products marketed to private consumers such as gasoline and diesel. Trading of financial derivatives is regulated by the Commodities Futures Trading Commission (CFTC).

On December 18, 2015, the 2016 Consolidated Appropriation Act was passed (Public Law no. 114-113). This piece of legislation repeals Article 103 of the Energy Policy and Conservation Act (EPCA), thereby eliminating the ban on exporting crude oil produced in the US. The legislation preserves the President's power to restrict oil exports in response to a national emergency, enforce trade sanctions and remedy oil supply scarcity or the sustained distortion of oil prices significantly above world market levels.

Indonesia

Under Indonesia's 1945 Constitution, all natural resources (including oil and gas) within Indonesian territory are owned and controlled by the State. The regulation of oil and natural gas in Indonesia is based on Law No. 22 of 2001 ("Law No. 22"), which sets out broad principles for the regulation of the industry. These principles are applied by means of a series of implementing regulations promulgated under Law No. 22, as well as ministerial regulations and decrees.

Law No. 22 restructured and liberalized the State's control over the oil and gas industry. SKK Migas is the current successor to Perusahaan Pertambangan Minyak dan Gas Bumi Negara ("PERTAMINA") as the supervisory party to the *Production Sharing Contracts* (PSCs).

The Ministry of Energy and Mineral Resources ("MEMR") is responsible for approving the first Plan of Development ("POD") under production sharing contracts and overseeing the State's ownership and management of oil and gas resources. With assistance from the Directorate General of Oil and Gas ("MIGAS"), the MEMR formulates government policy, determines the blocks to be opened for bidding, is responsible for approval of transfers by contractors of their participating interest (in consultation with SKK Migas) and issues the licenses required for the conduct of refining oil and gas marketing activities, such as the production of liquefied natural gas using refining and marketing structures.

The Ministry of Finance is responsible for issuing instructions concerning the basis of the Government's share derived from the exploitation of liquefied natural gas and subordinated by Directorate General of Tax and Directorate General of Customs and Excise, determining the taxes, duties and excise due on LNG development activities, deciding on issues related to government guarantees and formulating, determining and implementing policies on State Owned Assets.

Pursuant to Law No. 22, companies wishing to explore for and exploit oil and gas reserves must enter into a Cooperation Contract with SKK MIGAS. The form of Cooperation Contract typically entered into in respect of exploration and production activities in Indonesia is a PSC.

Under a PSC the Government of Indonesia retains ownership of the oil and gas (prior to delivery) and the contractor bears all the risk and costs of exploration,

development and production in return for an agreed percentage share of oil and/or gas production and recovery of eligible operating costs from production.

On January 16, 2017, the Government of Indonesia introduced a new form of PSC (the "*Gross Split PSC*") under Minister of Energy & Mineral Resources Regulation No. 8 of 2017 regarding Gross Split Production Sharing Contract ("*Regulation 8/2017*"). On December 28, 2017, the Government of Indonesia enacted Government Regulation No. 53 of 2017 on the tax treatment of the Gross Split Production Sharing Contract (Government Regulation 53/2017), governing the tax conditions applicable to Gross Split PSCs.

On June 17, 2018, following the announcement that Repsol Exploración South East Jambi BV (formerly Talisman West Bengara BV) had been successful in the 2018 tender process for South East Jambi, the company signed the South East Jambi PSC, the first Repsol PSC under the Gross Split variant.

Peru

Regulation of the hydrocarbons market in Peru is included in its Constitution. The Constitution states that the government promotes the private initiatives, recognizing the economic pluralism, and having the state a subsidiary role in terms of business concerns. The Constitution establishes that private and public business activity must be treated equally under the law, and those national and foreign investments are subject to the same conditions. In addition, the Constitution stipulates that the country's natural resources are the property of the state and that the terms and conditions of access to and use of these resources by private parties must be regulated by means of organic laws.

Natural and legal persons, whether Peruvian or foreign, who pursue oil and gas activities must expressly subject themselves to the laws of the Republic of Peru, renouncing the right to any diplomatic recourse.

The most important authorities with competence over Peruvian oil and gas matters are: the Ministry of Energy and Mining (MINEM for its acronym in Spanish), which is tasked with drafting, passing, proposing and applying sector policy and issuing complementary rules to keep sector regulations updated; the latter Ministry's Oil & Gas Department (DGH), which oversees application of and compliance with sector regulations; the Energy & Mining Investment Oversight Body (OSINERGMIN), tasked with oversight of the natural and legal persons carrying out activities related to the electricity and hydrocarbon sub-sectors and the imposition of penalties for any breaches of the legal and technical obligations issued by the MINEM and PERUPETRO. The Environmental Assessment and Taxation Body (OEFA) is the technical institution specialized in ensuring compliance with the standards, obligations and incentives laid down in prevailing environmental regulations.

Exploration and Production

The Organic Law of Hydrocarbons (OLH), regulates this natural resource. To provide legal assurance to investors, it states that contracts under its framework shall be considered Contract-Law, and therefore can only be modified by written agreement between the two parties. To achieve these goals the OLH created PERUPETRO, a state-owned Limited Company organized in accordance with the General Corporate Law, to which the state, as owner of the hydrocarbons located in its territory, grants the right of ownership over the hydrocarbons, so that PERUPETRO can negotiate, execute and monitor exploration and/or exploitation contracts, with a licensee (Contractor) by means of License Agreements, Service Agreements and other forms of contracts authorized by MINEM.

Hydrocarbon refining and marketing

The OLH stipulates that any national or foreign individuals or legal entities may install, operate, and maintain petroleum refineries, plants for processing natural gas and condensed, natural asphalt, greases, lubricants, and petrochemicals, subject to the norms specifically established by The Mines and Energy Ministry.

In Peru, the marketing of hydrocarbon derivatives is regulated by supply and demand.

Venezuela

The Constitution of the Bolivarian Republic of Venezuela stipulates that the mines and oil and gas fields, irrespective of their nature, located on national territory, under the territorial sea, in the exclusive economic zone or on the continental platform, belong to the Republic, are public-domain goods and are, therefore, inalienable and imprescriptible.

By virtue of organic law and to protect national interests, the Venezuelan State has reserved the Venezuelan oil and gas activities for itself. For reasons of economic and political sovereignty and for national strategic purposes, the State holds all of the shares of *Petróleos de Venezuela, S.A. (PDVSA)*, or the entity that may be created for the

management of the oil industry.

Venezuela's Hydrocarbons Organic Law (LOH) regulates all matters regarding the exploration, operation, refining, industrialization, transportation, storage, sale and conservation of hydrocarbons, including related refined products and the works required to perform these activities. Pursuant to the LOH, the performance of activities involving the exploration, extraction, collection, transport and storage of hydrocarbons is reserved to the State, which may undertake them directly or through wholly-owned State companies. The State may also conduct these activities through Mixed Owned Companies whose equity interest is over 50%.

The Mixed Companies agreements referred to in the LOH do not impose restrictions on this legal form of company in terms of transferring funds in the form of cash dividends, loan repayments or the redemption of shareholder advances in foreign currency (USD).

Activities relating to the exploration, operation, collection, storage, use, industrialization, sale and transportation of non-associated natural gas and associated gas are subject to the provisions set out in the Organic Gaseous Hydrocarbons Law and its regulations.

On January 14, 2016, Decree No. 2184 was published in the Extraordinary Official Journal of the Bolivarian Republic of Venezuela No. 6,214, declaring a State of Economic Emergency throughout the entire territory of the Republic for a period of 60 days, providing the State with the power to enact exceptional and extraordinary economic, social, environmental, political and legal measures, in addition to others. This Decree has been successively extended on 17 occasions, with the most recent, Presidential Decree No. 3,736, published on January 11, 2019, in Extraordinary Official Gazette No. 6,424.

The Constituent Assembly was called by the President of the Bolivarian Republic, Nicolás Maduro, via Presidential Decree No. 2,830, published on May 1, 2017; all public authorities are subordinated under the Constituent Assembly and are obliged to comply and ensure compliance with the legal documents issued by said Assembly. The maximum term of this Assembly has been set at two years.

Official Gazette No. 41,310, of December 29, 2017 contained the publication of the Constitutional Foreign Production Investment Law, establishing the principles, policies and procedures that regulate foreign production investments in goods and services. The special legislation regulating foreign investments in specific sectors of the economy shall prevail over said law, including those addressing hydrocarbon matters, mining and telecommunications matters. To date, the relevant sectoral regulation has not been published.

On January 5, 2018, the term ended, established in Resolution No. 164 of the Ministry of the People's Power of Petroleum, published in the Official Gazette of December 6, 2017, for the review and validation of all national and international contracts signed and those that are about to be signed, by PDVSA, its subsidiaries and the Mixed Companies where PDVSA owns shares. To date, the review process continues in progress in the Mixed Companies, and the results of this process are awaited.

published Resolution 102 in Official Gazette No. 41,454, providing for the creation of a Special Procurement Committee at PDVSA, in order to respond to the requirements for the acquisition of goods, execution of works and provision of services for construction, maintenance plans and implementation of crude oil flow improvers required in the Hugo Chávez Frías Orinoco Belt, in a centralized manner.

On September 4, 2018, the Ministry of the People's Power for Petroleum, published Resolution 115 in Official Gazette No. 41,474, creating a Technical Committee for the Reorganization of PDVSA and its subsidiaries. Once constituted, and in a period of no more than 30 days effective the publication of the Resolution, the Technical Committee must submit a work plan with a time line of activities subject to the company's priorities to the Chairman of PDVSA.

Monetary regime

On February 20, 2018, the launch of the "Petro" cryptocurrency was announced, backed by reserves from field 1 of the Ayacucho Block in the Hugo Chávez Frías Orinoco Oil Belt, in order to create an alternative currency to the dollar and a digital and transparent economy for the benefit of emerging countries. Such purchase may be made in convertible currencies: yuan, Turkish lira, euro and rouble. On March 19, the President of the United States of America signed an executive order prohibiting U.S. and U.S. residents from making transactions with any digital currency issued by the Venezuelan government as of January 9, 2018, which increases that country's sanctions regime on Venezuelan natural and juridical persons.

On July 25, 2018, Presidential Decree No. 3,548 was published in Official Gazette No. 41,446, establishing that from August 20, 2018, onwards, all monetary amounts expressed in national currency prior to that date, must be converted to the new monetary unit, dividing the current units by one hundred thousand (100,000).

On August 2, 2018, the Constituent Assembly, published a Decree revoking the Exchange Rate System Law in Official Gazette No. 41,452, with a view to granting both natural and legal persons, whether Venezuelan or foreign nationals, full guarantees in terms of their involvement in the country's socioeconomic development model.

On September 7, 2018, the Central Bank of Venezuela ("BCV" published in the Extraordinary Official Journal No. 6,405, the so-called Exchange Agreement No. 1¹ ("the Exchange Agreement"), the purpose of which is to establish the free convertibility of the currency nationwide. This Exchange Agreement revoked the Exchange Agreements that were in force at the time of its publication. The most relevant aspects are: i) development of the main principles of the new Exchange Market System; ii) reestablishment of the free convertibility of the currency and the lifting of restrictions on exchange transactions; iii) capacity of BCV to centralise, administer and regulate operations under the new Exchange Market System; iv) all foreign currency purchase and sale transactions will be performed at the weighted average exchange rate that the BCV publishes on its website; v) recognition of the validity of contracts entered into in foreign currency, vi) guarantee of private company participation through: (a) purchase and sale of positions in foreign currency (auctions); (b) exchange transactions at the retail price and; (c) purchase and sale of securities in national currency; (vii) regulation of exchange system applicable to the public oil sector.

On August 6, 2018, the Ministry of the People's Power for Petroleum,

¹Pending regulation by BCV.

Repsol, S.A.
and investees comprising the Repsol Group

Audit Report,
Consolidated Financial Statements and
Consolidated Management Report
at 31 December 2018



This version of our report is a free translation of the original, which was prepared in Spanish. All possible care has been taken to ensure that the translation is an accurate representation of the original. However, in all matters of interpretation of information, views or opinions, the original language version of our report takes precedence over this translation.

Independent auditor's report on the consolidated financial statements

To the shareholders of Repsol, S.A.:

Report on the consolidated financial statements

Opinion

We have audited the consolidated financial statements of Repsol, S.A. (the Parent company) and investees comprising the Repsol Group (the Group), which comprise the balance sheet as at December 31, 2018, and the income statement, statement of other comprehensive income, statement of changes in equity, cash flow statement and related notes, all consolidated, for the year then ended.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the equity and financial position of the Group as at December 31, 2018, as well as its financial performance and cash flows, all consolidated, for the year then ended, in accordance with International Financial Reporting Standards as adopted by the European Union (IFRS-EU) and other provisions of the financial reporting framework applicable in Spain.

Basis for opinion

We conducted our audit in accordance with legislation governing the audit practice in Spain. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report.

We are independent of the Group in accordance with the ethical requirements, including those relating to independence, that are relevant to our audit of the consolidated financial statements in Spain, in accordance with legislation governing the audit practice. In this regard, we have not rendered services other than those relating to the audit of the accounts, and situations or circumstances have not arisen that, in accordance with the provisions of the aforementioned legislation, have affected our necessary independence such that it has been compromised.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matter	How our audit addressed the key audit matter
<p><i>Assessment of the recovery of the carrying amount of the Group's non-current assets in Upstream</i></p> <p>The accompanying consolidated financial statements present intangible assets (including goodwill) and property, plant and equipment in the Upstream segment amounting to €3,729 million and €15,297 million, respectively. These assets are allocated to cash generating units (CGUs) as indicated in Notes 11 and 12 to the accompanying consolidated financial statements.</p> <p>As indicated in Note 13 to the accompanying consolidated financial statements, the Group has several investments in the Upstream segment carried under the equity method whose carrying amount at year-end 2018 amounts to €6,812 million, excluding investments in the Venezuelan subsidiaries.</p> <p>The Group carries out an analysis of impairment of the assets indicated by CGU on an annual basis, in accordance with the criteria described in Note 3, and determines their recoverable amount based on the present value of the future cash flows generated by them, taking into account the business plans approved by management. The key assumptions employed in preparing these flows are detailed in Notes 3 and 20 to the accompanying consolidated financial statements.</p> <p>In addition, Management has carried out a sensitivity analysis (Note 20.2) on the key assumptions, which, in light of earlier experience, may reasonably show variations.</p> <p>As a result of the above analyses, Group Management has recorded and reversed value adjustments for the CGUs detailed in Note 20.</p> <p>This area is key because it entails the application of critical judgements and significant estimates by Management concerning the key assumptions used, which are subject to uncertainty and significant future changes in key assumptions could have a significant impact on the Group's consolidated financial statements.</p>	<p>We started our analysis by gaining an understanding and assessing both the methodology applied and the relevant controls that the Group has in place to analyse asset recovery.</p> <p>In addition, we considered the adequacy of the allocation of assets to CGUs and the process for identifying those requiring an assessment of impairment, in accordance with applicable legislation.</p> <p>Also, we verified whether the cash flow projections prepared by the Group in the past have been consistently in keeping with real data, including the monitoring of delivery on the previous year's budgets.</p> <p>With the collaboration of our valuation experts, we assessed the adequacy of the valuation models employed, the assumptions and estimates used in the calculations, including both short and long-term estimates of the evolution of hydrocarbon purchase and selling prices, the estimation of hydrocarbon reserves by internal and external experts, production profiles, operation costs, the necessary investments for the development of existing reserves and the performance of discount rates.</p> <p>Specifically, in relation to future hydrocarbon prices, we verified Management's estimates with the information published by investment banks, consulting companies and relevant industry organisations and found that the price predictions used by the Group are within the range observed in these external publications.</p> <p>In relation to the discount rates, we verified that the methodology applied in their estimation and their value are within a reasonable range.</p>

Key audit matter

How our audit addressed the key audit matter

For hydrocarbon reserves, we evaluated the internal process for controlling and estimating reserves carried out by Management's internal experts and the competence and objectivity of those experts in order to satisfy ourselves that they were properly qualified to carry out the estimate of the current volumes of reserves and future production profiles, in accordance with the Group's business plans. In addition, we verified the consistency of the volumes estimated by internal experts with the data used in determining the recoverable value of the assets.

For those cases where an external expert has issued an audit report on reserves, we gained an understanding of the process established by the Group in this connection, in addition to assessing the results of the experts' work, competence, capacity and independence in order to satisfy ourselves that they were suitably qualified to estimate volumes. We also verified the consistency of the volumes estimated by these third parties with the Group's internal estimates.

Furthermore, we checked the mathematical accuracy of the calculations and models prepared by Management and assessed the sensitivity calculations carried out and the estimates of the magnitude of the change required in the key assumptions to trigger asset impairment, or the reversal of the impairment.

We verified the recoverable amount calculated by the Group with the carrying amount of the assets in order to assess the existence or otherwise of impairment or reversal of impairment, as appropriate.

We also assessed the sufficiency of the information disclosed in the consolidated financial statements with respect to the assessment of the recoverable amount of these assets.

Based on the procedures carried out, we consider that Management's approach and conclusions, as well as the information disclosed in the accompanying consolidated financial statements are reasonable and consistent with the evidence obtained.

Key audit matter

How our audit addressed the key audit matter

Assessment of the recovery of the carrying amount of deferred tax assets

As shown in the accompanying consolidated balance sheet, at 31 December 2018 the deferred tax asset balance amounts to €3,891 million, of which, according to Note 23.3 to the accompanying consolidated financial statements, available tax loss carryforwards and deductions amount to €3,671 million.

Group management, when assessing whether the amount recognised in the consolidated financial statements for these assets is recoverable, takes into account, as mentioned in Notes 3 and 23.3, the forecast generation of future tax profits, using the methodology defined to analyse the recovery of its assets, the evaluation of the estimates of results of each entity or tax group in accordance with the Group's strategic plan, applicable tax legislation and the limit as regards the recoverability of such assets.

As a result of the aforementioned analyses, Group management has concluded that the carrying amount of these assets is recoverable.

This area is key due to the nature and significance of the assets recognised and that it implies applying significant estimates with respect to future tax profits, affecting the assessment of the recovery of these assets.

We started our analysis by assessing the relevant controls that the Group has in place to analyse the recovery of these assets.

We also verified the consistency of the assumptions employed by Management in the financial projections used to determine future tax profits with the assumptions used in testing the Group's intangible assets and property, plant and equipment for impairment.

Moreover, together with our tax experts, we assessed the estimate of corporate income tax, basically in relation to the appropriateness of the tax treatment of the operations performed and the calculations of deferred tax assets with respect to applicable tax legislation.

We also assessed the sufficiency of the information disclosed in the consolidated financial statements with respect to the measurement and recognition of these assets.

Based on the work carried out, we consider that the assumptions and estimates employed by Group management with respect to the recovery of the assets analysed are reasonable and consistent with the evidence obtained.

Assessment of the recovery of the Group's assets in Venezuela

As indicated in Note 20.3 to the accompanying consolidated financial statements, the Group's asset exposure in Venezuela at 31 December 2018 amounts to €456 million. This amount includes the financing in dollars granted by the Group to the joint ventures Cardon IV, S.A. and Petroquiriquire, S.A. (Note 8) amounting to €518 million, and the trade receivables with Petróleos de Venezuela, S.A. (PDVSA) that are presented as Other non-current assets (Note 10.1.3), net of the provision for liabilities and charges for investments in joint ventures (Note 13) at 31 December 2018.

Our analysis started with understanding the processes that the Group has in place to perform the analysis of the assets' value, including the relevant controls implemented.

With the collaboration of our team in Venezuela, we gained an understanding of the country's political, social and economic situation.

As regards the Cardón IV investment, we assessed the competence and objectivity of the auditor of this component and obtained and assessed the unqualified audit report issued by the auditor, and other documentation associated with the audit work on this component.

Key audit matter	How our audit addressed the key audit matter
<p>As detailed in Note 20.3, the country's general situation is affected by an economic recession, a regulated exchange system, high levels of inflation and the constant devaluation of local currency, an oil sector characterised by major public sector intervention and involvement, with sharply declining output in the past few years, political instability, the state of economic emergency and the international disciplinary measures, among others.</p> <p>Except in the case of Quiriquire Gas, S.A., whose carrying amount is zero, the functional currency of investments in Venezuela is the US dollar, as indicated in Note 20.3 to the accompanying consolidated financial statements.</p> <p>Within the context described, the Group has analysed the recovery of its investments in Venezuela and recognised impairment of €1,159 million, of which €316 million was recorded against reserves as a result of the first application of IFRS 9 (Note 20.3) and €843 million in the consolidated income statement, as detailed in Note 20.3.</p> <p>In order to determine the expected loss on the loans to the joint ventures and the accounts receivable with PDVSA, the Group hired an independent expert to validate Management's judgements.</p> <p>This area requires a high level of judgement and estimation that Management should make in order to assess the recovery of its assets in Venezuela. This matter has therefore been considered a key audit matter.</p>	<p>Additionally, we applied certain audit procedures on the financial statements of Cardón IV and Petroquiriquire that have been included in the Group's consolidated financial statements using the equity method.</p> <p>With respect to the analysis of impairment losses on fixed assets of the above companies, we carried out the same audit procedures as those applied for the key audit matters described previously in the section "Assessment of the recovery of the carrying amount of the Group's non-current assets in Upstream".</p> <p>In order to analyse the recovery of the loans granted to the joint ventures and accounts receivable with PDVSA, we carried out the following audit procedures:</p> <ul style="list-style-type: none"> ▪ Obtaining and review of the loan contracts with joint ventures and other relevant contractual information. ▪ Together with our experts in financial instruments, we analysed the reasonableness of the expected loss model prepared by Management. ▪ We analysed the information included in the independent expert report, engaged by the Group to assess Management's judgements on Venezuela's credit risk and assessed the competence of this expert and his objectivity to satisfy ourselves that he was adequately qualified to perform that engagement. <p>Finally, we assessed the sufficiency of the information disclosed in the consolidated financial statements concerning the situation in Venezuela, the Group's presence in the country and the assumptions underpinning the measurement of these assets.</p> <p>Based on the work carried out, we consider that the assumptions and estimates employed by Group management with respect to the recovery of the assets analysed are reasonable and consistent with the evidence obtained.</p>

Other matters

The consolidated financial statements of the Group for the year ended on December 31, 2017 were audited by another auditor who expressed an unqualified opinion on those consolidated financial statements on February 27, 2018.

Other information: Consolidated management report

Other information comprises only the consolidated management report for the 2018 financial year, the formulation of which is the responsibility of the Parent company's directors and does not form an integral part of the consolidated financial statements.

Our audit opinion on the consolidated financial statements does not cover the consolidated management report. Our responsibility regarding the information contained in the consolidated management report is defined in the regulation governing financial statement audit work, which establishes two distinct levels of responsibility:

- a) A specific level applicable to the consolidated non-financial statement and some of the information included in the Annual Corporate Governance Report, as defined in article 35.2.b) of Spanish Law 22/2015, the Audit Act, which consists of solely checking that the required information has been provided in the management report or, where appropriate, it has been included a reference to the separate report on non-financial information in the prescribed manner; otherwise, reporting that it has not.
- b) A general level applicable to the remaining information included in the consolidated management report, which consists on evaluating and reporting on the consistency between the aforesaid information and the consolidated financial statements as a result of our knowledge of the Group obtained during the audit of the aforementioned financial statements, and does not include information different to that obtained as evidence during our audit. Likewise, our responsibility is to evaluate and report on whether the content and presentation of this part of the consolidated management report are in accordance with applicable regulations. If, based on the work we have performed, we conclude that material misstatements exists, we are required to report that fact.

On the basis of the work performed, as described above, we have verified that the information mentioned in a) above is included in the consolidated management report and that the remaining information contained in the consolidated management report is consistent with that contained in the consolidated financial statements for the 2018 financial year, and its content and presentation are in accordance with the applicable regulations.

Responsibility of the directors and the audit committee for the consolidated financial statements

The Parent company's directors are responsible for the preparation of the accompanying consolidated financial statements, such that they fairly present the consolidated equity, financial position and financial performance of the Group, in accordance with International Financial Reporting Standards as adopted by the European Union and other provisions of the financial reporting framework applicable to the Group in Spain, and for such internal control as the directors determine is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.



Repsol, S.A. and investees comprising the Repsol Group

In preparing the consolidated financial statements, the Parent company's directors are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group or to cease operations, or have no realistic alternative but to do so.

The Parent company's audit committee is responsible for overseeing the process of preparation and presentation of the consolidated financial statements.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with legislation governing the audit practice in Spain will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with legislation governing the audit practice in Spain, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Parent company's directors.
- Conclude on the appropriateness of the Parent company's directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.



Repsol, S.A. and investees comprising the Repsol Group

We communicate with the Parent company's audit committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Parent company's audit committee with a statement that we have complied with relevant ethical requirements, including those relating to independence, and we communicate with the audit committee those matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Parent company's audit committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters.

We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Report on other legal and regulatory requirements

Report to the Parent company's audit committee

The opinion expressed in this report is consistent with the content of our additional report to the Parent company's audit committee dated February 28, 2019.

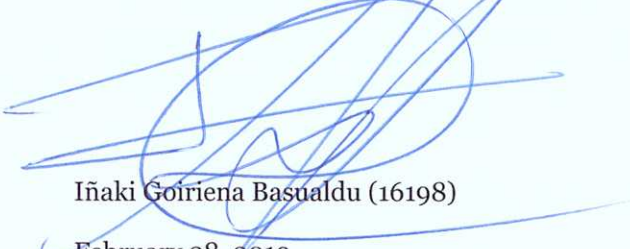
Appointment period

The General Ordinary Shareholders' Meeting held on May 19, 2017, appointed us as auditors of the Group for a period of three years, as from the year ended December 31, 2018.

Services provided

Services provided to the audited Group for services other than the audit of the accounts are disclosed in Note 32.2 to the consolidated financial statements.

PricewaterhouseCoopers Auditores, S.L. (S0242)



Iñaki Goiriena Basualdu (16198)

February 28, 2019